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**HIGH SCHOOL BLOCK SCHEDULING AS A STIMULUS:  
A MULTIPLE-SITE CASE STUDY**

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**A Dissertation  
Presented to  
the Faculty of the  
Department of Educational Leadership  
and Policy Analysis  
East Tennessee State University**

---

**In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education**

---

**by  
William H. Phelps, III  
August 1998**

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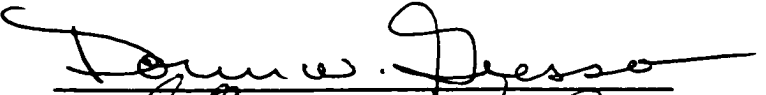
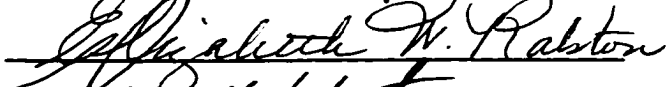

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APPROVAL


This is to certify that the Graduate Committee of  
WILLIAM H. PHELPS, III  
met on the  
21st day of July, 1998.

The committee read and examined his dissertation,  
supervised his defense of it in an oral examination, and  
decided to recommend that his study be submitted to the  
Graduate Council, in partial fulfillment of the requirements  
for the degree of Doctor of Education in Educational  
Leadership and Policy Analysis.

  
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Chair, Graduate Committee

  
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Signed on behalf of  
the Graduate Council

  
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Dean, School of Graduate  
Studies



## ABSTRACT

### HIGH SCHOOL BLOCK SCHEDULING AS A STIMULUS:

#### A MULTIPLE-SITE CASE STUDY

by

William H. Phelps, III

The purpose of this study was to identify the processes that have been used for implementing the alternative scheduling plan of block scheduling in high schools. The study attempted to discover what professional development activities were used for the change, if teachers altered instruction, and what additional staff development was needed. The qualitative method of case study research was selected for the study. The investigator chose five public high schools, representing city and county systems and different professional development budgets and types of instructional support. Central office administrators who were responsible for the implementation of block scheduling, principals, and a purposeful sample of teachers were interviewed. Utilizing interview transcripts, field notes, and records, case studies were formulated for each school.

A cross-site analysis was also developed. This aspect of the study focused on several themes that emerged from the case studies. These themes included reasons for the scheduling change; implementation procedures; professional development strategies; effects on instruction, students, and schools; and procedural and staff development needs.

The conclusions of the study were as follows: a concern for students prompted the change; considerable effort was devoted to implementation; the 4 x 4 semester plan was the most common configuration; a considerable difference existed in the amounts schools spent for professional development; and staff development was integral to implementation. Additional conclusions were that block scheduling had both positive and negative effects on instruction; some teachers altered instruction with the schedule; the majority of students preferred a block schedule instead of a traditional one; the plan had a positive impact on the discipline, course offerings, and learning atmosphere of a school; and changes in implementation and professional growth would enhance the innovation. These conclusions will assist educators in developing and implementing procedural strategies and professional development plans for block scheduling, as well as other reform efforts.

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## DEDICATION

I would like to dedicate this dissertation to my parents. My mother, Evelyn Phelps, has been an inspiration to me during my work on this degree. Her love for her family, belief in the value of hard work, and kindness to others have influenced me throughout my life.

My late father, W. H. Phelps, Jr., has also been a source of great inspiration. His devotion to his family, love for the land, and strong work ethic have shaped me into who I am today.

Without the guidance, assistance, and encouragement of my parents, I would have been unable to achieve this goal. Therefore, I proudly make this dedication.

## ACKNOWLEDGMENTS

Many individuals have contributed to the development of this study, and I would like to express my appreciation for their support and encouragement throughout the process. First, I would like to thank Dr. Marie S. Hill, chair of my committee, for all of her help. Her excellent recommendations guided the study throughout all of its stages. Her encouragement and interest were extremely motivational. Dr. Hill represents the kind of educator that all of us should strive to become.

I especially thank the other members of my committee, Dr. Donn Gresso, Dr. Elizabeth Ralston, and Dr. Russell West. I greatly appreciate their interest in the study, suggestions, and many kindnesses.

In addition, I would like to thank several other individuals for their guidance and assistance: Dr. Donna Hoover, whose class inspired me to begin work on this degree; Dr. Charles Burkett; Dr. Robert McElrath; Dr. Valerie Schneider; and the faculty and staff of the Department of Educational Leadership and Policy Analysis.

I would also like to thank the school systems that permitted me to conduct research in their schools. Particularly, I express my appreciation to the school system administrators, principals, and teachers who allowed me to

interview them. The knowledge, ability, and enthusiasm of these individuals were inspirational.

Lastly, I would like to thank Charles, Dianne, and Alicia Phelps; other family members; friends; and the administration, faculty, and staff of John S. Battle High School. I will always remember and appreciate their interest in my study and the encouragement they provided.

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CHAPTER 1  
INTRODUCTION

Within schools and other educational circles, time is often the center of discussion. Phrases such as "wait time," "time on task," "planning time," "time for logging on," and "increasing time for core subjects" are pervasive. Debates over the exact amounts and scheduling of instructional time have evoked conflict in schools for decades. The length of the school day, year, and even class periods creates differences of opinion. Similarly, educational researchers seek the magical proportion of time that would equate with learning.

While the debate over time allocation continues, precious time in the school day is often lost to priorities other than the teaching of traditional subject matter. Historically, students spent part of their school day in religious instruction, gathering wood for the classroom stove, and tasks around the school. In more recent years, instructional time in high schools has been lost to fund raising campaigns, pep rallies, program rehearsals, and other activities distracting the focus from course topics.

Considerable research has been conducted on the subject of the relationship between time and learning. Rossmiller

(1983) found that only about 60% of the school day is available for instruction and "less than half of the 1,080 hours that constitute a typical school year are actually devoted to the instruction of students" (pp. 46-47). Justiz (1984) concluded that schools lose 55% of the time allocated for instruction. The researcher attributed this lost time to attendance problems, noninstructional functions outside of the classroom, and noninstructional activities inside the classroom.

Gilman and Knoll (1984) concluded that 30% or less of the average school day is actually used for instruction. The researchers suggested that many activities leading to this reduced instructional time are simply student and parent conveniences or community services.

The findings of Karweit (1985) were similar to those of Rossmiller, Justiz, and Gilman and Knoll. Karweit found "that students spend about 190 minutes per day engaged with academic and nonacademic instruction. Of these 190 minutes, about 135 minutes per day would be engaged with academic instruction, or about 38% of the school day" (p. 11).

According to Canady and Rettig (1995), the National Education Commission on Time and Learning was established by Congress in 1991 to study America's schools. Canady and Rettig (1996) indicated that the commission found that time actually available for instruction in schools was very brief. In their 1995 publication, the researchers identified

other findings of the commission: subject complexity and student comprehension do not affect the time allocated for subjects; graduation requirements are based upon seat time; and little attention is given to how instructional time is used.

In an effort to correct the problems associated with the lack of time for instruction, many high schools in the 1990s are moving from a traditional schedule to a block schedule. Cawelti (1997) called block scheduling "the most visible and perhaps significant change in the organization of the high school" (p. 41). Kramer (1997a) defined the concept by stating, "In block scheduling classes meet for a longer than traditional period of time daily but for fewer than the traditional number of days during the school year" (p. 19). Adams and Salvaterra (1997) refer to the structure as "a readjustment of the way time is divided within the school day to create longer instructional blocks of time . . ." (p. ix).

Canady and Rettig (1996) reveal several improvements that are attempted by block scheduling. Schools seek to do the following:

- ◆ Reduce the number of classes students must attend and prepare for each day and/or each term.
- ◆ Allow students variable amounts of time for learning, without lowering standards, and without

punishing those who need more or less time to learn . . .

- ◆ Increase opportunities for some students to be accelerated.
- ◆ Reduce the number of students teachers must prepare for and interact with each day and/or each term.
- ◆ Reduce the number of courses for which teachers must prepare each day and/or term.
- ◆ Reduce the fragmentation inherent in single-period schedules, a criticism that is especially pertinent to classes requiring extensive practice and/or laboratory work.
- ◆ Provide teachers with blocks of teaching time that allow and encourage the use of active teaching strategies and greater student involvement.
- ◆ Reduce the number of class changes. (Canady & Retting, 1996, p. 6)

Adams and Salvaterra (1997) believe that "to take advantage of the opportunities created by block scheduling will lead to greater instructional effectiveness" (p. 2). However, for change to occur in education, particularly the innovation of block scheduling, several difficulties must be considered and addressed. Hargreaves (1997) found barriers to the success of change to include poor conceptualization and demonstration for the change, improper timing, and lack of adequate resources. In his study, the researcher

concluded that reform will not be successful "when there is no long-term commitment to the change to carry people through the anxiety, frustration, and despair of early experimentation and unavoidable setbacks" (p. viii).

Hargreaves observed that failure in change efforts will occur when "key staff who can contribute to the change, or might be affected by it, are not committed" (p. viii). Considering the change of block scheduling, Canady and Rettig (1995) believed that if instruction is not altered with block scheduling, the innovation will be likely to experience failure. Similar feelings were expressed by Adams and Salvaterra (1997) who concluded, "Well-planned structural changes in organizations that are unaccompanied by individual changes in behavior, skills, and attitudes have little chance of succeeding" (p. x). An effective professional development program appears to be the most crucial element in addressing the concerns raised by these researchers.

Prior to developing such a staff development program, it is necessary to examine important components of the change process. These components include the reasons for the change, the implementation process, and the effects of the change.

#### Statement of the Problem

Considerable research has been conducted on many of the aspects of block scheduling. However, minimal research is

available on how the schedule is implemented in schools and how teachers are prepared to utilize the longer class periods. In addition, there is a need for additional information on how teachers apply professional development activities after the block schedule begins.

#### Purpose of the Study

The alternative method of school scheduling known as block scheduling has numerous implications. This study attempted to discover the effect of some of these implications and how they ultimately affect instruction.

The purpose of the study was to identify the reasons that schools change to a block schedule; to determine processes that have been used for implementing the schedule; to identify strategies that were used for professional development; and to discover the effect that the schedule had on instruction, students, and the school. In achieving this purpose, the researcher hoped to also identify additional procedural strategies and professional development activities that would be beneficial.

#### Research Questions

The following questions were addressed throughout the study:

1. What factors caused schools to change from traditional scheduling to block scheduling?
2. What procedures were used to implement block scheduling?



3. What types of professional development related to block scheduling were used?
4. What types of professional development were the most effective?
5. How does block scheduling affect instructional practices?
6. How does block scheduling affect students?
7. How does block scheduling affect schools?
8. What additional implementation strategies would be beneficial?
9. What additional staff development is needed?

#### Significance of the Study

Canady and Rettig (1995) stated that within the school schedule resides "the power to make possible the institutionalization of effective instructional practices" (p. xi). Through examining the reasons why a school scheduling change occurred, determining the processes used for implementing the schedule, and identifying the impact of the schedule, educators will be better able to initiate and implement school change, including the change from a traditional schedule to a block schedule.

According to Canady and Rettig (1995), "the single most important factor in determining the success or failure of block scheduling will be the degree to which teachers successfully alter instruction to utilize extended time blocks effectively" (p. 22). Since staff development plays

such an integral role in this change effort, this study will also be of value as school systems formulate professional development plans for not only block scheduling, but also other reform efforts.

### Definitions

The following definitions are provided for terms used in the study:

1. Block scheduling: This is a method for school scheduling where "classes meet for a longer than traditional period of time daily but for fewer than the traditional number of days during the school year" (Kramer, 1997a, p. 19).
2. Instruction: This is a multi-dimensional term for the techniques, strategies, and activities used to promote student learning. In addition, the term refers to such factors as learning resources, classroom organization methods, and the student-teacher relationship.
3. Professional development: These are activities utilized by school systems or by individuals to increase effectiveness. Professional development programs "provide opportunities for professional growth that will result in improvement in educational practice" (Shelton, 1991, p. 35). These activities are also referred to as staff development or inservice.

### Organization of the Study

This study was organized into five chapters. Chapter 1 consists of an introduction, statement of the problem, purpose, research questions, significance, definitions, and organization of the study.

Chapter 2 contains a review of related literature. Secondary education in America, educational change, block scheduling, instructional effectiveness, and professional development for secondary teachers are addressed in the literature review. Chapter 3 explains the research design and data collection procedures used for the study. Chapter 4 presents a within-site analysis for the five schools that were studied. The chapter concludes with a cross-site analysis, focusing on the presentation of themes that emerged from the case studies.

Chapter 5 contains a summary of the research, including a presentation of the purpose, procedures, and data analysis. The chapter also contains conclusions and recommendations.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

#### Introduction

The purpose of this chapter is to present a review of the literature related to block scheduling and professional development. The first section of the chapter contains a brief history of secondary education in America. Important factors affecting the growth of secondary schools are also addressed in this section.

Information on educational change and descriptions of various models of block scheduling follow. The findings of several studies examining block scheduling are also presented. Following an analysis of the literature on instructional effectiveness, a review of professional development practices for high school teachers is presented. Professional development specifically for teachers in schools with block scheduling is addressed in the following portion of the literature review.

#### Secondary Education in America

Prior to examining the history of the American secondary school, several basic generalizations about secondary education would prove valuable. According to Gutek (1983), "Secondary education refers to schooling that follows elementary schooling but precedes higher education" (p.203). This schooling "generally occurs in the

high school. In some instances, however, it may take place in academies and institutes" (Guttek, 1983, p. 203). In addition, Guttek (1983) states that "secondary education generally is age specific to adolescence" (p. 204).

Development of the American secondary school, or high school, from the English Classical School in 1821 to the comprehensive secondary schools of today, has been unique. Prior to 1821, secondary education primarily consisted of the Latin grammar school and academy. According to Guttek (1983), characteristics of Latin grammar schools included the belief that secondary schooling should prepare students for more advanced learning. The education "was based almost exclusively on mastering the classical Greek and Latin languages and literature. Since it focused on the classical languages, knowledge was thought of as originating in the past and was construed in verbal or literary terms" (Guttek, 1983, pp. 204-205). Power (1991) stated that these "first American secondary schools usually succeeded in maintaining a classical course of sorts, intended at first as a complete education" (p. 244). Latin grammar schools also operated under the premise that education should only be provided for a small group of economic, social, and political elite students.

According to Pulliam (1991), the growing economy and the renewed interest in religion, referred to as the Second Great Awakening, contributed to the growth of

academies, boarding schools that offered a protected environment for students. Gutek (1983) indicated that academies enjoyed their greatest growth during the period between the Revolution and Civil War. "By 1860, one-quarter million students were enrolled in six thousand academies" (Pulliam, 1991, p. 67).

Several factors during the years that followed led to the creation of the public high school. Pulliam (1991) identified these issues as urban growth, industrial expansion, and a call by the middle class for "terminal secondary education with free tax support" (p. 67). Eventually, the English Classical School was established in Boston in 1821.

In 1824 this school was renamed the English High School. Power (1991) indicated that this first high school in America was created to provide "a kind of practical schooling that neither Latin schools nor academies were disposed to sponsor" (p. 270). According to Pulliam (1991), the school was only for young men, and these students were admitted by examination. Consequently, most of the poor and working-class children did not attend. Subjects included English, history, mathematics, science, philosophy, geography, bookkeeping, and surveying. Power (1991) observed that gradually other towns and cities established high schools that imitated the school in Boston.

Pulliam (1991) stated that since there were no electives, students took all of the classes that were offered in these early high schools. However, youngsters could determine whether to enroll in an English, classical, or commercial curriculum. Within these three areas, standardization of courses varied widely.

According to Gutek (1983), these public high schools gradually replaced academies by the 1870s. Pulliam (1991) found that by the 1880s high schools had more students than did the academies. By 1890, there were approximately 2,500 high schools and the enrollment was around 200,000 students. These numbers increased to 6,000 high schools and 500,000 students by 1900.

The emphasis in these schools was on college preparation. Even though approximately one tenth of the students planned to enter college, most selected the classical curriculum. Some schools did provide a commercial curriculum for those not planning to attend college. Again, standardization varied. Some schools offered in one semester what other schools gave in a four-year course.

According to Gutek (1983), a court case in 1874 concerning high schools in Kalamazoo, Michigan, was precedent setting. In fact, Power (1991) stated, "the future of the American high school was determined in the courtroom" (p. 281). Gutek (1983) found that citizens sued the Board of Education in Kalamazoo to prevent taxation to support a high

school. The researcher said, "Arguing that the primarily college preparatory curriculum benefited only a small minority, the claimants contended that the majority was being taxed to support the education of the college-bound minority" (Guttek, 1983, p. 208). Judge Thomas C. Cooley found that "the state was obligated to provide not only elementary education but also to maintain equal educational opportunity for all" (Guttek, 1983, p. 208). This verdict included the necessity of providing for high schools, considered transitional institutions between elementary schools and colleges.

As the secondary school grew, Pulliam (1991) observed that concerns emerged about curriculum, time spent on subjects, graduation requirements, instructional quality, and physical facilities. Organizations such as the New England Association of Colleges and Secondary Schools in 1798, Middle Atlantic States Association in 1892, North Central Association in 1894, Association of College and Preparatory Schools of the Southern States in 1895, and Northwest Association of Secondary and Higher Schools in 1918 were created to address these concerns and to develop standards.

