

**THE DEVELOPMENT OF A BLOCK SCHEDULING EVALUATION MODEL**

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## **(ABSTRACT)**

The purpose of the study was to develop and test a block scheduling evaluation model. Conceptual development of the model was based on a review of the literature which targeted the components of the school program most consistently identified with scheduling type: instruction, school climate, student outcomes, and operating efficiency. The model included an interview with the principal, analysis of documents, survey of teachers, and survey of students.

The model was pilot tested in three high schools in Western Virginia. The principals of the three pilot schools and the researcher evaluated the model according to preestablished evaluation criteria. The evaluation identified several improvements including: instrumentation refinements aimed at providing more detailed information on teacher concerns about preparation and planning on the block schedule; data analysis refinements centering on technology; inclusion of other indicators such as standardized test scores and cost analysis; and, expansion of data collection techniques centering on systematic observation over an extended period of time.

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# CHAPTER 1

## INTRODUCTION

A major change is sweeping the educational landscape of secondary schooling. High schools across the nation are moving to block scheduling, claiming that it results in improved instruction, better school climate, higher student achievement, and increased operating efficiency. Block scheduling provides longer blocks of time for instruction and reduces daily instructional periods compared to the traditional seven period day.

As with any major educational change, the movement has its ardent supporters and its vocal critics. Supporters claim that longer blocks of instructional time provide a platform for improved instruction and improved student learning. Critics claim that block scheduling leads to gaps in learning and lowered retention. A review of the literature shows little in the way of empirical evidence to support the views of either camp.

While the debate continues, schools across the nation move in increasing numbers to some form of block scheduling. In Virginia, 58% of public high schools operated on some form of block scheduling during the 1996-97 school year, up from 2% in the 1992-93 school year (Rettig, 1996). In North Carolina, 38% of high schools operated on some form of block scheduling in the 1994-95 school year (North Carolina Department of Public Instruction, 1994).

A review of the practitioner literature over the past two years shows many of the leading educational journals publishing articles extolling the virtues of block scheduling (e.g. NASSP Bulletin, Phi Delta Kappan, ASCD Educational Leadership). An internet search on block scheduling yields webpage after webpage of schools reporting results of block scheduling such as

improved student achievement and improved school climate. The schools' home pages typically cite teacher and student perceptions with limited hard data in support of block scheduling.

The movement towards block scheduling is wrapped in the trappings of past educational panaceas. The movement has been boosted by national education commissions such as Prisoners of Time, Report of the National Education Commission on Time and Learning (1994), and High School Restructuring: A National Study authored by Gordon Cawelti in 1994. Prominent educational writers such as Joseph Carroll and Lynn Canaday have championed block scheduling as a method to reduce discipline problems and improve student learning without costing additional money.

### **Statement of the Problem**

*A review of the literature shows no standard model by which schools evaluate the shift to block scheduling in order to make reasoned and informed decisions about its usefulness in improving the educational program.*

### **Purpose of the Study**

The purpose of the study was to develop and test a block scheduling evaluation model. Conceptual development of the model utilizes a review of the literature and focuses on identifying the components of the school program most consistently identified with scheduling type. The components included in the framework include instruction, school climate, student outcomes, and operating efficiency.

Data collection focuses on student, teacher, and administrator *perceptions* of the impact of block scheduling compared to the traditional seven-period day, and on available *documentation* which compares the impacts of the two scheduling methods.

Standards for evaluation of the model were adapted from the Standards for Evaluations of Educational Programs, Projects, and Materials (1981). The model was tested against four standards: overall effectiveness; utility and value; ability to identify strengths and weaknesses; and ability to point out refinements or changes to the program. The results from the test sites were analyzed on the four evaluation standards by both the researcher and the principals of the pilot schools in the study.

### **Significance of the Study**

#### **A Focus on Time and Learning**

In a study released in 1994, the *National Commission on Time and Learning* pointed to the use of school time as a major variable in attempts to restructure education in the United States. The report of the commission, Prisoners of Time (1994), states that the typical school day has six class periods and has 5.6 hours of classroom time.

The significance of time utilization is illustrated in the opening statement of the report: “Learning in America is a prisoner of time” (p. 7). The commission observed that the academic year opens and closes with fall and spring and that the typical school day begins early in the morning and closes in early afternoon. The average class period lasts 51 minutes no matter how complex the material or how well students comprehend the material.

The report cited the fixed clock and calendar as a fundamental design flaw that must be changed if we are to improve education and prepare ourselves for the global economy. The authors also noted the need to modify the daily schedule and to increase core academic time in the process. The top two recommendations included in the report were;

1. Reinvent schools around learning, not time.
2. Fix the design flaw: Use time in new and better ways. (p. 29)

Another watershed report, A Nation at Risk (National Commission on Excellence in Education, 1983), pointed out that a short school year and meager study time are among the major reasons for poor performance of American students among the industrial societies on standardized achievement tests.

A report issued by the Virginia Department of Education in 1992 presented a list of options for increasing instructional time which included:

1. lengthening the school day,
2. lengthening the school year,
3. increasing the amount of assigned homework,
4. increasing time allocated to certain subjects. (p. 5)

Many well known researchers and authors have focused on time and its use in the educational setting. John Goodlad (1984), writing in A Place Called School, said: “*Some (schools) seem almost unaware that time is virtually the most precious learning resource they have at their disposal*” (p. 30).

Ernest Boyer, writing in High School: A Report on Secondary Education in America (1983), devoted an entire chapter of his report to instructional practices in American schools. His

introductory remarks reflect the importance of time in schooling. *“Just as the arrangement of space is standardized in the American classroom, so is the use of time. If ideas are to be thoughtfully examined, time must be used wisely. Time is the student’s treasure”* (p. 141).

A recent survey of schools in America has pointed out that the organization of the school day is receiving increased emphasis as a variable in the school restructuring movement. Gordon Cawelti reported in High School Restructuring: A National Study (1994) that the use of block scheduling is increasing. He identified the organization of the school day as one of seven major restructuring efforts currently being implemented across the country.

The key to the block schedule, in whatever form it takes, is the allocation of longer blocks of time for instruction. The schedule breaks away from the traditional six, seven, or eight period school day in use since the turn of the century and promulgated by the Carnegie unit of instructional credit. Use of the Carnegie unit equates seat time with learning in that it defines successful completion of a course as successful completion of 150 clock hours of instruction.

### **A Focus on Block Scheduling**

Block scheduling is nothing new. Myhre (1951) described a block schedule implemented in a small North Dakota high school. The school year was divided into five, seven-week terms in which two classes were taught daily in 120 minute blocks. He credited the idea to his instructional background in the military.

So why all the fanfare now? The answer rests in the confines of tradition. Several writers have touched on the answer when they discuss the adoption of the Carnegie unit as the measure designed (in 1905) to standardize, define, and regulate what instruction should be in America’s

public schools. These standards established the definition of a high school course credit as 150 clock hours of instruction per year.

In addition, the values of an agrarian society as it transformed into an industrialized society had a strong impact on the development and structure of the modern education system. It was a combination of these forces and the order imposed by 150 clock hours of instruction (the Carnegie Unit) that produced the typical school year with its six to seven classes taught for 180 days. Although notable attempts have been made during this century to break this system (modular/flexible scheduling), the recent focus on the allocation of time in schools has been brought about by continuing calls for reform and improvement of the American educational system.

Proponents of block scheduling claim that the longer class period provides an opportunity for more individualized instruction, a major component of improving teaching and learning according to the effective schools movement. One of block scheduling's most ardent supporters, Joseph Carroll, presented the plan in a paper entitled THE COPERNICAN PLAN: A Concept Paper for Restructuring High Schools (1983). Writing about the plan in 1994, Carroll states, "*The Copernican change in schedules is not an end; rather it is a means to several important ends. The most important of these are to vastly improve the relationships between teachers and students and to provide teachers and students with much more manageable workloads*" (p. 27).