According to Pulliam (1991), the organization that probably had the greatest impact on standardization was the Committee of Ten, appointed by the National Education Association in 1892. Canady and Rettig (1995) observed that



the committee laid the foundation for the high school schedule that is common today. Pulliam (1991) concluded that the group believed that the purpose of studying a subject was mental discipline and that all subjects were of equal value in developing mental habits.

The Committee of Ten influenced the Committee on College Entrance Requirements, a group that proposed core subjects for high school students. It also had an impact on Carnegie Foundation for the Advancement of Teaching (Pulliam, 1991). Canady and Rettig (1995) suggested that the Carnegie Foundation was responsible for development of "the standard unit to measure high school work based on time (p. 13).

Pulliam (1991) stated that in 1918 the Commission on the Reorganization of Secondary Education advocated the creation of comprehensive high schools providing a variety of courses. The commission also formulated the Seven Cardinal Principles of Secondary Education. These standards for a secondary education included health, command of fundamental processes, home membership, vocation, citizenship, use of leisure time, and ethical character.

According to Rippe (1992), the seven standards signaled the beginning of a shift in the goals of a secondary education. Only the principle concerning command of fundamental processes directly related to college preparation. All other standards concerned the practical and

social functions of education. "Almost all of the significant statements on secondary education published since 1918 have stressed the same theme" (Rippa, 1992, p. 272).

According to Pulliam (1991), secondary schools in the 1900s had become primarily coeducational, and they continued to experience growth. In fact, schools doubled in enrollment every ten years. These schools maintained many of the characteristics and structure of their earlier high schools. They included a principal and staff and usually were divided into departments. With the growth of junior high schools, the 6-3-3 or 6-2-4 plans for years in elementary, junior high, and high school became popular. Other changes affecting high schools during this time were the emphasis on vocational education and beginning of guidance services.

Pulliam (1991) stated that beginning in the 1900s, numerous changes affecting secondary schools occurred. These changes included improved teaching methods and curricula, new programs for the handicapped and gifted, better facilities and equipment, and the effects of cultural change. However, Pulliam believed the greatest change occurring during this period was the tremendous growth of secondary schools. These schools began to be comprehensive, offering programs and services to meet a variety of needs and interests.

According to Rippa (1992), efforts by high schools during the 1900s to educate all youth, particularly those who would not be attending college, prompted criticism. College officials "complained that the functional-type programs were having an adverse effect on the intellectual student" (Rippa, 1992, p. 273). These critics argued that the high school was neglecting its role of preparing students for college.

As a reaction to these charges, Rippa (1992) said the Progressive Education Association began the Eight-Year Study in 1933. The purpose of the study was to analyze the college performance of selected graduates of 29 schools. The experimental schools had been given freedom to make any curriculum reform they wished. The researchers found that the graduates of the experimental schools were considerably more successful in college than their counterparts from other schools. According to Pulliam (1991), several other studies, events, and legislative acts concerned the secondary school during the 20th century. General Education in a Free Society, published by a committee from Harvard in 1946, raised concerns about subject specialization in high schools. Later concerns were summarized by Rippa (1992), who stated that the "the launching of Sputnik I in the fall of 1957 released a deluge of harsh attacks on American high schools" (p. 276). Believing that academic standards were

too low, critics called for curricula similar to that of 200 years before.

Rippa (1992) found that the Conant Report in 1959 also had a great impact on secondary education. In calling for the closing of small schools, the report led to considerable school consolidation. In addition, the study prompted increased interest in curriculum diversification, instructional quality, and selection of board of education members.

Pulliam (1991) stated that another important development during this time was the Elementary and Secondary Education Act. Becoming effective in 1965, the act funded materials and services in both elementary and secondary schools. The primary goal of this legislation was to provide materials for youngsters from low-income families.

During this time, Rippa (1992) observed that numerous reform efforts emerged. Many of these efforts "represented a search for more meaningful content and improved methods" (Rippa, 1992, p. 279). New content was added to subject areas and obsolete material was removed; greater emphasis was given to the use of media; and different procedural factors were introduced. "The many programs in the reform movement not only introduced new knowledge into the curriculum but also tried to change the conceptual structure

of knowledge for teaching and learning purposes" (Rippa, 1992, p. 279).

Despite these numerous efforts to improve educational quality, several commissions perceived a deterioration in the American educational system. According to Rippa (1992), the publication in 1983 of A Nation at Risk: The Imperative for Educational Reform, by the National Committee on Excellence in Education, received the most attention. The report did not offer suggestions for improving pedagogy. It did, however, call for "more of what already exists--more required subjects, more homework, higher teacher salaries, and a longer school year. A Nation at Risk tried to patch the present system in ways not likely to lead to fundamental reform" (Rippa, 1992, p. 285).

According to Kershaw (1997), dissatisfaction with America's public school system continued in the 1990s. This dissatisfaction, aimed particularly at secondary schools, was fueled by low reading scores, high drop-out rates, school violence, and overcrowded and crumbling buildings.

Kershaw (1997) stated that these problems prompted several new reform efforts, one of which was for-profit schools. Kershaw (1997) defined this change as having companies operate public schools, using the same funding provided by the state. Usually, these companies make a profit because they operate the school for less money than the state. Among the companies involved in operating for-

profit schools are Education Alternatives, Inc., and the Edison Project. Despite unsuccessful efforts in Hartford, Connecticut, and Baltimore, Maryland, Education Alternatives recently began operating 12 schools in Arizona. The Edison Project has been more successful. Founded by Whittle, this company presently operates schools in six states. Several similar companies are emerging, and both educators and business leaders are predicting continued growth in for-profit schools.

Another recent reform, national standards, emerged from the comparison of achievement scores of students in the United States with those of children in other countries. According to Kershaw (1997), recent scores of American students in reading, history, and geography were low. In the 1994 national reading test, 36% of the 12th graders were proficient and only 3 to 7% scored on the advanced level. The Clinton Administration called for the development of standards of what "every student should learn and be able to do before graduating from high school" (Kershaw, 1997, p. 37). This mandate was eventually abandoned after attacks by numerous conservative education groups.

Numerous states have now formulated standards, and there is again interest in the development of voluntary national standards. Opponents, however, believe that standards "must be developed within communities, which are best equipped to decide how and what their students should

achieve" (Kershaw, 1997, p. 37). National standards will continue to be an important aspect of future reform efforts.

In addition to these movements, other developments have also recently impacted secondary schools. Growth in the knowledge of learning theory, advancements in teacher training, emphasis on the utilization of technology, increased influence of family and society, and greater understanding of school organizational structure have all affected the American high school.

In Horace's Compromise: The Dilemma of the American High School, Sizer (1984) identified the following goals of one high school in Redding, California: "fundamental scholastic achievement, career and economic competence, citizenship and civil responsibility, competence in human and social relations, moral and ethical values, self-realization and mental and physical health, aesthetic awareness, and cultural diversity" (p. 77). This researcher further emphasized that these goals were also the goals of most secondary schools throughout the country. Sizer (1984) also stated that "what distinguishes this list is its comprehensiveness. The high school is to touch most aspects of an adolescent's existence--mind, body, morals, values, career. No one of these areas is given especial prominence. School people arrogate to themselves an obligation to all" (1984, p. 77).

From the Latin grammar schools and academies of the past to today's comprehensive secondary schools, characterized bySizer, secondary education has become a major component of both the American educational system and American life.

### Educational Change

Throughout the history of American education, calls for change have been prevalent. In fact, the secondary school of today is a product of these change efforts. To develop a better understanding of educational change, the characteristics and phases of change, factors which reduce its effectiveness, and strategies for promoting its success need to be examined.

According to Fullan (1991), a fundamental problem in education is that individuals do not understand the meaning of educational change. Fullan defined the concept as helping "schools accomplish their goals more effectively by replacing some structures, programs, and/or practices with better ones" (p. 15). The researcher also referred to types of educational change. First-order changes are attempts to cause structures to be more efficient and effective. Second-order changes affect the basic structure of organizations. Most change efforts since the beginning of the 20th century have been first-order changes. Fullan stated, "The challenge of the 1990s will be to deal with more second-order changes--changes that affect the culture and structure of schools,



restructuring roles and reorganizing responsibilities, including those of students and parents" (1991, p. 29).

Fullan (1991) also observed that change is not a single entity. He found that any change effort usually includes three components. Relating these to teachers, Fullan suggested change involves the use of new teaching materials. It also usually requires teachers to develop different teaching strategies. Finally, change often includes modification of beliefs about teaching. Fullan concluded that "change has to occur in practice along the three dimensions in order for it to have a chance of affecting the outcome" (1991, p. 37).

In further characterizing change, Fullan (1991) stated that

Real change, then, whether desired or not, represents a serious and collective experience characterized by ambivalence and uncertainty; and if the change works out, it can result in a sense of mastery, accomplishment, and professional growth. The anxieties of uncertainty and the joys of mastery are central to the subjective meaning of educational change, and to success or failure--facts that have not been recognized or appreciated in most attempts at reform. (p. 32)

According to Futrell (1989), four phases have emerged in educational reform. The first phase began with A Nation at Risk in 1983. Futrell found that following its

publication "state legislatures enacted more than 700 statutes stipulating what should be taught, how it should be taught, and by whom it should be taught" (1989, p. 11). In a reaction to this top-down approach, the second phase called for educators to lead reform efforts. Futrell said that in this stage "the first steps were taken to win professional recognition and professional autonomy for teachers" (1989, p. 11). This phase led to a stage guided by economic imperatives. Reformers now became most concerned with producing "graduates who could staff American business and industry and reassert this nation's economic preeminence" (Futrell, 1989, p. 12). Futrell stated that the focus of the fourth stage of the reform movement was on "an education that prepares tomorrow's adults to meet ethical as well as economic imperatives--that prepares them not only for a life of work, but also for a life of worth" (1989, pp. 13-14). This fourth phase called on schools to be not only excellent but also equitable.

Caine and Caine (1997) found the changes recommended by these four phases of reform have been largely unsuccessful because educators often enhance those forces which prevent reform. "Indeed, the paradox--and the frustration--is that most of the effort that has been put into changing education has actually reinforced the basic dynamics that make change exceedingly difficult" (Caine & Caine, 1997, p. 38). The researchers suggested that grading and testing often

promoted resistance by providing few opportunities for creative thinking. Because every school was a part of a larger system, constraints imposed by the larger educational and social systems also discouraged change. Such conditions as having prespecified outcomes, limiting personal meaning, controlling rewards and punishments, and providing little support for work that was unfamiliar also diminished change efforts.

In conducting 14 case studies of schools involved in reform, Adelman and Pringle (1995) found other reasons why these initiatives did not succeed. The investigators concluded that reform usually takes more time than anticipated. The researchers found that individuals underestimate the amount of time needed for studying, planning, institutionalizing, and evaluating reform. The time needed for these processes was further increased when they were done in conjunction with maintaining the school's daily operation.

The element of time is also involved in another reason for the ineffectiveness of some change efforts. According to Rallis and Zajano (1997), reform initiatives usually do not produce immediate results. This fact causes many of them to lose support, particularly from parents, legislators, and the public. To prevent this from happening, those involved in change efforts must focus on concrete images of what reform will achieve and emphasize intermediate results of

the reform efforts. The researchers concluded that these two processes will help to maintain support until outcomes are available.

Another factor that reduces the effectiveness of change is the negative effect that reform can have on teachers. According to Fullan (1991), teachers are often far more concerned with maintaining stability than with promoting change. The researcher concluded that teachers are inclined to change as little as possible, often abandoning change that they originally wanted or ignoring change mandated by others.

Wasley, Hampel, and Clark (1997) supported this finding. Involving small groups of teachers in work on reform is relatively easy. However, it is difficult to gain consensus on reform efforts by an entire secondary school faculty. "High school staffs--larger than elementary school staffs, trained as subject-area specialists, wedded to curriculum coverage, and affiliated with departments--found it difficult to agree that change was necessary and what changes, if any, warranted collective effort" (Wasley et al., 1997, p. 690).

According to Fullan (1991), "if reforms are to be successful, individuals and groups must find meaning concerning what should change as well as how to go about it" (p. xi). Wasley et al. (1997) studied five high schools which were members of the Coalition of Essential Schools and

had been involved in reform for approximately seven years. Their findings included several suggestions for increasing the success of reform. Schools involved in whole-school change must view "re-visioning as continuous," develop "a coherent sense of their ongoing efforts," increase "a faculty's ability to develop skills in rigorous self-analysis," and assist faculty in addressing "multiple aspects of school redesign" (Wasley et al., 1997, pp. 692-694).

As Futrell (1989) revealed in identifying four phases of educational reform, change is indeed prevalent in education. An understanding of the characteristics of change and the reasons why some change efforts are successful while others are not is valuable. This understanding provides insight to educators as they implement reform efforts. One of the most popular of these efforts in recent years has been the change from a traditional school schedule to a block schedule.

#### Block Scheduling

According to Cawelti (1997), "The typical American high school remains remarkably similar to the one that today's adults attended--despite half a century of efforts to improve it . . ." (p. 13). Cawelti found, however, that approximately 10 to 15% of the secondary schools have initiated serious restructuring efforts. Many of these efforts have involved curriculum standards, teaching and

learning, assessment, technology, professional development, parent and community involvement, and work redesign. The area of work redesign includes schedules, roles, and information systems.

Within this area is the reform effort referred to as block scheduling. Kramer (1997a) stated that "in block scheduling classes meet for a longer than traditional period of time daily but for fewer than the traditional number of days during the school year" (p. 19). Cawelti (1997) called block scheduling "the most visible and perhaps significant change in the organization of the high school" (p. 41). Prior to examining various models of block scheduling and research on the effects of the concept, a brief history of high school scheduling and block scheduling will be presented.

Canady and Rettig (1995) found that Latin grammar schools, academies, and early high schools offered some scheduling flexibility in the 1800s by having many subjects taught two, three, or four times a week. However, following the report of the National Education Association's Committee of Ten in 1892, high schools began to develop rigid and highly-structured schedules. With this schedule, students studied five or six subjects during each year of high school.

According to Canady and Rettig (1995), the approach requiring students to attend every period each day evolved

during the early 20th century. At that time, the Carnegie Foundation formulated a procedure to measure work in high school based on time. Students spending 120 hours in a class meeting for 40 to 60 minutes, 4 to 5 times a week, and 36 to 40 weeks earned a credit. This Carnegie Unit became a standard throughout America and has remained for the past 70 years.

Canady and Rettig (1995) suggested that numerous studies in the 1980s and 1990s raised concerns about the ineffective and inefficient use of time in America's schools. Most high schools during this period were organized around six, seven, or eight periods a day. Research concluded that these single-period schedules added to the impersonal nature of secondary schools, contributed to discipline problems, and often caused low enrollment in elective classes. In addition, traditional scheduling limited instructional strategies available to teachers and increased the stress experienced by both students and staff.

An attempt to remedy these problems occurred in the 1960s and 1970s (Canady & Rettig, 1995). Trump sought to replace the traditional schedule with a flexible modular approach. The Trump Plan allocated the time for courses according to the needs of particular subjects and the instructional activities which would be used. Eventually, school systems returned to the traditional plan, largely due

to the problems resulting from unscheduled time for youngsters.

In the 1990s, an effort to improve student achievement through altering the school schedule is being implemented throughout the nation. This innovation, block scheduling, has been called by Cawelti (1997), "one of the boldest moves to restructure the American high school" (p. 8). Dugger (1997), however, found that the concept is not completely new. In Fort Union, Virginia, a military academy began using block scheduling 30 years ago. The investigator stated that in 1972 Van Mondtrans, Schott, and French presented research on block schedules that compared the achievement of students in traditional and block schedules. The study found mean scores for freshmen and sophomores in the traditional and block schedules were similar while mean scores for juniors were greater in the traditional schedule and mean scores for seniors were higher with the block schedule.

According to Cawelti (1997), Joseph Carroll implemented block scheduling, that he referred to as the Copernican Plan, while serving as a school superintendent in Massachusetts. Dugger (1997) reported that in 1983 Carroll presented a paper entitled "The Copernican Plan: A Concept Paper Concerning the Restructuring of Secondary Education at the Masconomet Regional School District." This paper is "credited with introducing block scheduling to American high schools" (Dugger, 1997, p. 52).



In the 1990s, block scheduling has become one of the most popular reform efforts. According to Cawelti (1997), approximately 11% of the high schools in America were using a form of block scheduling in 1994 and an additional 15% indicated they planned to implement the concept during the 1995-1996 school year. Further, Canady and Rettig (1996) concluded that over 50% of the high schools in America were either using or studying block scheduling. Cawelti (1997) found that in some states, such as Virginia, most schools have implemented the concept.

Numerous models for block scheduling have evolved. According to Kramer (1997a), one of the most popular is the 4 x 4 or semestered model. Canady and Rettig (1996) reported that this approach is sometimes referred to as the accelerated plan because it allows some students to graduate in only 3 years. The 4 x 4 plan calls for students to take four courses for 90 minutes each semester. With this plan students are able to complete in a semester a course that normally would last a year. According to Canady and Rettig, the plan offers several advantages. It allows teachers to have fewer students and fewer preparations each semester. It also gives teachers longer planning time. The plan causes students to have fewer courses to concentrate on each semester and enables them to retake a failed course during the second semester. The 4 x 4 also allows students to earn 8 credits during a year.

Shuler (1997) also found that the semestered plan has several advantages. It provides more time for laboratory courses and in-depth instruction. The 4 x 4 also reduces the amount of time spent changing classes; therefore, additional instructional time is available.