The crux of the matter for block scheduling proponents such as Canaday, Carroll, and Cawelti is the relationship between time and learning. They believe that longer blocks of time for teacher-student interaction increase both the quantity and quality of student learning. They claim that block scheduling will facilitate the improvement of instruction through the use of varied

instructional strategies which will fit the student's learning styles better than the traditional lecture style prevalent in today's classroom. They also believe that reducing academic "clutter" will improve both teachers' and students' ability to focus on the task at hand.

These authors also believe that block scheduling will improve student performance by reducing both the number of teachers that students deal with on a daily basis and the accompanying tests, quizzes, and homework that are associated with each class. This reduction in the business of the school day is also held to be a factor in improving school climate by reducing student travel time between classes and by fostering more meaningful relationships between students and teachers.

### **A Virginia Perspective**

The State of Virginia mandates a five and one-half hour school day and 180 instructional days per school year (Standards of Learning, 1992). This provides each course with the minimum 150 clock hours of instruction. Recent changes in the organization of the school day in Virginia are illustrated in the charts below and demonstrate a large increase in the number of schools implementing block scheduling.

Why are so many of Virginia's public high schools revamping their daily schedules to block schedules? A review of the literature shows no clear and compelling basis for this change. In fact, the literature review in chapter two of this paper reveals that the literature is replete with *claims* rather than documented facts, and furthermore, that many of these claims go untested. Many of the schools around the State of Virginia have completed ad hoc evaluations to assess

their move to block scheduling. A comparison of these studies shows that many are less than comprehensive.

**Table 1. Virginia High School Scheduling Models, 1994 - 1996**

**Single Period Schools**

	<b>1994-95 Number of Schools</b>	<b>1995-96 Number of Schools</b>	<b>1996-97 Number of Schools</b>
<b>6 Period</b>	55	52	42
<b>7 Period</b>	134	105	80
<b>8 Period</b>	3	0	0
<b>Total</b>	192 (67.1% of total)	157 (54.1% of total)	122 (41.8% of total)

**Block Schedule Schools**

	<b>1994-95 Number of Schools</b>	<b>1995-96 Number of Schools</b>	<b>1996-97 Number of Schools</b>
<b>6 A/B Period</b>	16	13	12
<b>7 A/B Period</b>	38	51	68
<b>8 A/B Period</b>	9	6	8
<b>4 x 4</b>	27	58	78
<b>Other</b>	4	5	4
<b>Total</b>	94 (32.9% of total)	133 (45.9% of total)	170 (58.2% of total)

Directory of High School Scheduling Models in Virginia, 1994-95 School Year (Rettig, 1996).

**Definitions**

**Block (or semester) scheduling** can best be described by comparison to the traditional seven-period high school schedule. On a block schedule, the number of classes per day is reduced and the amount of time allocated to each class is increased. The block schedule typically has four periods per day lasting 90 minutes per period. The traditional schedule has seven periods per day averaging 51 minutes each..

The two major block options predominately in use include the **four by four (4x4)** or **semester schedule**, and the **alternating day (A/B)** schedule.

Under the **4x4 block schedule** each student has one set of four courses each day for one semester and a separate set of four courses the second semester. Teachers on this system normally teach six classes per year. They typically teach three courses per day and have one, ninety minute planning period. Students typically take eight courses per year under this system.

**Table 2. Typical 4x4 Block Schedule for Students**

	Semester 1	Semester 2
Period 1	Course 1	Course 5
Period 2	Course 2	Course 6
Period 3	Course 3	Course 7
Period 4	Course 4	Course 8

On the **alternating day, or A/B block schedule**, students take one set of four classes on day one of the sequence, and take a second set of four classes on day two of the sequence across the entire school year. Teachers teach six courses per year on this system, and students enroll in eight courses, just as they do on the 4x4 system.

**Table 3. Typical A/B Block Schedule for Students**

	Day 1	Day 2

<b>Period 1</b>	Course 1	Course 5
<b>Period 2</b>	Course 2	Course 6
<b>Period 3</b>	Course 3	Course 7
<b>Period 4</b>	Course 4	Course 8

The reader should be aware that many variations on this theme are possible. Canaday and Rettig (1995) discuss these at length in Block Scheduling: A Catalyst for Change in High Schools. Among the major variations presented by the authors are the 75 - 15 - 75 - 15 plan and the trimester plan.

**Traditional single period day** schools are organized around a sequence of between 5 to 8 periods per day. On this type of schedule, a student takes the same set of 5 to 8 classes per day across the entire school year.

### **Limitations of the Study**

1. The field testing of the model was limited to three schools in Western Virginia. The generalizability of the findings is thus limited.
2. The move towards block scheduling has only recently begun in the state, and few schools have been organized on a block schedule for more than four years. The impact of major school innovations such as block scheduling given this short duration may be limited.

3. The complications surrounding the use of cost analysis and of using standardized test scores have precluded their use as indicators in the evaluation model.

### **Organization of the Study**

Chapter one familiarizes the reader with the issues surrounding block scheduling. Chapter two probes the assumptions underlying block scheduling presented by theorists, both positive and negative, and reports the available empirical data on the topic. Chapter three focuses on the construction of a literature-based evaluation model; the instrumentation necessary for data collection; the implementation of the model in three Virginia high schools; and the subsequent evaluation of the model by the school principals. Chapter four presents the results of the evaluation interviews with the three test-site principals. Chapter five provides conclusions on the viability of the block scheduling evaluation model based on the evaluation criteria (standards), the limitations of the study, and concludes with the revision of the model based on the evaluation.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The literature review begins with a brief history of school scheduling practices in America followed by a brief summary of the research on time and learning. These two introductory segments give background for the issues surrounding the concepts behind the current move to block scheduling.

The literature review then describes the current thinking on block scheduling as presented by the leading writers in the field. The writings are organized in thematic units focusing on the educational issues of instruction, student achievement, school climate, and organizational efficiency. The purported advantages and disadvantages of block scheduling, as expressed by the authors, are presented.

The chapter concludes with a discussion of evaluation theory. The writings provide the framework for creating an evaluation of the block scheduling model.

#### **A Brief History of School Scheduling in America**

The literature on school scheduling reflects the various movements and philosophies that have punctuated the history of schooling in America. Traverso (1984) partitions the history of schooling in America into three major periods: the developmental period (1893 - 1959); the experimental period (1959 - 1983); and the restructuring period (1984 to present). Each of these periods was marked by the publication of a report of national significance.

The developmental period began with a report by the National Education Association (The Report of The Committee of Ten) which was published in 1893. The committee was charged

with examining each major subject to be taught, when to teach it, and the length of the instruction, both weekly and annually. In subsequent years, other committee reports were issued which defined the curriculum and the length of courses to be taught (term) as well as the grade structure of both elementary and secondary schools.

In 1905, the Board of Trustees of the Carnegie Foundation issued a report which defined the term of instruction as “a course of five periods weekly throughout an academic year” (p. 81). This definition of the instructional period for a complete course, known as the Carnegie Unit, has been one of the defining elements of the structure of modern schools and scheduling practices.

The “traditional” high school based on a five, six, or seven period day was the norm in America until the publication of James Conant’s The American High School Today in 1958 and J. Lloyd Trump’s introduction of flexible modular scheduling in 1959.

The concepts introduced in these writings, in conjunction with the advent of computer technology, allowed school administrators to break away from the traditional high school and move towards a flexible schedule in which different courses were assigned varying periods during the day depending on curricular requirements and student learner characteristics. The experimental period saw the development of modular flexible scheduling, block scheduling, unstructured time, and independent study among others.