Canady and Rettig (1996) found that there are some problems associated with the 4 x 4 plan. Those who object to it have raised concerns about learning retention, the amount of material to be covered, advanced placement courses, and classes such as music that students need to take for the full year. Shuler (1997) found that the semestered approach leads to both lower enrollment and achievement in band and orchestra. The investigator concluded that unless students in music ensemble classes meet both semesters, both skill and motivation decrease.

According to Kramer (1997a), two other models are similar to the 4 x 4. In one, the school year is divided into trimesters and students take three courses each session. In the other, the year is divided into quarters, and students take two courses each quarter.

Kramer (1997a) found the alternating day model for block scheduling to be the second most popular approach. According to Canady and Rettig (1996), common names for the plan are "A Day, B Day" or "Day 1, Day 2." This plan has classes meeting for extended time every other day for the entire year. According to Canady and Rettig (1996), the

plan also offers several advantages. Teachers have more instructional time and are able to have lessons that require longer periods. The alternating day, or "A Day, B Day" schedule, causes students to have fewer classes to prepare for each day. It also improves discipline and school cleanliness since there are fewer class changes.

Canady and Rettig (1996) indicated that there are several problems with the "A Day, B Day" approach that must be addressed. These include providing planning time for teachers on days when they teach every period, balancing student work loads, and preparing for additional time for review. An additional concern involves planning for school activities when there are changes, such as those caused by inclement weather.

In addition to the 4 x 4, trimester, quarter, and alternating day formats, Canady and Rettig (1996) described another approach that reconfigures the school year into long and short terms. This approach is sometimes called the 75-75-30 or 75-30-75 plan. During 150 days, schools operate on a block schedule, and for 30 days short courses are taught. These short courses provide students who had not mastered course objectives with additional learning opportunities. For those who had met course requirements, enrichment classes are provided. Another approach to this model includes teaching two interdisciplinary courses during the 30-day period.

Because of the growing popularity of block scheduling, extensive research on its effect on schools has been conducted. Kramer (1997a) completed a literature review and interviewed researchers, administrators, and teachers. Among the academic effects of block scheduling, the investigator found improved grades at most schools using block scheduling. Kramer also found that block scheduling had a positive effect on student achievement in North Carolina. However, in British Columbia, the investigator found a negative effect on achievement in math and science. Kramer (1997b) concluded that the British Columbia finding could be attributed to inadequate planning time for teachers; difficulty in adjusting curriculum; and lack of flexibility in teaching methods, influenced by preparing students for provincial examinations.

Among other academic effects, Kramer (1997a) found lower failure rates in schools using intensive block scheduling. Failure rates in schools with the alternating day model were not addressed in the literature Kramer reviewed. There was also usually a decrease in dropout rates at schools with block scheduling. Kramer attributed these findings to block scheduled schools offering new courses, particularly for students with lower ability; students taking fewer courses at a time; and failing students being able to retake a course the following semester.

In his literature review and interviews, Kramer (1997a) found several non-academic effects of block scheduling. The investigator concluded that both the intensive and alternating day approaches improve school atmosphere. There was also improvement in discipline, with fewer suspensions and disciplinary referrals. Kramer concluded that both students and parents usually felt positive about the concept. However, the research did not support the claim by many concerning block scheduling's effect on improving attendance.

Eineder and Bishop (1997) studied the impact of a 4 x 4 schedule at a small rural high school in Ohio. Their research found that academic performance of students in the 9th, 11th, and 12th grades had greatly increased with block scheduling. There was also improvement in student behavior with gains in attendance and a 40% reduction in the number of student fights. Eineder and Bishop also suggested block scheduling contributed to a reduction in the school's dropout rate.

According to Eineder and Bishop (1997), 77% of the students preferred the longer periods. Students reported that they enjoyed having fewer classes each semester. They also felt that the block schedule allowed them to receive more help from teachers and to participate in a greater number of class activities. The students concluded that

block scheduling had improved the student-teacher relationship.

In "Tennessee's Block Scheduling Program Shows Early Signs of Success" (1996), it was revealed that 25 schools, prompted by increased graduation requirements in the state, had changed to a 4 x 4 schedule. The article reported that after the first year with the schedule, "all 25 schools were continuing block scheduling for a second year, and over 100 schools planned to implement block scheduling during the 1995-96 school year" (p. 4). The article identified several positive influences of the change. There were fewer failures and drop-outs, and discipline at the schools had improved. However, the research found that the block presented organizational difficulties and the effect of student absences was much more significant.

In a study also taking place in Tennessee, Dugger (1997) studied school climate in schools that were either studying block scheduling or in the early years of implementation. Teachers and principals in the First Tennessee Regional District provided data for the study. The investigator found that block scheduling did not have a negative effect on school climate. The study also revealed that teachers and principals believe block scheduling had a slightly positive effect on student learning.

Considerable attention has also been given to the effect of the schedule on instruction. Since teacher opinion

about a change process is so important, Kramer (1997a) studied the teachers' attitudes about block scheduling. The researcher found that teachers were mixed in their opinions about the schedule. The research suggested that teachers were often quite positive about the concept. In some instances, however, there were declines in faculty support and decreases in faculty morale following implementation. Very often math teachers appeared to be the most negative about the schedule.

The finding concerning a decline in faculty support of block scheduling contradicted the findings of Eineder and Bishop (1997). Their research found teachers who were hesitant or opposed to the innovation during the decision process became supportive following one year of block scheduling. Eineder and Bishop indicated that teachers preferred block scheduling because of being able to have a greater variety of learning activities, increased time for monitoring student work, and better relationships with students. Teachers also felt that administrative matters were minimized and the media center was better utilized by students.

Kramer (1997a) suggested that some teachers in block-scheduled schools had changed their teaching methods little while others had made major changes. Those who had altered curriculum and methodology seemed to be more successful in increasing student learning. The importance of changing

instruction was emphasized when Kramer found that methods used by experienced teachers in traditional classrooms did not lead to success in block scheduling. Canady and Rettig (1995) concurred with Kramer by stating, "The single most important factor in determining the success or failure of block scheduling programs will be the degree to which teachers successfully alter instruction to utilize extended time blocks effectively" (p. 22).

Kramer (1997a) found several other instructional implications of block scheduling. The researcher concluded that teachers taught less material but taught it in greater depth. Kramer (1997a) also found that "there is a clear consensus that maintaining a pure direct instruction/lecture mode of instruction does not work well in a longer time block" (p. 31). The researcher indicated that teachers needed to have at least three activities during the longer class periods.

The research by Kramer (1997a) also revealed several findings concerning planning time and class size. Planning time was essential to the success of block scheduling, and the innovation required considerably more planning than traditional scheduling. Adequate time for teacher planning was especially important during the early years of implementation. Concerning the claim that class size decreased with block scheduling, Kramer stated, "In general, if the size of the student body and the number of staff



members are held constant, moving to a block schedule will change class size if and only if planning time is also changed" (1997a, p. 35). The investigator indicated that when planning time increased, class size increased, and when planning time decreased, class size decreased. Kramer concluded, "Maintaining planning time, even at the cost of slightly increased class size, may be particularly important for high school math classes" (1997a, p. 35).

Kramer (1997a) also found that teachers were much more satisfied with block scheduling when curriculum adjustments were made. These adjustments included offering additional courses, particularly elective ones, and modifying course content and sequencing. Kramer indicated, however, that school system policies and budgetary constraints often prevented these adjustments.

In their study of block scheduling at a small rural high school in Ohio, Eineder and Bishop (1997) had several findings related to instructional methodology. With the 4 x 4 plan, 97% of the teachers indicated an increase in the use of various learning projects and cooperative learning activities. The researchers suggested that many of these learning opportunities promoted student communication skills. Student-teacher relationships also improved, with 95% of the teachers and 80% of the students indicating improvement. Eineder and Bishop concluded that block scheduling "gives teachers more time to employ proven

behavior modification strategies, but also may unlock new clues as to the cause and remediation of antisocial behavior through better understanding of individual students" (1997, p. 50).

There were also findings about the effect of block scheduling on instruction in the two previously mentioned studies conducted in Tennessee. In "Tennessee's Block Scheduling Program Shows Early Signs of Success" (1996), the research revealed that the schedule caused instruction to become more student-centered and improved morale. However, there were concerns that some teachers had failed to alter instruction for the longer periods. Dugger (1997) found that teachers and principals believed that block scheduling had a slightly positive effect on instructional methods.

This educational innovation of block scheduling attempts to promote student achievement through improving instructional practices. Since this is the primary goal of the longer periods, it is important to develop an understanding of the meaning of effective instruction.

#### Instructional Effectiveness

Because of its extreme importance, the concept of instructional effectiveness has been examined by many educators. Darling-Hammond (1998) stated, "Research confirms that teacher knowledge of subject matter, student learning and development, and teaching methods are all important elements of teacher effectiveness" (p. 9). This ability of

the teacher "is one of the most important factors in determining student achievement" (p. 8). Most of the efforts to increase student performance through changes in curriculum, evaluation, organization, and special programs have not been successful. Darling-Hammond (1998) concluded that "teachers who know a lot about teaching and learning and who work in environments that allow them to know students well are the critical elements of successful learning" (p. 8).

In discussing teaching responsibilities, Danielson (1996) said, "[I]n pursuit of important learning, a teacher creates, with the students, a community of learners, where all students feel respected and honored" (p. 29). The researcher believed that this purpose should impact the four domains of teaching. The first domain concerned planning, and it included knowing content, understanding students, choosing goals, and assessing what students had learned. The second domain, relating to the learning environment, focused on classroom procedures, behavior, and organization of the learning space.

Danielson (1996) identified the actual act of teaching as the next domain, and she said it "reflects the primary mission of schools: to enhance student learning" (p. 31). Among its aspects were communicating effectively and promoting student involvement. The author stated,

Teachers who excel in . . . [this domain] create an atmosphere of excitement about the importance of learning and the significance of the content. They care deeply about their subject and invite students to share the journey of learning about it. Students are engaged in meaningful work, . . . [and the work] carries significance beyond the next test and . . . can provide skills and knowledge necessary for answering important questions or contributing to important projects. Such teachers don't have to motivate their students because the ways . . . [that] teachers organize and present the content, the roles they encourage students to assume, and the student initiative they expect serve to motivate students to excel. The work is real and significant, and it is important to students as well as to teachers. (p. 32)

The final domain identified by Danielson (1996) concerned professional duties. It was composed of such factors as record keeping, communication with students' families, involvement in both school and system activities, and professional growth.

DuFour and Eaker (1992) found three aspects of instructional effectiveness. One of these areas was the teacher's knowledge of the subject, including the presentation of information that is current as well as accurate. Another was the ability of the teacher to relate

to others. This factor contained such elements as communicating effectively and demonstrating respect and concern. A final aspect related to a teacher's instructional abilities. The researchers concluded that this component involved the following:

1. Instruction is guided by a preplanned curriculum.
2. Students are carefully oriented to lessons.
3. Instruction is clear and focused.
4. Learning progress is monitored closely.
5. When students do not understand, they are retaught.
6. Class time is used for learning.
7. There are smooth, efficient classroom routines.
8. Instructional groups formed in the classroom fit instructional needs.
9. Standards for classroom behavior are explicit.

(DuFour & Eaker, 1992, pp. 114-117)

These researchers identified a variety of dimensions for effective instruction. In most instances, however, the three elements of knowing content, possessing instructional skills for sharing this content, and caring about students were integral. To assist teachers in developing these skills, school systems usually utilize professional development activities.

Professional Development for  
Secondary Teachers

One of the areas that educational change should affect the most is professional development. In fact, Fullan (1982) stated that "as long as there is the need for improvement through making changes in education, there will be the need for professional development" (p. 287). Researchers have concurred with Fullan, especially concerning the importance of professional development in the success of block scheduling. This portion of the literature review includes an analysis of professional development for secondary teachers and an examination of the research on the relationship between block scheduling and professional development.

Following employment, teachers continue to develop professionally through such activities as enrolling in college courses and attending conferences. However, the primary method for professional development is through activities provided by school systems. These activities, including attending workshops, listening to speakers, or visiting relevant agencies, are usually offered at the beginning of each school year. In some systems, additional professional development is provided at selected times throughout the school year or during summers.

Several researchers have found that these professional development programs have not been effective. Licklider

(1997) indicated one reason for this ineffectiveness. The investigator stated, "Failure to embrace education as a true profession in which practitioners have an obligation for their own continuing professional growth has contributed to the failure of staff development programs" (Licklider, 1997, p. 9). In a similar response, French (1997) concluded, "Professional development programs cannot succeed if they are something done to teachers, if teachers are passive recipients instead of active participants" (p. 39).

According to Shanker (1996), the money that most American school systems invest in teacher development is very small when compared to what other countries invest. The sum is paltry when compared to what industry allocates for continuing education. Cawelti (1997) revealed that successful companies spend a large percentage of their budget to help employees gain new skills. School systems, on the other hand, usually spend a small percentage of their budget for professional development. Shanker further suggested that the money spent by school systems is often a poor investment. He stated that professional development is often "one-shot workshops devoted to the reform of the month, chosen by others, and unconnected to the needs of students and teachers" (p. 223). This finding was supported by Orlich (1989), who indicated that teachers often view professional development negatively because they have had to

listen to speeches, complete projects, or attend workshops that were irrelevant.

In a study of 12 years of schooling in the United States, Goodlad (1984) analyzed data from 38 schools, including information from thousands of parents, teachers, and students. The findings, published in the influential A Place Called School: Prospects for the Future in 1984, contained several references to professional development activities. The investigator indicated that at various times school districts promoted adoption of current trends through staff development programs. Referring to these programs, Goodlad (1984) concluded,

But there generally appeared not to be districtwide emphases representing both a common commitment and relatively comprehensive participation by all teachers. No single program appeared to capture the simultaneous attention of all or most teachers. Rather, teachers participated in small numbers in a rather broad range of staff development activities, suggesting no clear setting of priorities or in-depth attack on chronic problems. (p. 187)

Sykes (1996) agreed with Goodlad's conclusions, stating that professional development is both superficial and faddish and "supports a mini-industry of consultants without having much effect on what goes on in schools and classrooms" (p. 465).



Sanders and Eberhart (1996) called for a new model for professional development. The researchers indicated that this model should be "an ongoing series of connected events from preservice preparation through internships and licensure to advanced certification" (p. 8). The program would include the phases of preservice preparation, extended clinical training and assessment, and continuing education.

Sanders and Eberhart (1996) felt that for this model teacher development program to be successful, a number of factors must be in place. First, professional development must be an integral part of the school. Second, it should be continuous. Danielson (1996) concluded that "continuing development is the mark of a true professional, an ongoing effort that is never completed" (p. 115). Third, funding for planning, implementing, and evaluating must be available. Fourth, all dimensions of growth, including skills, knowledge, collaboration, reflection, and problem-solving practices, must be considered. Sixth, adequate time for practice, feedback, and coaching must be available.

The investigators indicated there are several components of effective professional development. These include individually guided activities, observation and feedback on performance, and involvement in developmental improvement processes. Additional elements should include both formal training and ongoing research on effective instruction (Sanders & Eberhart, 1996).

Sanders and Eberhart (1996) also believed that teachers must be actively involved in the planning, implementing, and evaluating professional development activities. They state that this involvement causes teachers to become introspective about their profession. It also has a positive effect on the culture of the school and can influence improvement in other areas of the school community.

The growing popularity of block scheduling has prompted some research on the relationship between professional development and the implementation of the schedule. According to Kramer (1997a), staff development is crucial. The investigator referred to a workshop that included teachers who had received extensive staff development prior to adopting block scheduling. Other teachers at the workshop had no training prior to implementation. Kramer stated, "The teachers from the school with training were very positive about the block schedule; the ones from the school without training were very negative" (1997a, p. 33).

Several recent studies in Tennessee included findings concerning professional development and block scheduling. The findings of two of these studies have been previously referred to in the literature review. "Tennessee's Block Scheduling Program Shows Early Signs of Success" (1996), a study of 25 schools in their first year with the block, found there was a need for increased training for teachers. Dugger (1997) also emphasized the importance of professional

development in the change to block scheduling. After surveying Tennessee principals and teachers, the investigator concluded that "professional development should help incorporate change into each school day until the innovation is seen as a normal, vital part of the school" (Dugger, 1997, p. 131).

Mullins (1997) studied staff development needs of teachers in block-scheduled high schools. Teachers from eight county systems in Northeast Tennessee were surveyed. Among other findings, Mullins found that "teaching experience was not a major determinant of perceptions about staff development needs for block scheduling" (1997, p. 118). The study also revealed that "the majority of school systems did not conduct needs assessments for staff development nor did they have planning committees for staff development programs (Mullins, 1997, p. 122). Concerning strategies for adult learning, the researcher found that teachers considered active learning strategies and a comfortable learning environment to be the most important. Teachers in the study felt that planning adult learning experiences were least important. Mullins concluded that school systems must involve teachers in decisions about implementing block scheduling and staff development through school-based committees.

The findings of Adams and Salvaterra (1997) relating to staff development came from their involvement with several

schools and concerns expressed by 210 teachers. The researchers found that most teachers believed a greater amount of professional development was needed prior to and following the beginning of a block schedule. There were several reasons why staff development should continue after the first year with the new schedule. Teachers were then more aware of professional development needs that they had not been aware of before the schedule began. In addition, the authors found in one school that experienced teachers were beginning to return to the use of lecture following a year in the block schedule.