Traverso marks the end of this period with the publication of a report to the Secretary of Education Terence Bell entitled A Nation at Risk (1983). This report ushered in the current period of educational restructuring and a return to more traditional scheduling forms in the public American high school.

## The Nature of Time and Learning

Block scheduling is all about the reallocation of time within the school day. The importance of time allocation is central to the issue of block scheduling. Proponents argue that longer blocks of instructional time will encourage teachers to use increasingly varied instructional strategies which will, in turn, increase individualization of instruction. While research has not provided any clear evidence to validate this claim, the literature on time and learning has produced a relatively clear picture of the components needed to maximize student learning.

The research on time and learning addresses the concepts of **allocated time**, **engaged time**, and **productive learning time**. Allocated time is defined as the amount of time scheduled for instruction. Engaged time is that portion of allocated time in which the student is engaged in the learning process. Productive learning time is that portion of engaged time in which the student achieves meaningful learning.

According to the Virginia Department of Education study entitled, Instructional Time and Student Learning: A Study of the School Calendar and Instructional Time (1992), academic learning time results when each of the following conditions are met:

1. The student is on-task and engaged.
2. The student is experiencing a high degree of success.
3. The time needed by the **individual** student is equal to the time allocated.
4. The instruction is appropriate to the students' learning style. (p. 12)

Some of the most meaningful research on time and learning comes from the California Beginning Teacher Evaluation Study (Fisher et. al., 1980). One of the conclusions of the study

was that “the amount of time allocated to instruction in a particular content area positively correlates with student learning in that content area” (p. 12).

While many researchers agree that the amount of allocated time can positively impact student learning, **the crucial issue is what is occurring during that time.** The 1992 Virginia Department of Education report claims that “up to 50 percent of the time allocated for instruction

Walberg (1988) maintains that the amount of instructional time is only one of nine educational productivity factors identified through his extensive research. Other factors include the students’ aptitude, development, motivation, quality of instruction, the curriculum of the home, the classroom social group, the outside peer group, and the amount of time spent viewing television (negative impact). Walberg believes that time is one of the most alterable elements involved in the equation that increases learning, and that most of our current efforts should be directed to increasing productive learning time.

Productive learning time is also clearly associated with quality instruction according to Walberg. He cites several factors involved in quality instruction including providing optimal cues, correctives, and reinforcements in combination with diagnosis and tutoring to ensure that the instruction is appropriate for the individual learner.

Walberg identifies several psychological principles that are also associated with the concept of time and learning. *Spacing* practice over several lessons is superior to equal amounts of time spent in concentrated sessions. *Direct acquisition*, or memorization of main points, may be better than elaborated learning that strives to associate present material with material previously learned. *Non-diminishing returns* is the principle that states that memory and related

skills can increase constantly with additional time. *The Matthew Effect*, based on Matthew 25:29 (“*For to every person who has something, even more will be given*”) suggests that those who are behind at the start of school continue to lose ground as they progress through school, while those who are ahead at the start of school gain at a faster rate.

Walberg (1988) also believes that to increase productive learning time requires a movement away from conventional whole group instruction which does not accommodate differences in student learning rates and prior knowledge. He advocates a move towards instruction that reduces the Matthew Effect by recognizing and addressing the various individual needs of each student through small group instruction with an emphasis on study skills suited to the needs of the individual learner.

## **Major Reports**

### **Prisoners of Time**

The nature of the relationship between time and learning was a major topic for study of the National Education Commission of Time and Learning. The committee’s report, Prisoners of Time: Report of the National Commission on Time and Learning (1994) highlights how the traditional American school is governed by antiquated concepts about the use of time. Among the initial findings:

1. schools open and close their doors at fixed times;
2. school calendars last nine months;
3. the school day is divided into six periods averaging 51 minutes per period;
4. the school year averages 180 days; and,

5. high school graduation is universally based on seat time and is measured by Carnegie units which represent one credit for completion of one course meeting daily for one full year. (p. 7)

The report calls for an expanded school day offering students 5.5 hours of core academic instruction daily. Core academic instruction is to include the areas of English and language arts, mathematics, science, civics, geography, history, the arts, and foreign languages. The report hammers away at the loss of instructional time in the typical school day in America. The report states' "Unyielding and relentless, the time available in a uniform six-hour day and a 180 day year is the unacknowledged design flaw in American education" (p. 8).

### **The Copernican Plan**

In 1983, Joseph Carroll developed The Copernican Plan: A concept paper for restructuring high schools. His proposal jump-started the move towards block scheduling in the early 1990's. Carroll's plan focused on using longer blocks of instruction so that teachers could individualize instruction for students. Carroll stated, "improvements in teaching are centered around the teacher adapting instruction to individual student differences" (p. 5).

Carroll proposed a block schedule with either one-210 minute block per day, or two-100 minute blocks per day. These blocks were offered in conjunction with seminars, preparation/help sessions, and music and physical education classes in the afternoon.

While many of the current writers on block scheduling cite Carroll, many miss the broader brush strokes of his work. In addition to block time periods, Carroll called for a totally different way to view high school graduation. He envisioned the use of mastery learning and mastery credits in conjunction with "integration credits". He called for the use of an individualized

education program for each student, the infusion of conduct and attendance parameters into the diploma, and a plea for a more adult and personalized environment in today's high schools. In addition, Carroll's plan connected the work place to the school through a system of five different types of diplomas based on the field of work that the student intended to pursue.

To the casual reader of the plan, the major emphasis is the simple change of the bell schedule. To the more reflective reader, the nuts and bolts of the plan lie in the individualization of instruction. As many educators are currently discovering, changing the bell schedule is most certainly the easier of the two.

The uniqueness of Carroll's plan did not stop with his emphasis on individualized instruction, it included a strong evaluation component based on student outcome measures. Carroll had a team from Harvard University evaluate the change process based on student conduct and academic mastery variables. Among its conclusions, the team stated, "Implementing a Copernican style can be accomplished with the expectation of favorable pedagogical results" (p. 28).

In follow-up articles published in 1994, Carroll reported a study of seven schools which implemented Copernican type schedules. Among the findings were that neither students or teachers experienced "burn out" in the longer classes, that student learning and retention rates were the same for both traditional and Copernican schedules; and that students in the longer classes demonstrated more higher order thinking skills and problem-solving abilities than those in the regular programs.

Student conduct was assessed using attendance rates, suspension rates, and dropout rates. The findings included an improvement in attendance rates and a decrease in suspension rates and

dropout rates. Student achievement was measured by final course grades which jumped 18% across the schools of the study.

### **Issues in Block Scheduling**

The literature on block scheduling poses many issues. A review of the literature shows that these issues fall primarily under the headings of instruction, school climate, student outcomes, and operating efficiency. The review of block scheduling literature which follows is organized around these critical components and reports the purported advantages and disadvantages in these areas.

#### **Instructional Issues**

##### Instructional Strategies

Canaday and Rettig (1993), in one of the first nationally published articles advocating block scheduling, lists **facilitating variety in instructional strategies** as the first in a series of stated benefits of block scheduling. “Because teachers are granted longer blocks of instructional time, they are encouraged to break away from over-reliance on lecture/discussion as the primary (often only) mode of instruction” (p. 312).

Carroll (1994) reports evaluation data from a one year pilot program at Masconomet High School using a block schedule with two 100-minute classes each morning. One of the research

questions asked was whether or not teachers would find the intensity of teaching for roughly two hours draining. In contrast to the suspected finding, the programs' evaluators report that "simple changes in the length of the class periods and in class size can, in themselves, invite teachers to rethink pedagogical styles" (p. 108).