From these findings, Adams and Salvaterra (1997) concluded,

Too often schools offer workshops on pedagogical strategies . . . without any plans for reinforcement or application in the following days, weeks, and months. Presentations of skills without the opportunity to practice and implement those skills under the direction of a skilled professional leads to ineffective or no implementation of the strategy. (p. 178)

Mutter, Chase, and Nichols (1997) studied the effect of block scheduling at Western Branch High School in Chesapeake, Virginia. The school had changed from a schedule with six periods of 51 minutes each to a block schedule in 1995-96. Among the study's recommendations was that the school develop a staff development plan for improving

instruction. This instructional improvement would focus on helping teachers to better balance different types of instructional delivery, involve students of all abilities, and incorporate various strategies for learning.

Canady and Rettig (1995) devised a professional development model for teachers moving into a block schedule. The researchers called for at least 5 to 10 days of professional development activities. To be most effective, these activities should include information on lesson design, cooperative learning, the Paideia Seminar, technology, and learning centers.

Canady and Rettig (1995) recommended that teachers "receive training by peers who already have demonstrated subject area excellence within a block-scheduled instructional situation" (p. 237). The investigators stated that "while teachers may benefit greatly from training in generic non-subject-specific instructional strategies, what they really want, and find credible, is to work with someone who is succeeding in the trenches in their subject" (Canady & Rettig, 1995, p. 237). The application of these guidelines should greatly enhance professional development for teachers in schools with block scheduling.

Despite strategies by school systems to provide for professional development, the effort has been shown to be often ineffective. Several methods for improving professional development practices have, therefore, been

developed. Recently, the increase of block scheduling in schools has prompted some research on the staff development necessary for teaching in the block. This research is of value not only to schools with block scheduling, but to any school involved in some type of innovation.

### Summary

The review of related literature provided important findings on the topics of secondary education, educational change, block scheduling, instructional effectiveness, and professional development for secondary teachers.

The review found that the secondary school has been affected by a number of committees, organizations, and societal factors throughout its history. Primary influences have included the Committee of Ten, Carnegie Foundation, enrollment increases, Eight-Year Study, Sputnik I, A Nation at Risk, and reform efforts.

The literature also revealed that calls for change in American education have been pervasive. The change process has several phases, and numerous factors prevent its occurrence. One of the most popular of these change efforts has been the innovation of block scheduling. Various models of the concept exist, and each model has both advantages and disadvantages. Studies have identified significant effects of the schedule, including the effect of the schedule on instruction.

The literature review found that instructional effectiveness involved several components but was largely determined by the teacher's knowledge of content, instructional abilities, and skills in relating to others. To promote instructional effectiveness, school systems utilize professional development, staff development, or inservice activities. Often, these strategies have been ineffective because of inadequate funding, appropriate implementation, or lack of commitment by teachers. Consequently, researchers have identified the changes necessary for making professional development more productive.

The growth of block scheduling has prompted research on the relationship between block scheduling and professional growth. In this research, the importance of professional development to the success of block scheduling has been frequently emphasized (Adams & Salvaterra, 1997; Canady & Rettig, 1995; Dugger, 1997; Kramer, 1997a).

## CHAPTER 3

### METHODS

#### Introduction

The purpose of this chapter is to describe the methods and procedures used in investigating the effect of block scheduling on schools. For the study, five secondary schools with block scheduling were selected. The research involved interviewing a central office administrator, principal, and teachers in each of the schools. Preparing field notes on the interviews and examining documents that were used prior to and following the implementation of block scheduling were other important aspects of the investigation.

In order to provide a detailed description of the effect of block scheduling at each of the sites, qualitative research was selected for the study. Merriam (1988) stated that qualitative inquiry "assumes that there are multiple realities--that the world is not an objective thing out there but a function of personal interaction and perception. It is a highly subjective phenomenon in need of interpreting rather than measuring" (p. 17).

Glesne and Peshkin (1992) concluded that qualitative inquiry might be referred to with terms such as case study, educational criticism, ethnography, or phenomenology. Merriam (1988) stated that this research might be called naturalistic since "what one does do is observe, intuit,



sense what is occurring in a natural setting" (p. 17). According to Glesne and Peshkin (1992), "qualitative researchers seek to make sense of personal stories and the ways in which they intersect" (p. 1). The methods and procedures used for the study seek to uncover the stories from each of the schools and to discover how these stories relate to one another.

### Research Design

Gall, Borg, and Gall (1996) indicate the purpose of research design is to answer questions that have been formulated. The investigator determined that the most effective method for answering this study's research questions was the case study. Gall, Borg, and Gall state that this research is "the in-depth study of instances of a phenomenon in its natural context and from the perspective of the participants involved in the phenomenon" (1996, p. 545).

### Data Collection

Data collection began following the development of preliminary research questions, selection of the research design, and planning for the case studies. The data collection involved several essential components. In July 1997, the research proposal was submitted to the Institutional Review Board of East Tennessee State

University, and this agency determined that the study was exempt from coverage.

Five secondary schools with block scheduling were then selected. Several factors guided the choice of these schools. First, they represented five public school systems. Second, they were representative of both city and county school systems. Third, the schools were in systems with differing budgets for professional development. Finally, they were in systems that provided different kinds of instructional support. Because of these differences, a more comprehensive description could be provided.

Beginning in July 1997, the superintendents of the five selected school systems were contacted by mail to obtain permission to conduct the study. Four superintendents granted permission for the study to be conducted in their systems. The principals of the selected schools in these four systems were then contacted to determine whether or not the research could be conducted.

The remaining school system required that the research proposal first be submitted to a Research Review Committee. Following approval by this committee, the proposal was approved by the principal of the selected school. Then the superintendent granted permission to conduct the study.

#### Interview and Document Collection Procedures

Interviews with central office administrators, principals, and teachers began in December 1997. Dates,

times, and locations for the interviews were individually determined.

Stake (1995) stated, "The qualitative interviewer should arrive with a short list of issue-oriented questions, possibly handing the respondent a copy, indicating there is concern about completing an agenda" (1995, p. 65). According to Stake, the researcher is not looking for "yes" and "no" answers but for "description of an episode, a linkage, an explanation" (1995, p. 65). At the beginning of each interview, the researcher introduced himself, explained the purpose of the study, and had the person being interviewed sign two copies of the informed consent. The interviewee kept one copy of the consent, and the investigator kept the other copy.

Those being interviewed were then given a list of the initial interview questions and were told that the interview was being recorded only for data analysis. As some interviews were being conducted, the researcher made field notes on the setting and responses. At the end of the interview, some individuals were asked for any records that were used prior to or following the implementation of block scheduling. They were told that these documents would be returned following the study. All participants were thanked for their assistance.

Central office administrators who were responsible for the implementation of block scheduling in each of the five

school systems were interviewed during December 1997 and January 1998. The investigator initially asked the following questions. However, in some instances, additional questions were asked as the interviews progressed in order to obtain a more detailed description.

1. How many years have you been employed by this school system?
2. What is the title of your position?
3. How many years have you served in this position?
4. What is the approximate student population for the school system?
5. How many schools are there in the school system?
6. What are the types of schools?
7. What is the amount that the school system annually spends on professional development?
8. How many schools have block scheduling?
9. What type of block scheduling does the selected school have?
10. How many years has the selected school had block scheduling?
11. What factors initiated the change to block scheduling?
12. What procedures were used for implementing block scheduling at the selected school?
13. What professional development related to block scheduling was used and is being used for the faculty of the selected school?

14. What impact has block scheduling had at the selected school?

15. What do you think about block scheduling?

16. Is there anything else you would like to add?

The principals of the five schools were also interviewed from December 1997 through January 1998. Due to a taping problem for one of these interviews, a portion of the interview was redone in March 1998. Principals were initially asked the following questions, but as some interviews continued, other questions were also asked.

1. How many years have you been employed by this school system?

2. How many years have you been a principal?

3. How many years have you served as principal of this school?

4. How many teachers are employed at this school?

5. How many students attend this school?

6. What types of courses does the school offer?

7. How many years has the school had block scheduling?

8. What professional development related to block scheduling was used and is being used for the faculty of the school?

9. Did instruction change at the school because of block scheduling?

10. What are the ripple effects of block scheduling on the school?

11. If you were to implement block scheduling in another school, what would you do differently and what would you consider essential to repeat?
12. What do teachers think about block scheduling?
13. What do you think about block scheduling?
14. Is there anything else you would like to add?

In an effort to obtain a comprehensive description of each case, a purposeful sample of four teachers at each school was selected for interviews. Teacher interviews were conducted during December 1997 and February 1998. Initially, teachers were asked the following questions. As some interviews progressed, additional questions were asked.

1. How many years of teaching experience do you have?
2. How many years have you been employed by this school system?
3. How many years have you taught at this school?
4. What classes do you teach?
5. What professional development related to block scheduling was used and is being used for the faculty of the school?
6. What additional professional development would be helpful?
7. How has block scheduling affected instruction?
8. What additional impact has block scheduling had?
9. What do you think about block scheduling?
10. Is there anything else you would like to add?

### Data Analysis

Gall, Borg, and Gall (1996) state that data collection should end when there is little likelihood of gaining additional relevant information. The authors also advise ending data collection when categories for data coding emerge and when regularities begin to occur. Since categories developed and regularities in data occurred, the investigator ended data collection in the five school systems and began analysis.

A beginning stage of data analysis was having interview transcripts prepared by a typist, using the audiotapes. Following this procedure, the field notes for each interview were finalized and typed by the investigator. Following the suggestions of Seidel, Friese, and Leonard (1995), field notes, made during and following interviews, contained the interviewee code; date and location of the interview; and notes on data observation, interpretation, and reflection.

The block scheduling records that had been given to the investigator were also examined. Incorporating the advice of Seidel, Friese, and Leonard (1995), summary sheets, including the school code and information about the records, were then typed by the researcher.

Following the suggestions of Wagner (1995), the researcher formulated a within-site analysis of each case. The analysis included information on the school systems and

schools and responses to the interviews with central office administrators, principals, and teachers.

In an effort to discover similar and dissimilar patterns that emerged among the five cases, a cross-site analysis was then begun. Gall, Borg, and Gall (1996) state that the purpose of this interpretational analysis is "to find constructs, themes, and patterns that can be used to describe and explain the phenomenon being studied" (p. 562). To complete this stage of data analysis, the investigator organized the interview transcripts, field notes, and record information into categories that had developed. During this procedure, original categories were modified, and information was moved to more appropriate categories. A cross-site analysis, organized according to the themes that had developed, was then completed. This analysis led to the formulation of conclusions and recommendations.

### Trustworthiness

The researcher promoted trustworthiness for the study through use of procedures for credibility, generalizability, and dependability that were utilized throughout data collection and analysis.

### Credibility

Credibility was established through the process of triangulation. Gall, Borg, and Gall (1996) refer to this



process as the use of "multiple data-collection methods, data sources, analysts, or theories to check the validity of case study findings" (p. 574). The multiple data sources of interview transcripts, observations in the form of field notes, and records related to the implementation of block scheduling were utilized in an effort to remove bias and validate findings. According to Wagner (1995), the tape recording of the interviews contributed to referential adequacy, another factor for enhancing credibility.

#### Generalizability

Gall, Borg, and Gall (1996) define generalizability as the application of a study's findings "to individuals or situations other than those in which the findings were obtained" (p. 578). The authors indicate that generalizability is a goal of qualitative studies. To achieve this goal, the researcher selected cases that were typical of most schools with block scheduling. Detailed, in-depth descriptions of each case were presented. Therefore, readers of the study could identify the similarities between themselves and the study's participants. Generalizability was also enhanced through a cross-site analysis. This aspect of the research allowed readers to determine the degree of generalizability among the individual cases.

### Dependability

Dependability for the study was promoted through several processes. Following the suggestions of Wagner (1995), the investigator made efforts to determine that data was accounted for. The collection and analysis phases of the study were analyzed during the research process in an attempt to promote correctness. In addition, procedures were undertaken to locate both positive and negative data to enhance the study's dependability.

### Summary

This qualitative study examined five secondary schools with block scheduling. Data were collected from interviews and documents provided by central office administrators, principals, and teachers from December 1997 through March 1998. An inductive analysis of the data was made.

## CHAPTER 4

### RESULTS

#### Introduction

The purpose of Chapter 4 is to present the results of data collection. The qualitative data were gathered through interviews with central office administrators, principals, and teachers in five school systems. Data were also collected through analysis of field notes that were made following the interviews and through analysis of records that were used in the implementation of block scheduling.

The chapter is divided into two parts. The first part contains the case studies or within-site analysis. This portion of the chapter includes information about the school system for each school. A description of the school and an explanation of the process that was used as the school moved to a block schedule is then presented. This is followed by information obtained from interviewing a central office administrator, principal, and teachers of the school. An analysis of the records related to the change to block scheduling concludes each case study.

The second part of the chapter contains the cross-site analysis. This section of the chapter identifies certain patterns that emerged among the various cases. Information for this part of Chapter 4 came from an analysis of interview transcripts, field notes, and records.

### Within-Site Analysis - Case Study Reports

The following section contains case study reports for the five different schools. In each of the cases, names of the school systems, schools, and individuals who were interviewed were coded to promote confidentiality.

#### School A

System. The school system for School A contains nine elementary schools, one middle school, and three other high schools. There is also an alternative school and adult high school. The student population is 6,300 for this county system.

Funding for professional development in the school system comes from several different sources; therefore, the total amount spent for professional development is difficult to determine. In addition to several types of federal funding, the system allocates \$300 to \$700 to each school for professional development. During the 1997-1998 school year, the system provided \$4,000, and some of this money was used to send individuals to a workshop on school improvement.

School. School A is located in a rural, mountainous setting. The school is in the middle of a small town, and numerous older houses are nearby. There are a total of 32 full-time and part-time teachers. With a student population of 354 in grades 7-12, the school offers a general high

school curriculum, including courses in anatomy and physiology, marine and aquatic science, and ecology. A vocational school is located on the campus, and it focuses on the areas of welding, machine shop, and agriculture. The high school students at the school are on a 4 x 4 semester block schedule, and the middle school students follow a traditional schedule.

Central Office Administrator A Interview. The interview with the central office administrator for School A took place December 3, 1997, in her office. The attractive office contained many books and educational materials. Several diplomas and awards that the administrator had received were displayed on the walls.

The administrator has been employed by this school system for 32 years. She is presently serving as the secondary supervisor and has held this position for 4 years.

The very articulate administrator revealed that all four of the system's high schools have block scheduling and they all use the 4 x 4 semester plan. She stated that the block schedule was implemented during the 1995-1996 school year, following approximately two years of preparation. This preparation involved considerable research comparing block scheduling with the traditional six-period day. Surveys were also administered to students, teachers, parents, and the community. These surveys revealed that there was considerable interest in more elective classes being

offered. Following this research, the findings were presented to the school board the year prior to implementation. The administrator stated that the decision was then made for the school system to move to a block schedule primarily for the following reason:

The main reason was to enable our county rural students to be able to take a wider variety of courses, to help them to come to some type of decision as to what they want to do with their career lives. We wanted them to have the same opportunities as other students.

When asked by the investigator what procedures were used for implementing the new schedule, the administrator discussed meeting with the faculties of each high school and discussing the different types of block schedules. Following these discussions, the decision was made to use the 4 x 4 plan.

The administrator then contacted subject-matter specialists from local colleges and universities for professional development. These sessions were held during the year that the new schedule was implemented. Teachers were also sent to visit both nearby schools and schools in neighboring states. Following this professional development, some inservice sessions related to block scheduling have been available each year.

When asked by the investigator about the impact that block scheduling has had on School A, the administrator stated,

I think the block schedule and . . . professional development activities . . . really created a faculty environment up there and brought them really close together. They really felt a part of the system. . . . A large percentage of this faculty has gone back to school. I think all of the development and research and visiting other schools has just played a big part in that.

At the conclusion of the interview, the investigator asked the administrator what she thought about block scheduling. She replied that it was not perfect, but that it suited the needs of her system at the present time.

Principal A Interview. The interview with the principal of School A took place in his office on December 3, 1997. The office, located near the entrance of the school, featured a large bulletin board with various school announcements.

The principal has been employed by this school system for 18 years and has served as principal of the school for 4 years. This is the only principalship that he has held.

Concerning the professional development that was related to the implementation of block scheduling, this friendly and sincere principal referred to the use of

educators who spoke to the faculty about teaching in the block. He added, "But, personally, I felt like some of the teachers were left a little short on how to handle block scheduling when we first started." He felt that a more concerted effort was needed to prepare teachers for the longer periods. The principal said that the school tried to do some in-house professional development, but teachers did not like to spend a lot of time after school.

The principal said that instruction did change in some classes because of block scheduling. He indicated, however, that several teachers were struggling with the longer periods. Principal A felt there was a need for teachers to receive additional training for teaching in the block.

When asked about what he would repeat and what would he do differently in implementing block scheduling in another school, the principal stated,

At the beginning some teachers had . . . negative feelings about block scheduling. They thought it was going to be a whole lot worse than it is. But we . . . sold each other on it and . . . helped each other. That worked . . . well. You have got to have everybody on the same page so to speak, and I think we did that essentially.

He added that he would attempt to provide much more staff development if he were implementing the new schedule. He felt that teachers need to learn to incorporate more



hands-on activities into each lesson since lecturing for ninety minutes is not productive.

Teacher A1 Interview. The interview with Teacher A1 was conducted on December 9, 1997, in the school's small guidance office. The interview followed a physical education class that the teacher had taught.

This enthusiastic Teacher A1 had taught for 14 years, and all of those years had been in this school system. He had been teaching at School A for 9 years and teaches history and physical education classes.

He felt that the school system had been effective in helping teachers make the transition to the new schedule. Professional development related to block scheduling had emphasized the importance of having a variety of learning activities. However, he believed that often there were not enough additional materials to use for these activities. Teacher A1 would also like additional time for teachers from the same departments in the system to meet to discuss teaching strategies.

Concerning the effect that block scheduling has had on instruction, he indicated that teachers were not able to include as much material, but students were able to enroll in a greater number of courses. He also felt that teacher morale had improved because teachers were able to have classes that they had an interest in.

When asked what he thought about block scheduling, Teacher A1 responded,

I like it a lot better than I ever thought I would. I was totally against it, and I really never thought it would work. I thought it was a bad mistake. But I was open minded, and I said, "Let's look at the positive part of it and let's see what we can do."

Teacher A2 Interview. The setting for the December 9, 1997, interview with Teacher A2 was a business education classroom. As the interview was conducted, another teacher worked at a computer in the room.

Teacher A2 is a business education teacher who has 20 years of teaching experience and has taught at the school for 18 years. In addition to her teaching responsibilities, she sponsors the school yearbook.

The investigator began by asking about the professional development that had been provided as the school moved into a new schedule. She mentioned that information from other school systems had been used. Following implementation, some inservice programs related to the scheduling model had been available, but she had not taken advantage of them. She added,

I think it would be useful to all of us if we got some ideas about how to motivate the students more. I know some of the students have commented about their . . .

classes being boring because it's an hour and a half to sit and listen to someone lecture.

This teacher felt that block scheduling had affected instruction by giving teachers more time for planning and more opportunities for in-depth instruction. However, she added that it was difficult, particularly in classes such as history and science, to teach all of the material that was supposed to be taught. Teacher A2 felt that it would be very difficult to return to a six-period day after being on the 4 x 4.

Teacher A3 Interview. Teacher A3 is a resource instructor who teaches language arts and math. Since she has students in all six grades at the school, she has some classes on a traditional schedule and others on a block schedule. This teacher has 4 years of experience and has taught at School A for 2 years. The setting for the interview was her classroom on December 9, 1997.

At the beginning of the interview, she mentioned that she had not been at the school when the new scheduling model was started. She added that she had received most of her help in working with the schedule by informally talking to other teachers.

This teacher felt that a benefit of the 4 x 4 was that students did not become as bored with a subject since they were only in it for a semester. She also felt that the block provided time for a variety of learning activities. However,

she emphasized that it was difficult to teach all that was supposed to be taught with the 4 x 4 and that planning for the longer period was difficult. She believed that resource students needed more time in a subject and the schedule did not allow this. She felt it would be beneficial if the schedule could be modified so that all math classes, not just resource ones, could be offered the whole year.

Teacher A4 Interview. As the researcher waited for the interview with this teacher, he could hear her enthusiastic students as they completed an interesting learning activity. After the students left this last class of the day, the teacher talked to several pupils about make up work and class activities and then sat down for the interview. The interview took place in her English and foreign language classroom on December 9, 1997.

This very enthusiastic and professional teacher has 19 years of teaching experience, and all of this experience has been in this system. She has taught for 6 years at School A, where she teaches English, Spanish, and sociology.

When the researcher inquired about professional development prior to implementation, she replied that the most useful was visiting other schools with block scheduling. She also referred to departmental inservices where a university professor spoke to teachers. Since the teacher did not feel she knew enough about the scheduling plan, she chose it for her doctoral dissertation topic.

Following the professional development prior to implementation, the teacher felt that there was no concentrated effort to address concerns. In referring to this need for more training, the teacher commented,

What was interesting in my study . . . was that it didn't make any difference where someone was in the [change] process, but . . . teachers are often very concerned. When those needs or concerns aren't addressed and there is not feedback, it causes hard feelings.

Adding to her comments about professional development, the teacher revealed that many teachers did not alter instruction with block scheduling, leading to student boredom. The teacher felt that there was a need for teachers to learn of different instructional methods and techniques for blocked classes. She regretted that the findings of her study on block scheduling had not been utilized by her system.

Teacher A4 was extremely positive about the benefits of the scheduling. She identified these benefits as less rushed classes, greater depth of instruction, and increased use of technology. She found the negative aspects of the plan to be a reduction in the amount of material that was taught, the use by some teachers of a large part of the period for homework, the effect of weather-related school closings, and the problem of interruptions on instructional time.

Concerning these positive and negative factors, the teacher revealed near the end of the interview that there should be more evaluation of the plan and more efforts to improve the quality of instruction. She felt that this should be done "to make sure that we do better and that it is best for the students."

Records. The school system for School A used a variety of materials in studying and implementing block scheduling. Many of these records were developed by a school system committee that focused on improving curriculum and instruction. One of the records developed by this committee were surveys for students, parents, teachers, and community members. Statistical analysis was done on the surveys, and recommendations and accompanying pie charts based upon the survey responses were formulated.

Another record used by the school system was an action plan with the following components: description of the activity, person responsible, individuals or factors involved in the activity, target date, and date accomplished.

Additional records included research articles on the 4 x 4, a handout on the rationale for a scheduling change, and a handout identifying schools with block scheduling in the state.

### School B

System. The school system for School B contains one high school, two middle schools, and seven elementary schools. Emphasizing a learning community philosophy, this city system has a vocational school attached to the high school, early childhood education program, and one of the largest adult education programs in the state. The student population is 6,000. The system spends approximately \$75,000 to \$100,000 for professional development for the staff.

School. Situated on a large campus in a mid-size city, School B is bordered by busy streets and in close proximity to both businesses and residential areas. The school has a certified staff of 114 and a student body of 1,636 in grades 9-12. The curriculum includes a full range of courses, including multi-handicapped education and 16 advanced placement courses.

School B has a modified block schedule. With this plan two blocks were split and time was added to the school day. Therefore, students could take as many as four singleton classes along with blocked classes, or they could take four blocked classes.

Central Office Administrator B Interview. The comfortable office of the central office administrator was the setting for an interview on December 5, 1997. The office

was filled with considerable technology and educational materials.

The articulate administrator, whose position is assistant superintendent for curriculum and instruction, has been employed by the school system for about 33 years, with two short breaks during that span. He has held his present position for 13 years.

The administrator said that the school implemented block scheduling four years ago and some modification has been made to the original block schedule. Block scheduling was begun because of changes in state graduation standards. System personnel felt that many of the programs they wanted to initiate could not be accommodated with a traditional schedule. The system was also concerned about the atmosphere for student learning.

Because of these factors, the administrator said that discussions about scheduling began. Considerable research was done, and teachers were sent to seminars throughout the nation. The school system also conducted workshops. The school then requested that a block schedule be initiated.

The administrator said that in preparing for the new schedule consultants were hired, teachers visited schools, and a variety of materials were provided to teachers.

Concerning the effect that the schedule has had on the school, the fluent administrator mentioned the additional courses that students were able to take. He also referred to



the increased use of hands-on activities and field trips. A negative impact, however, was that some teachers have had a difficult time adapting to the new schedule. He stated, "At some point, I lose patience with people who just can't seem to change at all. I really think there are some tremendous advantages to block scheduling if you can get people to forget the past and move on."

The administrator believed that block scheduling needed to be in place in a school at least three years before it was determined whether it was a success or failure. He added that very often innovations are not implemented or carried out correctly. These innovations are then eliminated, and this causes many individuals to not be committed to any change effort.

Principal B Interview. The principal of School B was interviewed in his spacious office on December 10, 1997. The office contained numerous certificates and several family photographs.

Principal B has held a principalship for 23 years. He has been employed by this school system for 2 years, serving as principal of the school for both of those years.

Near the beginning of the interview, the principal, who began the first school with block scheduling in another state, explained that having not been with the school system when the scheduling innovation was implemented, he was not aware of the professional development that was done. But he

felt that more probably should have been done to prepare teachers for the longer periods. He added,

Most people are not well prepared . . . going into a block. I think you need to spend over a year getting ready. Let's say we are going to adopt a block. Then spend the entire next year just prepping your staff with a variety of instructional delivery techniques, some sort of pacing, curriculum issues. . . . When it gets right down to my heart of hearts, I think those things need to be discussed with or without block scheduling.

Concerning professional development that is currently being used, the principal referred to his emphasis on grading and design of student work so that learning activities are more engaging. He felt that these areas were important whether a school was on a block or not. But he commented that the potential to improve these areas was greater with a block schedule because of the longer class periods.

Responding to a question about the effect of the schedule on instruction, Principal B felt that the majority of teachers had altered instruction. He said, "[T]his faculty is very student oriented and very cooperative, and they tend to try to do what you think you want them to do." He referred to an increase in the utilization of a variety of activities within one period and greater use of

cooperative learning. He then commented, "We are going to have to quit worrying so much about whether we covered from a to z . . . because it is not always possible. I don't know that it is always important."

When asked what he would do if he were implementing block scheduling in another school, the principal mentioned that he would devote more time to preparing for implementation. He added, "I think I would start with the issues I was talking about earlier in terms of design of student work, grading, and assessment because I think once you get into that, the benefit of block scheduling becomes more evident. . . . "

Near the end of the interview, Principal B, discussing professional development, concluded,

I think staff development is the key to all of this, no matter what you are trying to do in a school. . . .

I think you have got to get a commitment from your faculty to focus on something [and] design a staff development program that stays with it over an extended period of time.

The principal added,

We are a labor intensive business, [and] 85% of our budget goes to personnel, and yet precious little of that goes out there in terms of staff development. . . . The other issue, I think, is providing time for teachers to do this on company time. . . .

Teacher B1 Interview. Teacher B1 was interviewed early in the afternoon of December 16, 1997, in an office for science teachers. Several desks and many teaching materials filled the office.

The very relaxed teacher has 14 years of teaching experience. He has been employed for 4 years at School B where he teaches business, math, and science classes. One of his classes is for students who have not passed a state competency test.

This teacher recalled that professional development for the new schedule concerned teaching strategies and curriculum revision. Currently staff development is focusing on design of student work. Teachers also have access to the school system's center for professional development that has materials and provides speakers on scheduling. Teacher B2 identified no additional training that was needed but revealed that most teachers were having difficulty teaching the same amount of material as they had done before the new scheduling. He later added that some teachers were having difficulty with lower-ability students in the longer classes.

Teacher B1 concluded that block scheduling was particularly effective for average and high-ability students but felt that singletons were better for below-average individuals. He stated, "We have a modified block. If we ever find a way to provide that across the board where we

could have singletons all day and blocks all day or something like that, I think that would be beneficial."

He felt that the scheduling plan had benefitted instruction because there was more time for labs as well as hands-on activities. He also revealed that the plan had caused teachers to analyze what they were presenting and how it was being presented. Teacher B1 revealed that the plan had improved morale in science classes but may have hurt morale in math and social studies because they were primarily lecture-type classes.

Teacher B2 Interview. A classroom with restaurant tables and chairs, cash register, decorative plants, and an adjoining kitchen was the location for this December 16, 1997. Teacher B2 has both food service and co-op classes in the school's Vocational Department. She has 14 years of teaching experience, having taught at this school 11 years.

Early in the interview, this genial teacher referred to procedures that were used to prepare teachers for the longer periods. She mentioned speakers and facilitators, as well as a pilot program that was done two days each week. She said that there were still follow-up sessions and surveys about the schedule.

Teacher B2 believed that vocational teachers really liked the approach because of the increased time for activities but academic teachers seemed to have more difficulty with longer periods. She felt that the block had

improved instruction at the school. She added that there had also been an increase in the vocational budget, largely because of increases in enrollment. She interjected that it had been beneficial for students but some parents believed students were being overworked if they received eight credits in one year.

Beaming with pride, the teacher emphasized her positive feeling for the schedule when she concluded,

We [the Vocational Department] literally sat down and wrote the curriculum to begin block scheduling because there was no format anywhere in vocational. So I literally wrote my own curriculum hour by hour by hour. That has been used all across the country, and we are very proud of that.

Teacher B3 Interview. A colorful and attractive classroom was the location for the interview with Teacher B3. This articulate and confident Spanish teacher met with the investigator on the afternoon of December 16, 1997. Having taught for 15 years, she has been employed at School B for 11 years.

Seminars on learning styles, speakers on assessment, and presentations on cooperative learning and different teaching strategies were some of the activities that had been done prior to implementation of the new schedule. Later, attempts were made to refine the plan. She then added that it would

be beneficial if more training were given in individualization.

The teacher revealed that teachers needed to take greater advantage of staff development opportunities. She then stated,

Some of us do, and some of us don't. I do not have the answer on how to inspire or motivate those teachers who don't ever do anything outside of required activities. We look at our students and try to motivate them, and that's the same thing our principal is trying to do with us.

When the investigator asked her about the effect of the schedule on instruction responded that some classes were better on the block than others. She felt that the modified approach used by her school was effective. She also indicated that she came to know her students better and that students had "more time to learn what they are learning and learn it better." She also liked the fact that students were able to take courses that they had an interest in but would not be able to take in a traditional schedule. She summarized her opinion by saying,

I love it! I think it's great! For foreign language, it is ideal in that we have adjusted the curriculum, and I would venture to guess that a foreign language class has no fewer than four activities in an hour and a

half, sometimes seven or eight. . . . I think that helps to hold a student's interest.

Teacher B4 Interview. At the end of the school day on December 16, 1997, this chemistry teacher sat down in her classroom to discuss block scheduling. Teacher B4 has taught for 21 years, teaching in this school for 8 years.

When asked by the researcher about the preparation of teachers, she referred to research articles and visits to other schools. She also mentioned that teachers and students from blocked-scheduled schools came to School B and met with teachers. She felt that she now primarily received help through informal discussions with her peers.

Teacher B4 believed that teachers had altered their teaching strategies and that instruction had improved with the block, but she was concerned that not as much material was being taught. She said, "You hate for them to go to college without that information." She also expressed a concern that the budget for instructional supplies was not adequate for the increase in labs.

The investigator then asked her if there was anything she would like to add, and she replied,

Well, I asked the students today . . . their opinion about block scheduling. They pretty much felt the same way. Different students were saying, "Well, I don't like sitting in a class for an hour and a half." But I think their general consensus was that they didn't want



to go back to the traditional way. They liked [being able] to take more types of classes. Some of them would like to take art classes, but they never had time before in their schedules. . . .

Records. The analysis of records concerning block scheduling in School B revealed a variety of records. These included a very informative handout on school scheduling. The school also utilized information on block scheduling and timelines for implementation. There were records on enrollment comparisons, grade distributions, standardized testing results, advanced placement scores, attendance statistics, and survey results.

Additional records included notes written by students with their opinions about block scheduling and articles from the local newspaper.

### School C

System. The school system for School C contains eight elementary schools, a middle school, and one high school. This city system has a student population of 6,500. The funding for professional development comes from several different areas and is approximately \$60,000.

School. School C, the system's only high school, is located along a busy thoroughfare in a mid-size city. Several new building additions and renovations have taken

place on the spacious campus. The school has a student body of approximately 1,940 and a teaching staff of 120. School C is a comprehensive high school with advanced placement courses; vocational classes in a building on the campus; numerous electives; and programs in such areas as athletics, music, drama, and visual arts. Similar to many schools nearby, the school has a 4 x 4 type of schedule with 90-minute class periods. Students are able to receive four credits each semester or session.

Central Office Administrator C Interview. As music played softly in the background and snow fell on the afternoon of January 27, 1998, the administrator said that he had been employed by the school system for 6 years. He has served as the secondary supervisor for 2 years.

Responding to a question about why the school moved to a block schedule, the administrator said that mandates by the state for students to obtain more credits prompted the change from a six-period day. The system studied several options, including the seven-period day and alternating day block, but decided on the 4 x 4.

He revealed that the system spent a year preparing for the new schedule. Discussions were held to lessen the concerns of teachers, and teachers visited other schools and then made presentations to their peers. After the faculty decided to move to a block schedule, administrators and teachers from the schools that had been visited conducted

training sessions. Meetings for parents and community members, mailings, and newspaper articles were used to inform individuals about the schedule. The administrator recalled preparation was made for a brief trial, but experts felt it would not be beneficial, and it was cancelled.

As preparations were being made for implementation, the administrator said that an emphasis was placed on teachers moving from lecturing to using more active learning strategies, such as hands-on activities and cooperative learning. There was also a focus placed on the increased utilization of technology.

Referring to the beginning of the new schedule, the administrator said,

We had some teachers who would do their normal lecture part of the lesson and then [have] students do their homework for part of the period. We had some criticism on that, but even that we felt was more effective because at least there was more of a chance of child doing . . . homework.

He then interjected that professional growth activities were developed for those teachers who were having difficulty with the new schedule.

In summarizing his feelings about the schedule, the administrator said that the schedule provided many opportunities and had been effective but that some math teachers were unhappy with it. He then added that he felt

there needed to be some refinement and that perhaps a modified block would be better for certain classes.

Principal C Interview. Principal C was initially interviewed on the snowy afternoon of January 27, 1998. Because of a taping problem, part of the interview was redone before school on March 9, 1998. Both interviews took place in the principal's spacious and attractive office, containing beautiful furniture and several plants.

At the beginning of the interview, the extremely articulate principal informed the researcher that she had worked in this system for 7 years, serving first as a secondary supervisor and now as a principal.

When asked about the professional development that was used to help teachers with block scheduling, the principal discussed presentations by teachers from other schools and workshops by system personnel. She then commented, "We have done a lot but not enough." The enthusiastic principal added,

I sent two teachers to a workshop . . . just recently on teaching strategies for . . . block scheduling. They came back all excited and said they learned a lot. They have already implemented some of the things in the classroom, and they are working well. As a condition for going, they had to come back and do the inservice sessions for our teachers. They spoke at our last staff meeting and let the teachers know what they had

learned. Our teachers are interested. . . . I think after you have worked in a block for several years and you have tried some things, it is always good to get some new ideas.