Huff (1995) reports that lecturing is the least effective form of instruction and that the block schedule is designed to accommodate several modes of instruction in the same class period. Huff contends that the more varied the instruction, the better able teachers are to match varied learning styles of students and thus "the greater the probability that all students will learn" (p. 20).

Pisapia (1995) conducted a study of six high schools in Chesterfield County, Virginia, which operated on different types of schedules. One of the research questions dealt with in his study was the impact of the schedule on instructional delivery. He reports that "the data suggest that students, parents, and teachers at Semester Block schools report significantly more positive changes occurred in ... teaching methods this year than their peers in schools that use shorter class times" (p. 10).

Pisapia reports further that teachers in semester block schools vary instructional strategies more than teachers in schools using shorter class periods; and that they use whole class instruction and the textbook as the primary tool of instruction less than teachers at schools using shorter class periods.

Munroe (1989) reports that teachers in a block program for at-risk students in San Dieguito, California, took advantage of the longer blocks of time to vary instructional strategies. She states that self-reports from teachers in the program indicate that they used roughly twice as many instructional strategies as their counterparts in a non-block control program.

The North Carolina Department of Public Instruction (NCDPI) reports, in a survey of teachers using block scheduling statewide, that the use of lecturing on a regular basis falls behind the frequency of use of the following strategies: Instructional focus on problem solving; group discussion; performance assessments; individual seat work; cooperative learning; and, subject matter integration (1994).

Hart (1994) studied a 4x4 block schedule adopted by a high school in Philadelphia, Pennsylvania. One of the two research questions in the study was the manner in which classroom instruction was altered as measured by teacher perception. Teachers reported a significant (positive) change in the frequency of use in 23 of 24 instructional strategies. Hart reports “It is clear that ... (restructuring) ... led to a significant change in teacher behavior within the instructional mode” (p. 140).

### Individualization of Instruction

Another major benefit of block scheduling, according to proponents like Cawelti, Canaday, and Carroll, is that the **longer blocks of instructional time can lead to increased individualization of instruction**. According to these authors, the longer time blocks allow students to learn at their own pace allowing advanced students to achieve at an accelerated rate, while not penalizing students who learn at a slower pace.

Cawelti (1994) notes that block scheduling provides teachers with additional opportunities to help students. Canaday (1995) echoes these beliefs, stating that one of the major goals of schedule reform is to allow students variable amounts of time for learning “without punishing those who need more or less time to learn” (p. 12).

Carroll (1987) touts individualization of instruction as a major benefit of longer instructional blocks. He states further that the improvement of instruction is “centered around the teacher adapting instruction to individual student differences” (p. 7). Carroll goes on to say that his Copernican schedule allows the teacher to concentrate on planning for small groups or individuals, “the heart and soul of the more individualized instruction which research and experience indicates is more effective” (p. 14).

Research reports on the concept of increased individualization of instruction usually appear in the form of teacher survey results. Sanchez (1987) reports that a rotating block schedule provides “sufficient time for students to complete assignments and tests and to receive better explanations through individualized attention” (p. 60). He also reports that in his student focus group interviews, respondents stressed the importance of having increased time in the longer course blocks.

DeHetre (1994) surveyed students involved in a block schedule program and reported that 36% of the students agreed with a statement that longer periods allowed for personalized help.

In the NCDPI study (1994), of 243 schools using block scheduling, over 50% of the teacher respondents reported that block scheduling had led to increases in individualization of instruction.

### Complete Learning Cycles

Several writers report that longer class segments allow the opportunity to **complete learning cycles within one class period**. Buckman, King, and Ryan (1995) state that teachers on

the block system reported the ability to “structure a full lesson, to introduce a topic or concept,

Huff (1995) believes that one of the three most important aspects of block scheduling is the enhanced ability of students to understand difficult subject matter. He states that teachers have additional time to develop key concepts and to ask probing questions in the longer class periods. A faculty survey reported in the study listed as the number one advantage of the block system: “Ninety-four minute periods allow teachers to develop key concepts” (p. 22).

Boarman and Kirkpatrick (1995) report that longer class periods allow science and math teachers to hold more labs and that they find them much more effective. Social studies teachers report benefits when they are working with interpreting original documents. English teachers indicate improved instruction results from the longer periods by allowing pre-writing activities, discussion, and time for in-class essays such as those demanded by Advanced Placement tests.

### Continuity of Instruction

Teachers express the concern that **the block schedule may lead to gaps in student retention in sequential courses**. Teachers of such courses as band, choir, drama, math, and foreign languages are the most vocal concerning this issue.

Carroll (1994) comments on the retention issue, citing that the evaluators of his Copernican plan tested students from three to fifteen months after their courses ended and concluded that “there were no consistent significant differences that favored students in one program over students in another” (p. 209).

While the NCDPI study (1994) does not report directly on the issue of continuity of instruction and retention rates, it leaves the reader with the following question for further research: “Do students forget more of the material in the breaks between courses when they may have a year or more break rather than the summer?” (p. 5).

Raphael et. al (1986) and Bateson (1990) assert that the block schedule is harmful to retention rates. In two published studies of the impact of block scheduling on science and math achievement, they report that the students in year-long classes achieved significantly higher on standardized tests than their peers in block schedule courses.

#### Teacher Absences

One of the reported drawbacks of block scheduling is the **impact of teacher absences on the instructional process**. Sanchez (1987) reports that teacher absences on a block schedule “cause a major disruption in instruction and routine” (p. 58). Raphael et al. (1986) state that one of two major predicted drawbacks of semester scheduling in Canadian schools was teacher and student absences.

#### Instructional Time

Canaday (1993) claims that one of the benefits of a 75-75-30 block schedule plan is an **increase in instructional time**. He bases this assertion on a decrease in time lost to instruction due to class changes, start-ups, and ending of classes. Contrary to this assertion are data presented in the NCDPI survey (1994) that show core academic instruction time reduced from

660 hours per year in a 55 minute, 180 day course, to 540 hours of instruction on a block schedule.

The NCDPI survey goes on to add that while core academic time may be reduced as described, it need not be that way if students take more core classes as electives. One of the recommendations of the study is that the required number of core academic classes be increased as more schools move towards block scheduling in that state.

In fact, under the block schedule, most schools actually lose allocated instructional time for each course compared to the traditional seven period schedule. An example compares a traditional seven-period day with 50 minute class periods compared to a 4x4 block school with 90 minute periods.

**Traditional seven-period school:**

50 minutes per day  $\times$  180 days per year = 150 hours of instruction

**4x4 block schedule:**

90 minutes per day  $\times$  90 days = 135 hours of instruction

**School Climate Issues**

Many writers and researchers claim that **block scheduling affects school climate**. School climate has been defined as “The enduring characteristics that describe the psychological character of a particular school, distinguish it from other schools and influence the behavior of students and teachers, ... the psychological ‘feel’ that students and teachers have for the school” (Sergiovanni

& Starratt, 1993, p. 82). In the block scheduling literature, school climate is more often described by outcome measures such as discipline rates and subjective measures of student-teacher relationships.

### Discipline

Proponents of block scheduling have maintained that **block scheduling reduces discipline problems**. Canaday (1993) writes that the traditional schedule releases “thongs” of students into the hallways at the end of each class period, causing a supervision problem for administrators and teachers. He reasons that “because classes change less frequently in the block schedule, there are fewer opportunities for student misbehavior” (p. 312).

To highlight the early emphasis on discipline in the dialogue surrounding block scheduling, one need only look at one local newspaper headline on an article reviewing Canaday and Rettig’s 1995 book on block scheduling. While the article actually comprised a fairly good review of the book, the headline read: “*Researchers report new schedule reduces discipline rates*” (Roanoke Times, March 19, 1995).