Principal C felt that some teachers had altered instruction and others had not. She believed that many teachers were already using active learning strategies prior to block scheduling. But she felt that some teachers were just attempting to do two lessons in one period and that this was not effective.

Concerning the ripple effects of the schedule, the principal identified improved attendance, better grades, and fewer discipline problems. One factor affecting discipline was that students were not changing classes as often. She said that this can also be a negative factor because the social aspect of high school is very important. Therefore, this school has eight minutes between classes. Principal C also revealed that in discussions with students, they consistently said that they liked the block.

When the investigator asked her about how she would implement the schedule in another school, the principal said that she would spend more time on planning and staff development and have greater parent involvement. She also felt that a modified block, with singleton classes for certain subjects, would be beneficial, and that this

approach might be piloted for ninth graders at the school next year.

Teacher C1 Interview. The setting for the February 3, 1998, interview with Teacher C1 was a social studies classroom. Class information was written on the board, posters were displayed on the walls, and a large amount of audiovisual equipment was located around the room. As the interview began, the teacher said that he had taught for 20 years, having taught at this school for 8 years.

This history teacher, who has primarily advanced classes, referred to presentations on teaching strategies and learning styles and visits to other schools as being done prior to implementing the block. He commented that additional subject-matter staff development and more discussions on the negative aspects of the schedule would have been beneficial.

The teacher believed that block scheduling had affected instruction by causing teachers to use different teaching strategies, such as attempting to do at least three different activities in one period. He also felt that it had caused planning to become more demanding, increased paper work, and improved discipline in the hallways.

Referring to the students' opportunity to take advanced placement classes for two semesters, Teacher C1 said,

Not all of them elect to take that second session, and they miss a lot by not doing that. There is no way I

can get it all covered in that 18 weeks. They lose the material they would get the second session. . . . I had one girl who made a five on the exam . . . the highest you can score on it, and she wasn't in that second session. [S]he came in for some in-class reviews just before the test. She had the luxury of study hall that period, and . . . she studied hard for it too.

Commenting on some of the negative aspects of the block, the teacher believed that many teachers were not happy with it. He indicated that probably a schedule where some classes were blocked and others were not would be better.

Teacher C2 Interview. The second teacher at School C met with the investigator on February 3, 1998, in her attractive and organized math classroom. Early in the interview, she revealed that she had been employed by the system for 11 years and had taught at this school for 10 years.

Teacher C2 confidently said that more professional development was needed when the block was implemented. She commented,

You know we have been doing this for two years now, and we are getting better at it, but it was a struggle that maybe could have been made easier if we could have had more time at the beginning. More time to train and more time to understand what we were getting into.

This teacher believed that the scheduling plan had weakened instruction, particularly for academic subjects, because less material was being taught. She interjected that deciding what should be taught required considerable trial and error and that "the classes that are going through that trial and error will suffer some." She also felt that she did not know her students as well as she used to, classes were larger, the pace of instruction was quicker, and absences became even more of a problem.

Mentioning that she liked the longer class periods and the opportunity that students who failed a class had to repeat it immediately, this teacher concluded that having a modified block with both semester and year-long classes would be better.

Teacher C3 Interview. The meeting with Teacher C3 was on the afternoon of February 3, 1998, in her classroom. The interesting classroom was filled with teaching materials and contained numerous props for class activities. Teacher C3 said that she had taught for 27 years at the school and currently teaches several advanced foreign language classes.

In recalling the professional development that teachers received for the block, the competent teacher recalled opportunities to visit other schools and presentations by subject-matter specialists. Following implementation, the focus for staff development had been on teaching strategies



and assessment, "things that would be good teaching methods, not just because of . . . block scheduling."

The investigator later asked her about her feelings about the schedule, and she said that she particularly liked the time it provided for class activities, such as using computers or performing skits. She believed that content was reduced but that there was better retention of learning and greater interaction between the students and the teacher. She agreed with many others that most math teachers, however, did not like the schedule.

Teacher C4 Interview. The fourth teacher at the school was interviewed at the end of the school day on February 3, 1998. This teacher has taught for 8 years, with two of those years being at this school.

Sitting in her attractive and organized English classroom, the enthusiastic teacher revealed that she had not been at the school when the schedule was implemented but she believed that many teachers felt unprepared. The school was one of the first in the area to move to a block, and this led to teacher apprehension.

Thinking of ongoing staff development, Teacher C4 spoke of a joint inservice that would be held with another high school in the fall. She looked forward to meeting with these teachers "to share ideas and just talk over lunch . . . to keep you fresh."

Responding to a question about the effect of the schedule on instruction, this teacher felt that she was more prone to assign longer writing assignments because of having fewer papers to grade and that the learning atmosphere was more relaxed. She emphasized that the student-teacher relationship was also better and that there were increased possibilities for curriculum integration. She stated,

I like the opportunities . . . of maybe teaching English and history together, and I did that before I came here. I had a group of juniors for the whole year, and I . . . taught junior English and American history to the group. I like those kinds of possibilities. They need to do that with a lot of the math and science classes, as well as English and history.

One reservation that she had with the schedule was that standardized testing procedures had not been adapted for block scheduling. She commented, "My junior English students are going to take a junior writing assessment this week, and I have met with them seven days."

Records. Numerous records related to block scheduling were used by School C. These records included a schedule for a visit to a block-scheduled school in another state and information about scheduling procedures at that school. Materials on advantages and points to consider in implementing the schedule, various scheduling options, schools that would be visited, and perceptions about the use

of instructional time following implementation were also utilized. Another important record was an opinion survey that was administered by a teacher who was to be interviewed.

#### School D

System. The school system for this school is a county system with both rural and suburban areas. The system has a student population of 13,400 and 18 elementary, 8 middle, and 4 high schools. There is also a school for handicapped students. Funding for professional development activities is approximately \$50,000, with about \$20,000 coming from local funding and the remainder from federal monies.

School. School D is located in a rural community along a road leading to a river and the mountains. A subdivision, radio station, convenience store, and church are in close proximity to the school. There are approximately 72 teachers at the school, and the student body is about 1,160. The school offers a comprehensive curriculum with academic, vocational, and remedial courses and has a large extracurricular program. School D is on a 4 x 4 type of schedule.

Central Office Administrator D Interview. The interview with the central office administrator for School D took place in his new and spacious office on December 5, 1997.

The administrator, who is the director of secondary education, has been employed by the system for 25 years and has served in his present position for 5 years.

The administrator recalled that restructuring by the state, providing increased opportunities for students, and improving the learning atmosphere were some of the reasons that prompted a new schedule for the county's high schools.

Emphasizing that support from the teachers was essential, the administrator indicated that teachers were surveyed to see if a new schedule should be studied. Following their approval, school visits occurred and research was done. Faculties at each of the schools then voted, and "most of the schools were around 80% approval. Statistics showed us that we needed at least 70 to 75% to be successful."

School D received a grant from the state, and much of this money was used for several years to fund training for teachers. This training included presentations on teaching strategies and developing pacing guides. There is a focus on teachers teaching teachers in the school system, and the administrator said the system hoped to have two individuals in each school assist teachers with strategies for blocked classes.

When asked about the impact that the schedule has had on the school, Administrator D said that students were taking more math and science classes, a variety of courses

had been added to the curriculum, and enrollments had increased in fine arts courses.

The administrator then revealed some concerns he had with block scheduling. He indicated that math and foreign language classes may be at a disadvantage. To remedy these concerns, the system plans to offer Algebra I for the full year, with students receiving two credits. This program would be piloted at all four high schools next year. In foreign language, the system offers the first year of a foreign language in the spring and the second year in the fall so that there is additional time between the two courses. Another concern raised by the administrator was that block scheduling has prompted the need for additional staffing.

At the conclusion of the interview, Administrator D summarized his thoughts on the schedule by saying that staff development was "the key to making this successful." He emphasized that both the system and school were responsible for staff development and it must be continuous.

Principal D Interview. This principal has been employed by the school system for 23 years. After serving as an assistant principal at the school for 5 years, he became the principal 7 years ago. The interview took place on the afternoon of December 5, 1997, in his comfortable office.

Early in the interview, the principal revealed that professional development for blocked classes was done

"before, during, and still is being offered from time to time . . ." This training involved presentations by speakers, workshops, and visits to other schools.

When asked if teachers had altered instruction because of the schedule, the principal said, "Some have done a good job at that. Others, it has made no difference at all, and some classes it doesn't matter as much, like some vocational classes and some of the music courses." He then interjected that in the general classes, there had been some change.

The principal told the researcher that the change to the new schedule had gone smoothly and most problems were anticipated. He said that the possibility of having a modified block, a combination of blocked and singleton classes, was studied but not implemented. If he were beginning the block in another school, the principal replied that he would schedule visits at schools that had discontinued the block. He would also advocate implementing the block in all of the system's high schools at the same time.

The principal concluded that the block had both advantages and disadvantages. He indicated that students can obtain a good education either on a traditional or block schedule and that he would be happy with either schedule. He then said that the block provided more opportunities for students. He added that it is similar to college scheduling and, therefore, better prepares college-bound students.

Teacher D1 Interview. This teacher, questioned on the afternoon of December 15, 1997, has 8 years of teaching experience and has taught for 7 years at the school. The setting for the interview was an office near the gymnasium. He teaches both science and physical education.

Surrounded by athletic diagrams, awards, and pictures, the teacher said that the professional development used for the block had been effective. He said, "The way they have been doing it seems to be working."

He indicated that he liked the schedule and that it was particularly beneficial for physical education classes. He also revealed, "[K]ids get an opportunity to take more classes and get a broader education." However, he felt that it was very difficult to maintain students' attention in the longer periods. Teacher D1 responded, "No matter how you try to break it up, the attention . . . is hard to keep."

Teacher D2 Interview. On the afternoon of December 15, 1997, this history teacher sat in her pleasant classroom for the interview. Teacher D2 has taught for 23 years, and all of these years have been at this school.

This teacher revealed that prior to the scheduling implementation at her school she had visited a school where she talked to teachers, administrators, and students and observed classes. She recalled that professional development had also included several presentations. Some of these focused on lesson planning for the block. She continued by

saying that some inservice sessions pertaining to the block have been offered following implementation, and teachers can choose to attend those sessions.

Concerning effects that the block has had on instruction, the teacher indicated that at the beginning she felt rushed to complete the class content in one semester. She then said that she now is teaching concepts "instead of . . . lesson after lesson after lesson." She also revealed that teachers were now more content with the schedule.

Teacher D3 Interview. A teachers' lounge was the setting for the meeting with Teacher D3 on December 15, 1997. This setting, with a microwave oven and couches, contributed to the informality of the interview.

As the interview began, this French and English teacher said that she had taught for 10 years, teaching at this school for 6 years. After discussing several types of professional development related to the block, she recalled,

[W]e had a team to come . . . in the summer time and analyze it and help us convert. We had a full day at one of our high schools and talked about it. We had hamburgers and everything. It was really good because they had people from some of the departments. So we had someone from foreign language to talk to us and so on.



Concerning the effect that the schedule has had on instruction, the very fluent teacher said that there was a greater use of hands-on activities. She said, "I am sure to the people who lecture it was a big change, or they didn't change at all, and they said they did." She also revealed that with the block she was less tired at the end of the school day. But she stated, "[W]e don't get to know our students as well," and "we don't see that long-term development."

In making recommendations about block scheduling, the teacher said that professional development needed to be ongoing. She also believed there was a need to study different types of blocks and perhaps consider a schedule with both blocked and singleton classes and to place a greater emphasis on curriculum integration.

Teacher D4 Interview. This world history teacher has taught for 24 years and has taught at the school for 4 years. At the end of the school day on December 15, 1997, she sat in her classroom, containing many holiday decorations, for the interview.

Near the beginning of the interview, the teacher recalled meetings that were held as a part of professional development for the new schedule. She said that no additional professional development for the block was needed and then commented, "I think we are doing pretty good on that."

This teacher believed that the block had impacted instruction in several ways. She referred to the use of a variety of learning activities and the opportunity to complete certain assignments. She also felt that the block gave students who would fail a class the opportunity to take another class the second semester rather than remain in the class they would fail the entire year. She said, "At the mid point [with a block schedule], they get a fresh start."

Records. Numerous records were used in implementing the scheduling plan at School D. Among these records were a symposium agenda, letter from teachers at School D supporting the change, and curriculum information.

Extensive materials from other blocked schools were also utilized. Information about a visit to one of these schools was also included in the records.

### School E

System. The school system for School E contains six elementary schools, one middle school, and one high school. This city system has a student population of approximately 3,600. This year, \$60,000 to \$70,000 was allocated for professional development.

School. School E, the system's high school, is located in a primarily residential area of a mid-size city. A stadium and practice fields, encircled by a track, are

located on either side of the school. Busy city streets surround three sides of the school. The building has undergone extensive renovation and expansion in recent years.

The school has 86 teachers and a student body between 1,015 and 1,020. The comprehensive curriculum includes college preparatory, vocational, and remedial classes. This school utilizes the 4 x 4 type of schedule, the plan selected by the school's faculty.

Central Office Administrator E Interview. A spacious office containing a vast amount of educational materials was the setting for the December 11, 1997, interview with the central office administrator for School E. As the interview began, the friendly and relaxed administrator revealed that he had been employed the school system for 22 years and had held the position of secondary supervisor for 3 years.

The investigator asked the administrator why the school moved to a new schedule. He responded that there were many reasons but the need for more elective classes and teacher interest in longer periods were two of the main ones.

After studying various types of flexible scheduling, the faculty selected a modified seven-period day with a combination of blocked and single periods. Due to dissatisfaction with this approach, a voluntary committee was formed to study other scheduling models. The administrator, who was principal of the school during this

time, said the committee was told, "[T]he purpose . . . [is] to look at the schedule we have now and . . . to try to find something that will better fit what we need. Nothing is closed. We are not closing any doors. You decide what you want. . . ." He then added, "Once the committee established itself, it just kind of took off and said here is what we need to do. If I remember correctly, we had two teachers . . . elected to chair it, and I just more or less served as the facilitator."

Following the committee's work, including visiting numerous schools and having parent orientation sessions, the faculty voted. Approximately 80% selected the 4 x 4. After the school board's approval, the committee prepared for staff development activities.

Concerning this staff development, the relaxed administrator referred to sessions on "learning styles, varied instructional strategies, cooperative learning, time management, technology in the classroom . . ." He then added that some professional development currently addresses the 4 x 4 schedule. Concluding his comments about staff development, he said, "there must be teacher leadership to make it successful," additional time should be devoted to professional development, and it cannot stop once a program is implemented.

Relating to the impact of the block on the school, the administrator revealed that it had increased the number of

courses offered and caused enrollment to increase in several areas. However, some of this growth could be attributed to state regulations. He felt that the schedule had provided more planning time for teachers. It had improved discipline, but even though it was more important in a block, attendance had not improved. More students are taking advanced placement courses, but the spring scheduling of advanced placement tests presents some problems. There are also some students who have the time to take more rigorous classes than they would have with a traditional schedule, and these students are having difficulty.

The administrator emphasized near the end of the interview his advocacy of block scheduling and his belief that "professional development is crucial." Referring to student boredom that results from teachers lecturing for the entire period, he said,

I've watched English teachers teach under . . . block scheduling, and they just do a super job of letting students, for example, write in journals for 10 to 15 minutes, . . . then start introducing new concepts, and . . . change strategies in the period, and the period has moved by in a hurry.

Principal E Interview. The meeting with Principal E was held on the afternoon of December 4, 1997, in his very large and attractive office. The fluent educator sat in a comfortable sitting area in a corner of the office and told

the researcher that he had been employed by the school system for 39 years. He has served as the school's principal for 3 years.

When asked about the professional development activities that were done for the new schedule, Principal E discussed the use of speakers, consultants, school visits, discussion groups, and articles. He mentioned that much of the staff development that is done now is done informally. However, teachers are still attending seminars, and articles are being distributed.

The next question related to the impact that the schedule had on instruction. He responded, "The change has been dramatic" and then discussed the use of a variety of activities in one period and active learning strategies. The schedule has also caused the administration to reduce interruptions.

If he were to implement the schedule in another school, the very experienced educator would again provide a lot of information for the staff. He said, "There were very few surprises, and I think that is important." Among the changes he would make would be having the idea originate with the staff and utilizing additional subject-matter specialists.

He communicated his enthusiasm for block scheduling when he said,

It is not just another one of those innovative things that will be with us a short period of time and will

fade away. We will be on block scheduling for the foreseeable future. It works too well. It has too many pluses going for it. I think it's a natural change in how we do business.

Teacher E1 Interview. This teacher has taught for 20 years, and 19 of those years have been at the school. Her mathematics classroom, filled with attractive posters and pictures, was the location for the early morning interview on December 17, 1997.

The investigator asked this teacher about the training that teachers received for the block. She referred to speakers and informational materials. Teacher E1 remarked that she had visited another school, but she regretted that she did not get to do any classroom observation. This teacher believed that additional techniques for working with students of low ability would be valuable.

This teacher said that the block had affected her instruction by causing her to utilize computers more. She also liked the opportunity for integrating instruction provided during the first year of the new schedule.