Researchers such as Carroll (1994) have included school discipline as indicators of the impact of block scheduling. Carroll states that four of five schools supplying discipline data “showed reductions in *rate of suspension*, ranging from 25% to 75% during the first year under a Copernican schedule” (p. 110).

Pisapia (1995) reports a survey item in which teachers disagreed with a statement that discipline had gotten worse under new schedules. It should be noted that his study included schools with several different types of scheduling options.

In one report, discipline problems in a high school were not found to be significantly lower on a block schedule than on a traditional schedule. Hart (1994) does, however, report a reduction in incidents sent to the principals' office from an average of 70 per day to an average of 63 per day.

Cox (1994) reports that discipline incidents in her targeted group of at-risk students averaged 1.01 more than in a control group. She suggests that the move from a three hour block back to the regular schedule daily may have been a factor in this apparent rise in discipline referrals.

### Student-Teacher Relationships

**Improving student-teacher relationships** is at the heart of many block scheduling proponents' thinking. Canaday, Cawelti, and Myhre all emphasize that the longer blocks of instructional time will encourage students and teachers to get to know each other better which will result in improved interpersonal relations. They base this belief partly on the position that teachers will take advantage of the longer blocks of time to individualize instruction.

Cawelti (1994) lists among the purported benefits of block scheduling: "Helps teachers develop closer relationships with students" (p. 36). Boarman (1995) states that teachers and students get to know each other better on a block schedule. Alam (1994) reports a teachers' comment on the block system as follows; "There is a feeling of family which develops and feels

Hart (1994) reports another teacher comment to an open-ended question as follows: “Intensive scheduling caused no changes in ‘what’ I was doing with students in class; it did, however, improve the quality of everything -- activities, relationships with students, etc.” (p. 124).

The 1994 survey of North Carolina teachers on block scheduled schools reports that 73.5% of teachers agreed with the statement “Under block scheduling I can get to know my

### **Student Outcomes**

Proponents of block scheduling believe that student achievement will improve and cite improvements in outcome indicators such as student grades, Advanced Placement scores, and dual enrollment numbers to bolster their argument. Detractors question student retention rates and decry the impact of student absences on achievement, as well as the problems for transfer students on the block schedule plan. Others express concern that block classes will lead to gaps in student learning, especially in sequential courses like foreign languages and mathematics.

### Student Attendance Rates and Absences

Reviewers of block scheduling literature find that many proponents argue that **block scheduling improves student attendance rates**. The internet homepages of Roy J. Wasson High School (Co.), Lafayette High School (Va.), and Pulaski County High School (Va.), all display improved attendance rates as outcome indicators supporting the move to block scheduling.

Benton (1995) reports improved attendance rates at Governor Thomas Johnson High (N.C.), Granada High (N.C.), and L.V. Rogers High (N.C.) after the implementation of block scheduling.

Munroe (1989) reports that at-risk students in the block program improved their attendance rates over the preceding spring semester. She states that the block group had a “great

Cox (1994) reports a Texas study aimed at at-risk students. She reports that the attendance for her group did not improve significantly for the year, while adding that those students who did attend regularly for the block classes showed strong academic improvement compared to those who had frequent absences.

Lewis (1993) reports in his study of 216 high schools in the state of Virginia that there was no significant difference in a variable defined as “percent of students with 10 days or less absence annually” based on the type of schedule employed at the schools. His data came from the 1992-93 school year in Virginia at which time no more than 2% of Virginia high schools operated with any type of block schedule format.

Pisapia (1995) reports, in his study of Chesterfield County Schools, that overall attendance rates were not affected by the type of schedule. He did report that students at block scheduled schools did not like to miss school because they miss too much work.

The amount of make-up work that a student incurs due to absences under block scheduling has been discussed by both proponents and detractors of block scheduling.

Czaja and McGee (1995) ask the question, “What happens if a student is absent? Certainly the question of time creeps in again, although in a different perspective” (p. 38). The North

Carolina survey (1994) lists the problem of student absences on the block schedule as one of the two weakest points of block scheduling according to teachers and administrators. On the other hand, Edwards (1993) asserts that if a student misses school, he has less work to make-up because he has missed fewer classes.

### Dropout Rates

Several researchers report **dropout rates** as indicators of either student achievement or school climate for the schools involved in their study. While none of the reports indicate statistically significant findings, dropout rates remain a matter of substantial interest for researchers.

Carroll (1994), in his evaluation study of the Copernican Plan, reports that six of the seven schools studied had reductions in dropout rates. He reports a median decline of one-third in dropout rates across the seven schools studied.

Short (1995) reports that there were no dropouts at Atlee High School in both the 1992-93 and the 1993-94 school years. He attributes this to the flexibility afforded by the AB block schedule.

Hart, in his 1994 study, reports that the number of dropouts were independent of the type of schedule format. He adds, however, that the actual number of dropouts during the study year did decline from previous years.

Lewis (1993) reports that student dropout rates across schools in Virginia as measured by the Outcome Accountability Project data for the school year 1992-93 showed no significant differences according to scheduling type.

### Student Grades

**Student grades** are frequently cited in the writings and research reports of block advocates. Alam (1994) reports that grades went up dramatically under a block plan at a middle school under study. Edwards (1995) reports that at Orange County High School (Va.), the percentage of students earning A's was higher in every department after a year on the 4x4 block schedule. The percentage of A's earned as final grades went up across departments between 21% and 28%.

Munroe (1989) reports that the GPA of at-risk students improved on a block program. Pisapia (1995) reports that parents, students, and teachers at semester block schools (4x4) are satisfied that learning is being positively affected. However, after an analysis of the data, Pisapia reports data from two semester block schools in the study which suggests that an increase in honor roll percentages may be due to an increase in enrollments in fine arts classes.

Hart (1994) studied the number of students making the honor roll and those earning Ds or Fs for final grades. He reports that the number of students making the honor roll increased and that the increase was significant. The number of students making D's and F's as final grades went down. The decrease was significant at the .05 level.

Cox (1994) reports that the grades in block courses in English, science, and mathematics for 58 students in an experimental block program improved. A univariate analysis of the data showed a significant increase in achievement from the pretest to the posttest.

### Advanced Placement and Dual Enrollment

Edwards (1993) claims that one of the most significant benefits of block scheduling is the **increased opportunity of students to take advanced placement courses and dual enrollment classes with local colleges**. He reasons that students can complete graduation requirements early due to the fact that they can take more classes on the block than they can on the traditional schedule. He further states that students who complete the core requirements early “should have full scholarships for the remainder of their high school years to take technical service, community college, or Advanced Placement classes” (p. 87).

Shortt (1995) points out one of the concerns regarding Advanced Placement (AP) classes and the block schedule. Students who take the AP course in the fall semester must then wait until the spring (May) to take the AP test. The legitimate question that this situation raises is whether or not the gap in time between the class and the test puts the student at a disadvantage.

Kadel (1994) points out that students who take an AP class in the spring semester will not have finished the course content prior to the May testing dates.

### Learning Retention

Under a block program, students taking sequential courses may experience **longer gaps in exposure to material** than those in the traditional scheduling paradigm. Under the traditional system, a French I student will take French II the following year with a three month gap for summer break. Under some block systems, a student may take French I in fall of year one and take French II in the fall of the next year, resulting in a 15 month gap between the two courses. The same can be said of math students progressing from Algebra I to Geometry to Algebra II.

Several Canadian researchers wrote extensively on the retention rate issue in the mid-to-late 1980's. Canadian schools in Ontario and British Columbia have been operating on a semester block system on a large scale since the early 1980's. Raphael, Wahlstrom, and McLean (1986) report that one-third of Ontario's high schools operated on a semester block in 1986. The block operates on a four period-per-day schedule with 60-80 minutes per period with 100 days per semester.

Raphael's study included responses from over 5,000 students in schools operating on year-long and semester schedules. The results verify that 12th grade math students in the year-long classes achieved higher mean scores than their peers in semester schools on each subset of the achievement test employed in the study. Bateson (1990) reported similar results for science students in British Columbia. In his report, students in year-long courses "consistently outperformed both first and second semester students in the cognitive domains tested" (p. 233), and furthermore, the second-semester students outperformed first-semester students in the May, 1986 test administration.

Raphael and Bateson conclude that the results of their studies bring into question the advisability of implementing semester scheduling in comparison to year-long courses. Bateson

states that the results “cast doubt on the reported teacher perception that knowledge retention is of little concern under a semester system” (p. 233).

### Motivation

Edwards (1993) asserts that one of the two **most important benefits of block scheduling lies in the area of student motivation**. He states; “Making school more manageable with a simpler schedule will help motivated students ... many of today’s students need immediate, concrete rewards to focus their attention on learning” (p. 88).

Alam (1994) states that one of the motivating factors of a block schedule is that it increases students’ awareness of their own progress in school. He contends that an increase in self-awareness of ones own progress (i.e., earning credits towards graduation) is a primary benefit of block scheduling. Eighty-six percent of the student respondents in 245 North Carolina high schools identify the “ability to finish a course in one semester” as one of the major benefits of block scheduling (p. 20).

Several authors discuss the benefits of re-taking failed courses as another benefit of block scheduling. Czaja (1995) lists the opportunity of students to repeat failed courses immediately as a strength of block scheduling. The teachers and administrators of North Carolina report that allowing students to retake courses immediately is a major strength of block scheduling. In addition, 73% of the student respondents list being able to repeat a course sooner if necessary as important or very important (1994).

## Transfer Students

When a student moves from a seven-period school day to a new school with four periods per day, the results are predictable. The **student loses credits initially** and needs individual attention to catch up on the classes that he resumes.

The NCDPI survey (1994) shows that teachers and administrators believe the problem of transfer students is a major deficit of block scheduling. Shortt (1995) states that block scheduling worsens the already existent problem for transfer students. He urges principals of both block and non-block schools to plan for individual assistance for transfer students.

Kadel (1994) also suggests that the transfer problem is real and that students will be disadvantaged by a change to block scheduling. He offers no solutions to the problem, suggesting only that it is up to the professionals to solve this dilemma.

## Standardized Test Scores

The NCDPI report (1994) states that: **“long term effects on student achievement or other indicators of student success have not been evaluated yet”** (p. 4). Lewis (1994) asked whether or not standardized test scores from 216 schools in Virginia differ based on schedule type and determined that they do not differ significantly. Pisapia (1995) reports that his analysis of the impact of alternative schedules on standardized test scores was “inconclusive” (p. 28).

## **Efficiency Issues**

Clarence Edwards (1993) sums up the impact of the move to block scheduling as follows,

**“This is simply a better, more efficient use of teacher time, student time, and existing**  
(p. 88).

Even opponents of block scheduling readily admit that the block schedule is a more efficient way to run a school. On the 4x4 block schedule teachers teach six classes annually compared to five, and students can earn up 32 credits in four years versus 28 on the seven period day. As Carroll pointed out in his introduction to the Copernican Plan, this can be done “within

The educational issues relating to efficiency overlap both the human dimensions and the operational dimensions of schools. It is argued that teachers and students are more efficient (and presumably more effective) with fewer daily classes.

The literature review of the efficiency issue is organized around teachers and students and includes the impact on the number of courses per day, students served per day, student/teacher ratios, and the number of classes taught annually.

### Courses Per Day

Carroll (1994) believes that a **reduction in the number of courses taught per day** on the block system provides “much more manageable work loads for both teachers and students” (p. 106). Canaday (1993) reports that block schedules allow teachers to focus on fewer preparations. The NCDPI report (1994) reports that the number of courses taught per teacher each semester dropped from 4.5 to 2.7, and the average number of preparations per day dropped from 3.2 to 2.3. Teachers responding to the survey believe that some of the strongest points about block

scheduling are that “students take more courses and electives, have fewer classes to prepare for at a time, and that teachers have more planning time, can use class time more effectively, and have fewer preparations” (p. 3).

For students, the move to block scheduling translates into fewer classes per day and fewer teachers to deal with each day. According to the NCDPI report (1994), students say that one of the best things about block scheduling is that they have less homework and that they get to do it in class. Huff (1995) reports that one of the identified advantages of block scheduling in Scotland County High (Pa.) is the reduction of class preparations for students from six or seven to four. Wilson (1994) reports that students under a 4x4 block system have homework only in three or four classes nightly.

### Students Per Day

Canaday (1995) writes that one of the goals of high school restructuring is to **reduce “the number of students for and with whom teachers must prepare and interact each day and/or each term”** (p. 12). Wilson (1995) reports that teachers previously (on a seven period day) had 120-150 students per day and that on the 4x4 block system this number has been lowered to 90 students per day.

The reduction in the number of students seen by each teacher daily in conjunction with longer class periods is at the heart of claims that the block schedule increases the opportunity for individualization of instruction and improves student-teacher relations.

### Student/Teacher Ratios

Improvements in instruction are often linked to **reducing student/teacher ratios**. The belief that the reduction of these ratios is beneficial is evidenced by the inclusion of such goals in many educational improvement blueprints such as Montgomery County Public Schools' (VA) FOCUS 2006.

The research review pertinent to student/teacher ratios shows several reports of lowered student/teacher ratios as a result of block scheduling (which frequently increases the number of sections taught by teachers). The NCDPI report (1994) states that the average class size for schools in the study dropped from 29.8 to 24.5. Wilson (1995) reports that the daily teacher-pupil ratio decreased with the move to a 4x4 block schedule.

### Classes Taught Annually/Credits Earned

While teachers **teach fewer classes daily** on the block schedule, the number of classes they teach annually increases. Under the traditional seven-period schedule, teachers in many Virginia schools taught five classes per day across the year. On the 4x4 block, these same teachers teach six classes annually, three each semester.

The benefit to students is the opportunity to **take and pass more classes each year** on the block system than on the traditional schedule. Under the traditional schedule, students could earn up to seven credits per year for the four years of high school, totaling 28 potential credits. On the 4x4 block, students can earn up to eight credits annually for the four years and up to 32 credits across the span of their high school career.

Edwards (1993) championed the 4x4 block schedule as a vehicle for increasing the number of credits that a student could earn as a springboard for bringing dual enrollment (college) courses into the four year high school career of advanced students. He argues that students who complete the core classes required for graduation early should be able to continue their studies at public expense in technical service, community college, or advanced placement courses.

Early graduation is another issue connected to the ability of students to amass required credits on the block schedule. Experience with the block in Virginia schools shows that a significant number of senior students can and do graduate early. School divisions are reacting in varied ways to this issue; some schools restrict the number of required courses that students can take annually, others are increasing graduation requirements for students in block scheduled schools.

### Costs

The debate over the **cost of block scheduling** compared to that of traditional schedules is inconclusive. Carroll (1987) asserts, in the introduction to his Copernican Plan, that schools can move to block scheduling within approximately the same levels of funding. Edwards (1993) asserts that the savings in text book funds alone may allow schools to move from text rental programs for students to free texts for students.

Pisapia (1995) reports that an analysis of “current year budgeted costs suggest that Semester Block schedules are more cost effective than the other three scheduling models studied on a cost per course basis” (p. 33). He goes on to say that the block schedule may incur more administrative costs and other professional costs not associated with the annual budget.

## **Developing an Evaluation of the Model**

An evaluation model of block scheduling is useful only to the degree that it assists the consumers (teachers, students, parents, administrators and policymakers) in understanding the impact of block scheduling on the instructional program.