On the other hand, the confident educator said that the block gave less time to teach required material that students needed to know for state testing. She disliked having to leave out topics that she had been able to teach before block scheduling. Teacher E1 believed that the schedule had a negative effect on average and below-average

students in math because teachers had to move at such a rapid pace. She was also disturbed by the additional difficulty students had following absences. The teacher concluded by saying, "I know I am sounding very negative, but my concern is for my students."

Teacher E2 Interview. On the afternoon of December 17, 1997, the researcher met with this marketing teacher whose entire career of 33 years had been at the school.

Sitting near his classroom, the relaxed teacher referred to listening to speakers and preparing pacing guides as teachers were prepared for the new schedule. In discussing the impact of the schedule, the teacher emphasized that teachers must vary instruction and this involves more planning. He then commented, "You have got to get out that pacing guide and look at [it] . . . about every day to make sure you are going to be on schedule."

As the conversation continued, the teacher identified other effects of the schedule as teachers having larger enrollments for the year and additional needs for duplicating. When asked if the schedule would likely remain, Teacher E2 surmised that most teachers and students would favor keeping it.

Teacher E3 Interview. Surrounded by a copying machine, refrigerator, and drink machines in a teacher workroom, Teacher E3 sat down for an informal interview on the



afternoon of December 17, 1997. This science and drivers' education teacher has taught for 18 years, teaching at this school for 17 of those years.

Early in the interview, Teacher E3 identified several activities that were used to prepare teachers at the school for the new schedule. These included teachers visiting other schools, utilization of subject-matter specialists, and distribution of literature. He then indicated that it would be helpful to have additional suggestions for reducing the amount of lecture in the longer periods.

The investigator asked the enthusiastic teacher about how the schedule had affected instruction. He said that teachers had to use a variety of activities and use less lecture. He believed that student performance was similar to what it had been with a traditional schedule and then remarked, "A lot of people have been concerned about the amount of material in block scheduling. I ended up at the exact same place the first year we did the block scheduling that I had on the sixty-minute periods." Other impacts included the need for more duplicating to accommodate the additional activities and an increase in planning time.

Recalling that during the first year of implementation efforts were made to reduce the number of interruptions, such as pep rallies and assembly programs, on instruction. The teacher said, "The first year . . . I think maybe we put too much emphasis on the teaching time and maybe forgot some

of the other aspects that go along with school." He then mentioned that some of these activities that were originally eliminated are now being held. In a similar viewpoint, the teacher remarked,

We have a lot of students that are gone for school trips and that drives a lot of teachers insane to try and keep up with the amount of trips. . . . I think sometimes we get caught up in our own little end of . . . [the] educational spectrum and don't realize maybe the importance of the trips that the kids are going on.

In responding to an open-ended question about the schedule, this teacher said,

I don't think it is the salvation of education. . . . I think it is another pendulum swing in the education movement. I think the educational community falls to peer pressure. Somebody goes to block scheduling, and they think the whole world has to go to block scheduling. In 10 years somebody will come back and think we need to hang teaching baskets on the wall, and we will all be hanging teaching baskets on the wall. . . . I think we are followers.

Teacher E4 Interview. This teacher has been employed by the school system for 17 years, teaching at the middle school for a few years and the remainder of the time at the high school. At the end of a busy school day, she sat down

for an interview on the afternoon of December 17, 1997, in her math classroom.

In answering a question about professional development used for the block, the teacher mentioned presentations by teachers and administrators from blocked schools and sessions on learning styles, pacing guides, lesson planning, and teaching strategies.

Later, she remarked that she had been chairperson of the committee that studied the block. She said,

We had anywhere from 10 to 20 members on the committee. . . . We did site visitations where we went to schools and brought back some information and relayed that to the faculty. We did a lot of communication between administration and teachers and the committee.

The very confident teacher then remarked,

If there was a weakness with what we did, it was that we needed more follow-up after the block. . . . Are there additional teaching styles that we need to look at? Maybe even more department meetings to receive some additional staff development.

In discussing the ways that the block had affected instruction, Teacher E4 said that it had allowed students to enroll in additional courses, and it had caused teachers to analyze their teaching. She stated, "They had to revamp what they had been using, the way they were teaching. . . ." She

also credited the schedule with promoting active learning strategies, emphasizing concepts, and allowing for closure at the end of the period. The schedule also contributed to organization by placing a strong emphasis on pacing guides. She concluded her response by saying that the schedule had caused planning to become even more important because of the longer periods. She remarked, "You can't just do one little exercise. . . . If you do, you will have discipline problems."

The investigator then asked this teacher what she thought about the block. She replied, "I can't imagine going back to a six- or seven-period day. It's been a . . . good experience for me professionally."

Records. Extensive records were used in implementing block scheduling in School E. Research information on the block, sample schedules, and survey responses were utilized. Additional records included information from several schools with the schedule. Much of the material prepared by the restructuring committee, including questions and answers about the block and a detailed timeline leading up to school board approval, was included in these records.

#### Cross-Site Analysis

With the analysis of the case studies, interview transcripts, field notes, and records, certain themes emerged among the individual cases. These themes included

the reasons for changing to a block schedule; implementation procedures; professional development strategies; effects of the schedule on instruction, students and the school; and implementation needs, including both procedural and professional development strategies.

According to Glesne and Peshkin (1992), qualitative researchers come to a place where they must "make connections among the stories" (p. 132). This cross-site analysis makes that connection.

#### Reasons for the Change

The investigator found several reasons given for a school moving to a block schedule. In interviews, individuals referred to increases in state graduation requirements as an important reason. They also were interested in providing more opportunities for their students. In addition, systems were motivated by the desire to offer additional programs and courses to students, and they felt this could not be done with a traditional schedule. One administrator indicated that system personnel began to consider the schedule because they began to hear it discussed frequently. Another motivating factor mentioned was the attempt to improve the learning atmosphere. There was also a reference to teachers being interested in having longer class periods.

Among the comments made concerning the reasons for the change in scheduling were the following:

We wanted them to have the same opportunities as other students . . .

Some of the things we wanted to do and needed to do, we simply did not have enough time in the school day to do. We did some discussing as a school system about the climate and atmosphere that kids learn in. We got into the business of change and how do you change in general. . . . Our goal was to set up in such a way that whatever we did, we could grow in.

There . . . [were] a lot of things we looked at, including less stress on the students and less stress on the teachers . . .

With the state requirements and whether they chose an academic path or a technical path, it still gives them ample time to branch out and have a number of opportunities that they wouldn't have under a six-period day.

But the bottom line was that we started looking at it simply because we needed an opportunity for students to be able to get more credits under the new path system . . .

### Implementation Process

As school systems implemented a new schedule, a variety of procedures were utilized. It appeared that this process

was led by a school system administrator, principal, or faculty committee. The period devoted to preparing for the scheduling change was usually was one to two years.

Strategies used for implementation included studying various types of schedules, having discussions with teachers, following an experimental schedule, and having visits to block-scheduled schools. Various methods were used for sharing the information obtained from these visits with the rest of the faculty.

Throughout the process a variety of materials were used. These included research articles; materials from other schools; an action plan; handouts; implementation time lines; numerous surveys; and statistics on class enrollments, grades, standardized testing scores, and attendance.

Following these approaches, decisions about scheduling were frequently made through faculty voting. In some instances, letters of support for the change by faculty members were sent to school boards. In another instance, a parent committee promoted the plan to the school board and public. Orientation sessions for parents and the community were also held.

Each of the schools in the study used a 4 x 4 semester block scheduling plan. In the school that had students in grades 7 through 12, students in grades 7 and 8 followed a traditional schedule while other grades were on a block

schedule. In another school, a modified approach was utilized. With this plan a combination of singleton and blocked classes was offered.

Following the beginning of block scheduling, research was utilized, and schools attempted to improve the plan. Various modifications, such as offering certain courses or classes for certain grades for a full year, are being considered. One administrator mentioned that his system planned to review the plan periodically.

Among comments made about implementation were the following:

If the teachers did not buy into this restructuring, then it would not work. . . . We needed a certain percentage of the faculty who desired to make a change before it would be successful.

If you can't pull in 75% to 80% of your faculty before you step forward with it, I really think you are taking some risk that you might not want to take.

I think there has to be teacher leadership to make it successful.

There was a sense of a team effort as the school moved to a block schedule.

I think the best thing that we did was to saturate our people with information.



[S]o many of these flash things . . . are supposed to solve all of the problems, and we do them, and we don't totally do them. Sometimes we don't implement them right in the first place. Then we end up taking them out or stopping them at some point.

[W]e are evaluating our four-period day this year. . . . Our committee is gathering research. We have parents and students on the committee.

### Professional Development Strategies

The school systems that were studied allocate approximately \$50,000 to \$100,000 annually for professional growth activities. One of the school systems did not indicate an amount since funding for staff development comes from several sources, including vocational and Title funds.

Despite differences in funding, there were numerous similarities in the strategies that were used by the schools for professional development activities related to block scheduling. Resources used to assist teachers with altering instruction to promote student learning during the 90-minute class periods included research articles, speakers, teachers and students from blocked schools, discussion groups, and pacing guides. Professional growth activities encouraged reducing the amount of lecture and providing for a greater amount of learning activities. This included the active-learning techniques of hands-on

activities, cooperative learning, and project development. Additional topics included learning styles, assessment, curriculum integration, multiple intelligence, and use of technology.

It was felt that visiting other schools, talking to teachers, and observing classes were very beneficial aspects of staff development. However, others believed that not enough time or emphasis was given to professional growth and many teachers felt unprepared when the plan began. They also would have liked to have had more presentations by subject-matter specialists. Another belief was that not enough of the negative aspects of the scheduling plan were presented.

It was found in some situations that professional development has continued to relate to block scheduling in the years following its inception. These types of staff development activities have included workshops, videotapes, and classes. One teacher said the focus for professional growth in her system has been on teaching strategies and assessment, important aspects of teaching with any schedule. Another teacher felt that she now received most of her help through informal talks with her fellow teachers.

Among the comments about professional development that were obtained from data collection were the following:

[I]f you are told something, you might retain 10%,  
whereas if you tell how to do and show how to do it,  
you might retain 90%.

[W]e recommend at least three different teaching techniques during each 90-minute block . . .

The best thing that happened to me was when I visited two other schools and talked to other teachers there and just got to see the set-up and the lay of the land and see it in action . . .

There was staff development . . . before, during, and still is being offered from time to time because we have days throughout the year that are offered for inservice. There almost always is something on . . . block scheduling.

We literally sat down and wrote the curriculum to begin block scheduling because there was no . . . vocational [one]. So I . . . wrote my own curriculum hour by hour by hour. That has been piloted and used all across the country, and we are very proud of that.

We have done a lot but not enough.

But, personally, I felt like maybe the teachers were left a little short on how to handle block scheduling when we first started. We try to do some in-house [professional development]. . . . Of course, teachers, like most people, don't like to spend a lot of extra time, especially if it's their own time, related to things like that. I think that maybe we should have had

a more concerted effort as far as staff development is concerned . . .

[P]rofessional development is crucial.

### Effect on Instruction

The investigation revealed that there were many positive effects of block scheduling on instruction. Individuals felt that some teachers had moved from lecturing to a greater use of a variety of instructional activities, including hands-on activities, cooperative learning, and field trips. This has promoted student interest and retention of learning. A vocational teacher indicated that the block allowed teachers the time to complete projects within a period. The opinion was also evident that the block had caused teachers to reduce fragmented learning and come to emphasize concepts and application of learning. One teacher indicated that because of having fewer papers to grade each day, the block caused them to make more challenging assignments. Another response was that the schedule promoted the use of technology.

Other opinions about positive aspects of the schedule included that the use of pacing guides had assisted with classroom organization, promoted the use of curriculum integration, and caused teachers to analyze their teaching style. Many believed that most teachers would not want to return to a traditional schedule.

Some educators believed that the block helped them to know students better while others believed that they did not get to know students as well. Concerning planning, some appreciated the additional planning time and felt the schedule had caused teachers to improve planning while others felt that the schedule increased the time needed for planning. There was also an opinion that teachers had fewer students each day but total enrollments for the year had increased. Despite the belief that some teachers used large parts of the period for homework, others indicated that at least students were then completing homework.

Among the negative aspects was the belief that less material was being taught, despite state requirements for certain material. It was also found that the block had increased the amount of duplicating that teachers needed to do. Another teacher found that it was very difficult to maintain students' attention in the longer periods. An additional negative opinion was that teachers must do considerable trial and error as they select course content and student performance decreases during this time. There was also the opinion that block scheduling called for additional materials for learning activities but many times these resources were not available. Some educators voiced the opinion that math teachers, in particular, were not happy with the schedule.

The study obtained the following comments concerning the effect on instruction:

We are going to have to quit worrying so much about whether we covered from a to z on this curriculum because it is not always possible. I don't know that it is always important. Kids have got to be able to think and apply knowledge, or it makes no difference how much you have filled into them.

If you are coming off a day with six periods and move to a 4 x 4 block, you are giving up about 14% of available teaching time. If you calculate out the time you save not having to stop and start the classes, you get that percent of available engagement time down to less than 10%, I think. That's always a concern going into it because we are still very driven by coverage issues in terms of our curriculum. . . . We are way too driven by coverage.

Then we have some classes where teachers haven't really changed that much, and what they have done is just really try to teach two lessons in one day based on what they did before.

I know that if we can get structured correctly so that things that are going on in the classroom are more engaging to kids . . . that the benefit of block scheduling begins to become self-evident.

When you really explore things in literature, beliefs and things come to the surface, and you find out what makes all these people tick. I think that is a good feeling, and I think students can feel closer to their teachers in this way.

It was an evolutionary sort of thing. The change has been dramatic. The type of thing that we are talking about is everybody does two or three different types of activities in a 90-minute block now. Whereas before they may have done one type of thing in a 60-minute [period] . . . .

#### Effect on Students

The researcher found that within the cases block scheduling had both positive and negative influences on students. One common response was that the schedule was beneficial for students who had failed a class because in retaking the class the next semester, they could better utilize prior learning. The opinion also surfaced that students had fewer classes to be concerned with each semester. Another finding was that the block better prepared students for college schedules. From various records used by the schools and from a student forum conducted at one school, the investigator concluded that students developed the realization that their opinions were considered for program implementation. Some educators indicated that the

opportunity that students had for different classes and teachers during the second session was advantageous.

A range of opinions was discovered on certain issues. While most students indicated that they liked the schedule, some disliked the 90-minute periods. The belief was expressed that grades had improved, and it was revealed frequently that pupils were given the opportunity to take a greater number of courses. However, an administrator indicated that this caused some students difficulties because there were rigorous courses that they were not prepared for. While indicating the block was effective for average and high-ability students because of their motivation, several teachers felt it was not effective for below-average pupils. Some of those interviewed found student attention to be better because of the utilization of a variety of learning activities; others found that the longer periods lowered attention. Some found that students were attending school better while others concluded that attendance had decreased. Despite an indication that scores on certain assessment tests had remained stable or improved, there also was the finding that students were affected negatively because administration dates for standardized testing and advanced placement testing had not been adapted for block scheduling. There was also a finding that students were required to know certain material for state testing but the block allowed less time for teaching that material.



Concerning negative effects on students, it was found that semester classes caused added difficulty for math students. This was particularly true for lower-ability students. Block scheduling also presented additional difficulty for students who were absent because of the amount of material that is missed. A principal concluded that because there were fewer times that students were changing classes, there was less opportunity for social interaction.

The following quotations summarize the effect of the schedule on students:

I think it gives a lot more opportunities. Whether or not the students take advantage of those opportunities is another thing, but I think the opportunities are there.

[M]athematics is a building-type of course. If they don't learn something one day, then it is going to make the next day's material more difficult. And we have to move at such a pace, that it is really difficult on the lower-level kids.

I don't see any big change in the overall performance of my students from the regular 60-minute class to block scheduling. I don't see much overall difference in it.

I have a student forum . . . where . . . students . . . talk about issues in the school. Things they like and things they don't like. We start off talking about what is good about this school. One of the things that is brought up every time is the four-period day.

#### Effect on the School

Similar to the responses concerning the effect of the schedule on students, the researcher found the schedule had both positive and negative effects on the school. Improved discipline because of fewer class changes, increased course offerings and enrollments, and an improved learning atmosphere were found to be beneficial. Another positive factor was that because teachers were able to teach additional courses that they were particularly interested in and because of increased planning time, teacher morale had improved. An administrator remarked that at one school the scheduling innovation had caused the faculty to become closer and had prompted some to further their education.

Various opinions were expressed on other issues. The investigator learned that there were increases in advanced placement courses, but these courses presented procedural difficulties because of the testing dates. There was an indication that departmental budgets had increased, but also an opinion that there had been no increase, causing teachers to use their own money to purchase materials for the added learning activities.

Among the negative effects of the schedule on the school was the greater negative impact of interruptions on instructional time. There was also an indication that some valuable activities normally held during the school day had been curtailed because of the need for more instructional time.

The following comments illustrate the opinions expressed about the impact on the school:

I really think this is something that is special because it has allowed us to do things that we should have been doing all along. Things that we could have been doing if we really had been thinking about it, and it has pushed us into those things, and it has made us a better school.

To give you an example, the year before we went to 4 x 4, we had students enrolled in almost 6,800 credit hours. Under the 4 x 4, we have them enrolled in almost 8,600 credit hours.

When you have a ball game, or kids leave, or you've got field trips . . . , or you have . . . homecoming and all of these things that normally happen, we are losing so much time with instruction. We always did it before, but it was balanced out over a whole year.