Stufflebeam (1969) proposed that evaluation be defined as a process for providing useful information to decision makers. He argued that evaluation tools should provide useful information by which the programs (object) being evaluated could be improved for use by the consumer.

Stake (1983) states that rather than identified objectives or hypothesis as advance organizers for evaluations, he prefers issues; “Issues better reflect a sense of complexity, immediacy, and valuing” (p. 295). The issues identified through a literature review of block scheduling include instructional issues, school climate issues, student outcome issues, and operating efficiency.

The evaluation should help answer questions such as those proposed by Stake:

1. Does it help document events?
2. Does it record student change?
3. Does it aid in administrative decision making?
4. Does it help increase our understanding of teaching and learning?
5. Does it suggest corrective actions?

Stake (1983) suggests a responsive model of evaluation which focuses on the purpose and criteria of the evaluation. He states that the researcher should be careful not to be over-reliant on preconceived notions of success of the program but should rather give careful attention to the reason for the evaluation, pay attention to what is happening in the program, and then choose criteria and purpose.

Stake believes that the substantive structure (which data to examine) of the evaluation should include both performance data and preference data where available and should not rely on either to the extreme. He states that the functional structure (how to gather data) of the evaluation should rely on observations by the researcher, and should involve components such as identifying the program scope, purposes and concerns by talking to the constituents of the program.

Stake also believes that the ultimate measure of the efficacy of an evaluation model lies in its utility and legitimacy. He states, “fortunately, it is not necessary to be explicit about aim, scope, or probable cause in order to indicate worth” (p. 303). This simply means that to be valuable, an evaluation must report on a program’s merits and its shortcomings. In addition, these reports are only valuable to the extent that they communicate in language that can be understood and which can be used in a real-world sense.

Scriven (1973) suggested a “goal-free” evaluation model in which the purpose of the evaluation is to assess the effects of the program. The key elements of this style of evaluation include ignoring the main claims of both the proponents and the detractors by sticking to a checklist of key points made by both proponents and detractors. In this way, the researcher who develops the evaluation model maintains objectivity.

The work of Stake, Stufflebeam, Scriven, and others can be seen in the 1980 Standards for Evaluations of Educational Programs, Projects, and Materials. The standards (30) are grouped according to four attributes of evaluation, utility, feasibility, propriety, and accuracy.

Utility standards require the evaluators to acquaint themselves with the audiences, ascertain their needs, and to report information clearly and on time. Feasibility standards require that evaluative procedures must be cost-effective and workable in real-life settings. Propriety standards require evaluators to ensure that the rights of the clients are protected. Accuracy standards are meant to ensure that the evaluation answers the questions asked, and that it produces sound information.

## **CHAPTER 3**

### **METHODOLOGY**

This chapter describes model construction, instrumentation, data collection (pilot testing), and the evaluation process.

The purpose of the study was to develop and test a block scheduling evaluation model. Conceptual development of the model utilized a review of the literature and focused on identifying the components of the school program most consistently identified with scheduling type. The components included in the framework include instruction, school climate, student outcomes, and operating efficiency.

Data collection instruments were developed which are consistent with the identified components of the educational program. The instruments were piloted and refined for use in the test schools. Three test schools were selected and the evaluation model was implemented at each site. The model design included four major data collecting components.

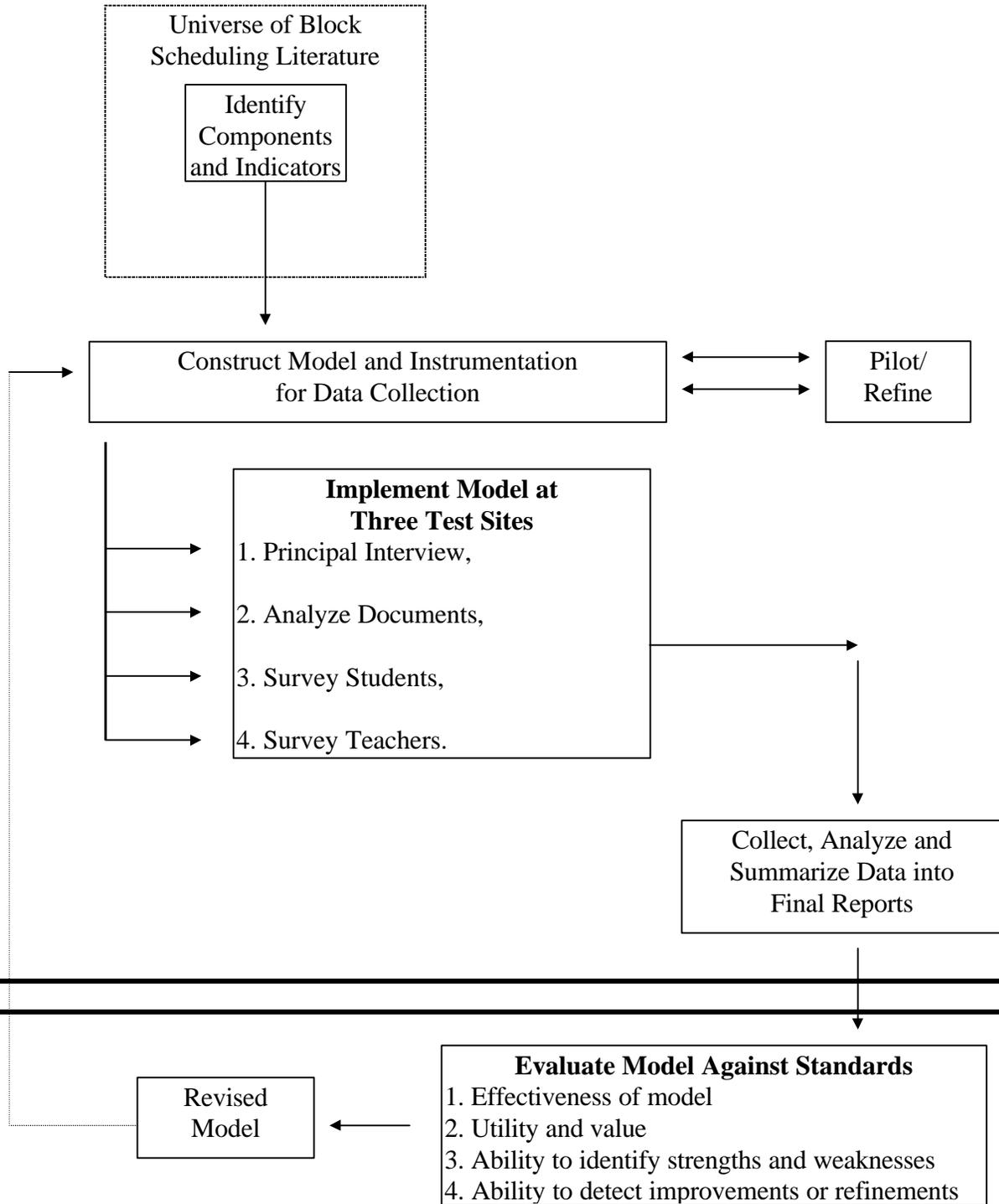
1. Interview with the pilot school principal;
2. Collection and analysis of documents;
3. Survey of the students; and,
4. Survey of the teachers.

A conceptual diagram of the study follows on the next page. The data were collected and summarized for each test school. The summaries were returned to the principals of the schools for review. Standards for evaluation of the model were adapted from the Standards for Evaluations of Educational Programs, Projects, and Materials (1981). The model was evaluated by both the test school principals and the researcher as to its overall effectiveness, utility and value, ability to

identify strengths and weaknesses, and its ability to suggest refinements or changes to the program.