### Implementation Needs

As the investigator visited with central office administrators, principals, and teachers, several recommendations were made concerning the implementation of block scheduling. Many of these suggestions focused on procedural considerations or professional development.

Procedural. Among these findings was the frequent suggestion that more time be devoted to preparing for a block schedule and that this preparation be more in-depth. A belief was held that the change should originate from analyzing student performance and assessment practices. The change efforts should begin with the staff rather than administration and be instituted for the correct reasons, not because everyone else was doing them. School systems should also remain knowledgeable of the current research on scheduling, particularly concerning its effect on student performance, and these systems should seek the opinions of students, teachers, parents, and the community about the innovation. Many of those interviewed indicated that schools should attempt to modify their schedules so some classes would be offered as singletons and would last for the year and others would be blocked and last a semester. There was also a reference to the need to increase funding due to the use of more instructional resources.

Other procedural matters concerned the effect on funding as students graduate in the middle of the year,

adapting standardized testing procedures, and the need for additional staffing because of offering a greater number of courses.

Those that were interviewed made the following comments concerning these procedures:

I think what I would try to do would be to find some key individuals on the staff and let them introduce it rather than have it introduced by the administration.

We might have gone and gotten feedback from people who had tried it and weren't still in it or people who have tried it and weren't happy with it.

Based on what we have seen and what we have talked about, we really believe that we need to move toward some sort of modification. We don't know exactly what that will look like, yet.

Professional Development. Numerous responses concerned changes needed in professional growth activities. The need was expressed that these activities be ongoing, not stopping with the beginning of the new schedule. There were also calls for better preparing teachers for instructing in a block, including techniques for individualization and improving of motivation. An emphasis needs to be placed on those teaching strategies, such as curriculum integration, that are improved by the block. Several responses voiced the concern that there be more use of subject-matter specialists

for professional development. A teacher indicated that some colleges do not acquaint students in their teacher preparation programs with the block and this causes difficulties for new teachers.

The opinion was voiced that teachers often participate in professional development on their own time. It was believed that additional methods for providing this professional growth should be sought. Concerns were also raised about motivating teachers to participate in these staff development activities.

Among the comments made about these improvements needed in professional development were the following:

If there was a weakness with what we did, it was that we needed more follow-up after the block.

I think we are going to have to carve out some of those blocks where we give teachers time off . . . to do some in-depth study. . . . One of the things we don't do much of is reflect back and say how did that one go or why did you do that.

CHAPTER 5  
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of Chapter 5 is to present a summary of the study, identify conclusions made from the within-site analysis and cross-site analysis, and present recommendations.

Summary

Purpose and Procedures

The purpose of the study was to identify the reasons that schools changed from a traditional schedule to a block schedule and to determine the procedures used for implementing the new scheduling. The study attempted to determine what professional development was used, how the schedule had affected instruction, and what additional professional growth activities were needed.

From these findings, educators would be able to develop implementation strategies and professional development plans for block scheduling and other types of reform efforts.

To achieve this purpose, five high schools with block scheduling were selected. Following approval by the superintendents, principals, and in one instance a Research Review Committee, the investigator began interviews.

For each interview, individuals signed an informed consent, told that interviews were being tape recorded for data analysis purposes only, and given a list of initial interview questions. Some additions were made to these questions as certain interviews progressed. During the interviews, the researcher usually made field notes. Some of those interviewed were also asked if the investigator could analyze any records used for implementing the new schedule.

Central office administrators who were responsible for the implementation of block scheduling were interviewed during December 1997 and January 1998. The principals of the five schools in the study were interviewed from December 1997 through March 1998. Following interviews with principals, a purposeful sample of four teachers at each school was selected for questioning. These interviews were conducted from December 1997 through February 1998.

Following the suggestion of Gall, Borg, and Gall (1996), data collection ended because of the emergence of certain categories and regularities. A typist then transcribed the audiotaped interviews, and the investigator finalized the field notes and record summary sheets.

Using these interview transcripts, field notes, and record summaries, the investigator completed a within-site analysis for each of the cases. The data were then organized into categories. This categorization led to the development of seven primary themes. A cross-site analysis, based upon



these themes, was then formulated. This analysis prompted the development of conclusions and recommendations.

### Data Analysis

Analysis of the data gathered from these qualitative procedures provided responses to the research questions. It was found that schools changed from a traditional schedule to a block schedule primarily because of increases in state graduation requirements. Additional reasons included attempts by systems to provide more opportunities for students and to improve a school's learning atmosphere. Teacher interest in a change was also a motivating factor.

To implement this change, a variety of strategies were utilized. These included studying various schedules, analyzing research, and visiting blocked schools. Often, faculties then voted for the change and approval was given by school boards. Each of the schools adopted a 4 x 4 semester approach, with one school having a combination of singleton and blocked classes and another only utilizing the block for its students in grades 9 through 12.

Most school systems that were studied had professional development budgets of approximately \$50,000 to \$100,000. To provide for professional development for teachers in the schools, systems utilized speakers, research articles, and visits to blocked schools. In most of these activities, there was an emphasis in moving from lecture to more active

learning strategies, such as hands-on activities and projects.

Many believed that these staff development activities were beneficial. But the data revealed that some felt not enough time was given to professional growth, leading to a sense of unpreparedness when the scheduling change began.

The data revealed that block scheduling had an impact on instruction. Many teachers were using lecture less and a variety of learning activities, such as hands-on activities. Teachers were also relying more heavily on pacing guides, emphasizing concepts, and using technology. However, considerable data indicated a concern that less content was being taught. Data also revealed that some teachers used large parts of the block for students to complete homework.

Concerning the effect of the schedule on students, the study revealed that most students liked the block schedule, were able to enroll in a greater number of courses, and better prepared for college. However, data surfaced that the block was not as effective for below-average students as it was for average and high-ability students, often because of motivational factors.

Among the negative effects on students was semester-length classes were particularly difficult for math students, the impact of absences was greater, and there was a loss of time for social interaction due to fewer class changes during a day.

Data revealed that schools were affected in a number of ways. These included having additional courses, improved discipline, and a better learning atmosphere. It was also found that teacher morale was better. Problems caused with the administration of advanced placement testing, increased use of materials, and the impact of interruptions were identified as negative aspects.

As data were collected, both procedural strategies and professional development needs surfaced. Procedurally, many felt that more time be given to preparing for the new schedule. Another belief was that the change effort originate among teachers and not be done because other schools were doing it. The program should be frequently evaluated, and modifications in the schedule, perhaps utilizing a combination of singleton and blocked classes, should be made based upon the evaluation.

Similarly, there were recommendations for changes in the professional development activities used for block scheduling. These included that these activities continue after the new schedule begins. A focus in staff development should be on those areas that the block strengthens. Another finding was that there be a greater use of subject-matter specialists for professional growth and that college teacher preparation programs should include instruction on teaching methodology in block scheduling. The data also revealed

that additional methods for providing for professional growth should be developed.

### Conclusions

The following conclusions have been derived from the findings of the study.

1. A concern for students prompted schools to change to a block schedule.
2. Considerable effort was devoted to the implementation process.
3. The 4 x 4 semester type of block scheduling was extremely popular.
4. There was a considerable difference between the funding that school systems allocated for professional development. This accounted for differences in the kinds of professional development that school systems provided.
5. Professional growth activities were an important part of the implementation process.
6. Block scheduling had both positive and negative effects on instruction at a school.
7. Some teachers altered instruction because of block scheduling.
8. The majority of students preferred block scheduling.
9. Block scheduling had a positive effect on the discipline, course offerings, and learning atmosphere of a school.

10. Changes in the implementation and professional development activities for block scheduling would improve the effect of the innovation.

### Recommendations

The following recommendations have emerged from the study's findings.

1. School systems considering implementing a change in scheduling need to devote considerable time to the planning process. This process needs to involve administrators, teachers, staff, students, parents, and community members.
2. School systems contemplating a scheduling change or any other change effort should strive to ensure that leadership will remain throughout the implementation process.
3. Periodic evaluation of the scheduling plan needs to occur. Modification of the plan should be based upon this evaluation.
4. A large portion of the planning process needs to be devoted to professional development activities. More emphasis should to be given to professional development following implementation.
5. Teacher preparation programs in colleges and universities should include methods and strategies for block scheduling in their curriculum. Experience in teaching in a block schedule should be provided for students in these programs.

6. Additional methods for providing professional development should be instituted.

7. Further research should be conducted on the effects of block scheduling and on the professional development needed for schools changing to a block schedule. Additional research is also needed on the professional development that should be used after block scheduling has been implemented.

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## **APPENDICES**

**APPENDIX A**  
**Letter to Superintendent**

876 White Top Road  
Bluff City, Tennessee 37618  
July 21, 1997

Dear Superintendent:

I am presently involved in the research for my dissertation in the Department of Educational Leadership and Policy Analysis at East Tennessee State University. My study concerns the effect that block scheduling has on professional development. The research will involve interviewing a central office administrator, principal, and several teachers at a high school in five different school systems. I will also be examining documents relating to the school's implementation of block scheduling. The responses included in my study will be anonymous and will remain confidential.

I would like to talk with educators at the high school in your system, and I would very much appreciate your permission. Hopefully, my study will be of assistance to your school system. I will furnish you with a copy of the findings.

I am enclosing a response form. Would you please complete this form and send it to me in the enclosed self-addressed envelope? If you have any questions concerning the study, my telephone number is (423) 538-6881.

Thank you very much for your help.

Sincerely,

*William H. Phelps, III*  
William H. Phelps, III

Enclosures



**APPENDIX B**  
**Superintendent's Response Form**

## Superintendent's Response Form

Please check one of the following blanks:

\_\_\_\_\_ I give permission for my school system to participate in the research project concerning block scheduling and professional development.

\_\_\_\_\_ I do not give permission for my school system to participate in the research project concerning block scheduling and professional development.

Signature \_\_\_\_\_

Title \_\_\_\_\_

School system name \_\_\_\_\_

Address \_\_\_\_\_

Telephone number \_\_\_\_\_

Name of central office administrator who supervised block scheduling implementation at the designated school

Please forward this response form in the enclosed envelope to

William H. Phelps, III  
876 White Top Road  
Bluff City, Tennessee 37618

APPENDIX C

Initial Interview Guide for Central Office Administrators

**Initial Interview Guide for Central Office Administrators**

1. How many years have you been employed by this school system?
2. What is the title of your position?
3. How many years have you served in this position?
4. What is the approximate student population for the school system?
5. How many schools are there in the school system?
6. What are the types of schools?
7. What is the amount that the school system annually spends on professional development?
8. How many schools have block scheduling?
9. What type of block scheduling does the selected school have?
10. How many years has the selected school had block scheduling?
11. What factors initiated the change to block scheduling?
12. What procedures were used for implementing block scheduling at the selected school?
13. What professional development related to block scheduling was used and is being used for the faculty of the selected school?
14. What impact has block scheduling had at the selected school?
15. What do you think about block scheduling?
16. Is there anything else you would like to add?

**APPENDIX D**

**Initial Interview Guide for Principals**

### Initial Interview Guide for Principals

1. How many years have you been employed by this school system?
2. How many years have you been a principal?
3. How many years have you served as principal of this school?
4. How many teachers are employed at this school?
5. How many students attend this school?
6. What types of courses does the school offer?
7. How many years has the school had block scheduling?
8. What professional development related to block scheduling was used and is being used for the faculty of the school?
9. Did instruction change at the school because of block scheduling?
10. What are the ripple effects of block scheduling on the school?
11. If you were to implement block scheduling in another school, what would you do differently and what would you consider essential to repeat?
12. What do teachers think about block scheduling?
13. What do you think about block scheduling?
14. Is there anything else you would like to add?

**APPENDIX E**  
**Initial Interview Guide for Teachers**

### Initial Interview Guide for Teachers

1. How many years of teaching experience do you have?
2. How many years have you been employed by this school system?
3. How many years have you taught at this school?
4. What classes do you teach?
5. What professional development related to block scheduling was used and is being used for the faculty of the school?
6. What additional professional development would be helpful?
7. How has block scheduling affected instruction?
8. What additional impact has block scheduling had?
9. What do you think about block scheduling?
10. Is there anything else you would like to add?



## VITA

WILLIAM H. PHELPS, III

**Personal Data:** Date of Birth: May 22, 1947  
Place of Birth: Bristol, Virginia  
Marital Status: Single

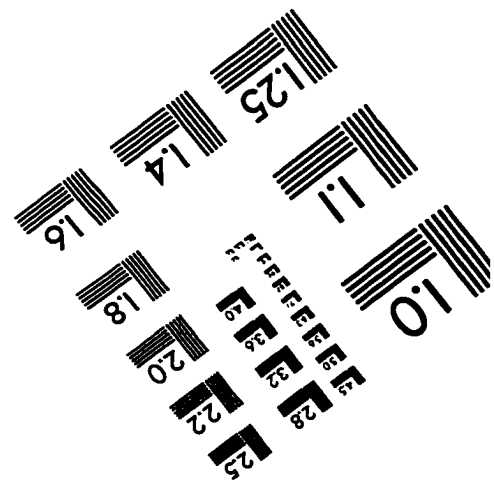
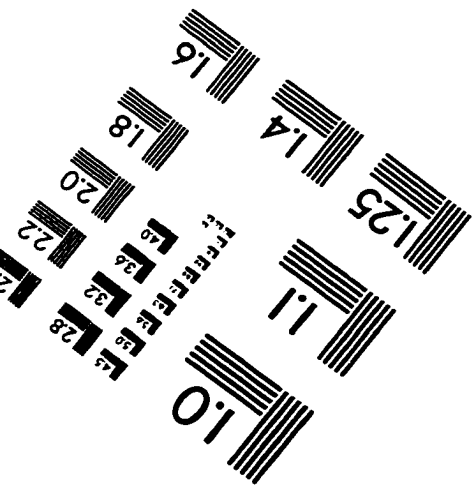
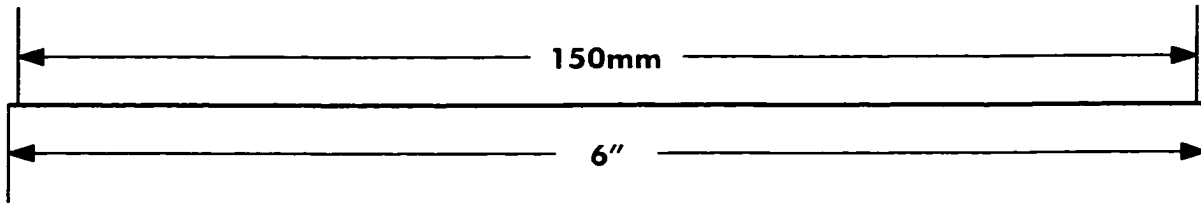
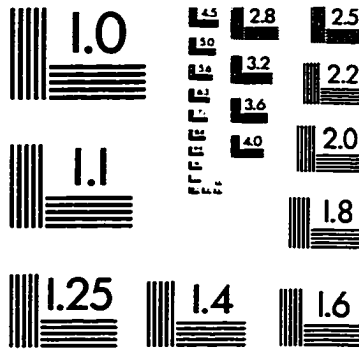
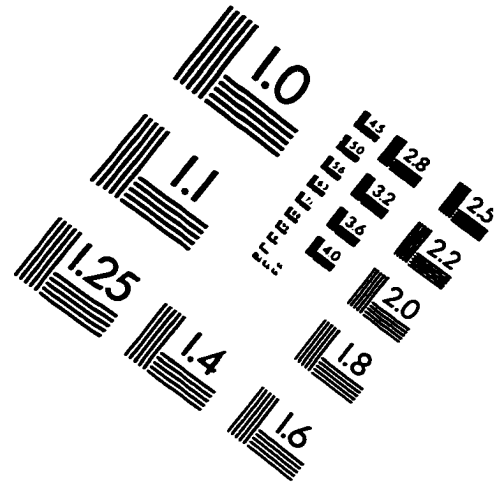
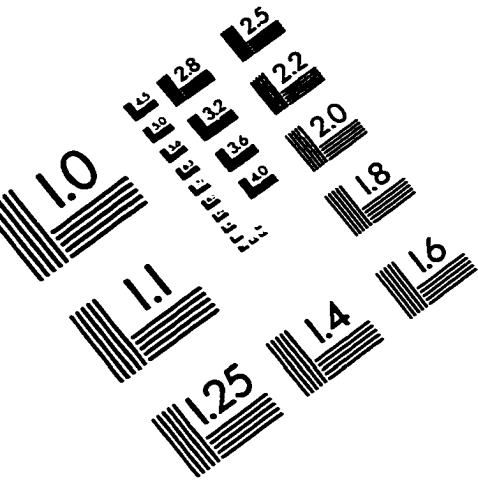
**Education:** Public Schools, Bristol, Tennessee  
East Tennessee State University, Johnson  
City, Tennessee; English, B.S., 1969  
East Tennessee State University, Johnson  
City, Tennessee; educational  
administration, M.A., 1977  
East Tennessee State University, Johnson  
City, Tennessee; educational  
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**Professional Experience:** Teacher, John S. Battle High School;  
Bristol, Virginia, 1969-1974  
Graduate Assistant, East Tennessee State  
University; Johnson City, Tennessee,  
1974-1975  
Teacher, John S. Battle High School;  
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Teacher and Curriculum and Instructional  
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**Presentations:** Co-Presenter, Mid-South Educational  
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**Affiliations:** Kappa Delta Pi Honor Society  
Phi Kappa Phi Honor Society  
Virginia Association of Teachers of English  
Washington County Education Association  
Virginia Education Association  
National Education Association

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