## Block Scheduling

### Evaluation Model



## **Construction of a Literature-Based Model**

A synthesis of available literature on block scheduling produced consistent themes as writers debate the pros and cons of block scheduling. Most of the literature consists of journal articles in which authors make certain claims about the benefits or drawbacks of block scheduling. A critical review of the material shows that it centers on the issues of instruction, school climate, student outcomes, and operating efficiency.

Following an analysis of the literature concerning block scheduling, the conceptual framework for the evaluation model was constructed as follows. The issues are further broken down into the indicators employed for measurement. A brief operational definition of each indicator is included in the framework.

### **I. Instructional Issues**

A) Instructional strategies - The use of varied instructional strategies suited to individuals' learning styles and preferences.

B) Individualization of instruction - The ability of the instructor to tailor instruction to the needs and abilities of the learner.

C) Complete learning cycles - The ability of the instructor to complete the entire learning cycle, from introduction of new material, to modeling, to student practice, in one lesson.

D) Continuity of instruction - Refers to both continuity between lessons of contiguous material and to continuity between sequential classes across semesters such as French I and French II.

E) Teacher absences - Refers to the impact of teacher absences to instruction.

F) Instructional time - Refers to the time actually used for instruction in allocated instructional time.

### **II. School Climate Issues**

A) Discipline incidents - Refers to the number of discipline incidents in a given time period.

B) Teacher/student relationships - Refers to the quality of student-teacher relationships.

### **III. Student Outcomes**

A) Student attendance and absences - Student attendance rates over the year.

B) Dropout rates - Student dropout rates on an annualized basis.

C) Student grades - Refers to student grades at the end of grading periods as well as final grades.

D) Advanced placement/dual enrollment - Refers to the numbers of students enrolled in advanced placement and dual enrollment courses.

E) Motivation - Refers to student motivation to learn, pass classes, and ultimately to earn credits and graduate from high school.

G) Transfer students - Refers to the impact on transfer students of moving from one schedule type to a school with a different schedule type.

I) Standardized test scores - Results of school wide test scores (not included in study).

### **IV. Efficiency Issues**

A) Courses per day - Refers to the number of courses students take each day and the number of courses that teachers teach daily.

B) Students per day - Refers to the number of students that teachers interact with daily.

C) Student/teacher ratios - The average number of students per each teacher in classes.

D) Classes taught annually/credits earned - Refers to the number of courses that teachers teach annually as well as the number of credits that students earn annually.

E) Cost - Refers to the dollar expenditures on an annualized basis for education of each child (not included in study).

## **Instrumentation**

The study incorporates four main data collection venues. These include principal interview, document analysis, student survey, and teacher survey. The principal interview follows the conceptual framework of the model from an administrative viewpoint and allows for elaboration on the part of the principal.

## **Perception Data**

Perceptions of students and teachers on the impact of block scheduling are collected by survey. Survey instruments were constructed to sample attitudes pertaining to each of the elements listed in the model. A six point Likert-type scale was employed in the survey instruments ranging from Strongly Agree (5); to Strongly Disagree (1). A response of No Opinion (6) was placed on the scale as well as a response of No Change (3) as the midpoint of the scale.

In addition, three open-ended questions were placed at the end of the instrument asking for responses to the questions: “What are the best things about block scheduling” worst things about block scheduling”?; and, “Are there issues about block scheduling which are not reflected in this survey, if so, what are they”?

The survey instruments (Appendix A) were field-tested for clarity and meaning by teachers and students at Shawsville High and Middle School in October, 1996. Each item was independently analyzed during the field testing. Unclear or ambiguous items were modified or discarded.

The survey asks respondents to compare the impact of block scheduling by posing the leading question: *When I compare the block schedule to the traditional seven-period day, I find that...*

The teacher survey is included in Appendix B. The student survey is found in Appendix C.

### **School Documentation**

Empirical data were gathered (where available) on a comparison basis to the same data on the traditional schedule. Master school schedules were analyzed to supply current and past teacher/student ratios. Attendance reports from years preceding the implementation of the 4x4 block schedule and those after implementation were utilized to gather attendance rates, etc. The indicators in the model and the corresponding data source analyzed include the table on the following page.

Two items included in the model were not incorporated in the pilot test literature due to the complexity surrounding these issues. The items were the issues of *cost* and *standardized test scores*.

**Table 4. Empirical Data Indicators and Sources**

<b>Model Indicator</b>	<b>Data Source</b>
<b>School climate issues:</b>	
Discipline incidents	school discipline records

<b>Student outcomes:</b>	
Student attendance rates	state attendance reports
Dropout rates	state dropout reports
Student grades	final grade percentages for courses
Advanced placement/dual enrollment	school master schedules
Student absences	state attendance reports
Early graduation	school guidance records
<b>Efficiency issues:</b>	
Courses per day	school master schedule
Students per day	school master schedule
Student/teacher ratios	school master schedule
Credits earned	student cumulative folders

### **Pilot Testing**

The model was tested in three school sites operating on 4x4 (semester) block scheduling. The testing included surveys of teachers and students, interviews with administrators, and collection of empirical data where available.

### **Pilot Sites**

Three high schools were used as the test schools for the implementation of the evaluation model. The criteria for selection as a pilot school included:

1. Years on the block schedule.
2. Cooperation of administration with the study aims and goals.
3. Proximity to the researchers' home school.

In an effort to collect information from students and teachers with varied experience on the block schedule, schools with differing years of experience were included in the study. One school was selected which had three years experience on the 4x4 block schedule; one with two years experience; and one school with one year experience on the block schedule. In addition, each of the schools selected was within one days travel from the researchers' home school and each school promised full cooperation with the researcher.

Permission to conduct the study at each site was obtained with the help of the researcher's major advisor, Dr. Wayne Worner of Virginia Polytechnic Institute and State University. The letter requesting permission (Appendix E) emphasized that while the study would produce an evaluation report for each school, the main purpose of the study was to test the model developed by the researcher.

In school A, which has been on the 4x4 block schedule for three school years, only senior students and those teachers who were employed at the school prior to the implementation of block scheduling were surveyed. School A is a rural school in Southwestern Virginia with a total student population of 765 in grades 8 - 12. Prior to implementation of block scheduling, school A had operated on a seven period per day schedule.

The pilot test at school A took place on February 12, 1997. Three senior level classes were surveyed as well as the faculty. The researcher interviewed the principal and collected available data from school records.

In school B, which has operated on the 4x4 block schedule for two school years, only seniors and juniors were surveyed. School B is a rural high school in Southwestern Virginia with a student population of 185 in grades 9 - 12. Teachers who had been operating on the block

schedule for the two years the school had operated on the block schedule and who had been at the school prior to the implementation were surveyed. Prior to implementation of block scheduling, school B had been operating on a seven-period per day schedule.

The site visit to school B occurred on April 14, 1997 and included survey of 62 seniors and juniors and well as the faculty, data collection; and an interview with the principal.

In school C, which is in its first year of the 4x4 block schedule seniors, juniors, and sophomores were surveyed on February 22, 1997. Teachers who had been at the school prior to the implementation of block scheduling were also surveyed. The principal interview and data collection took place the same day. Additional data collection took place during the next two weeks over the telephone.

School C is a rural high school in Southwestern Virginia with 855 students in grades 9 - 12. The school had operated on a seven-period schedule prior to implementation of the block schedule.

### **Evaluating the Model**

The results of the evaluations were compiled and presented in a report to the principal of each school. The principal was asked to review the results and to assess the adequacy of each component of the evaluation model. The suggestions and criticisms of the principal were then incorporated into the model.

In face-to-face interviews the principals were asked to respond to the following questions:

**1. To what extent did the evaluation help answer the over-riding questions about the impact of block scheduling on instruction, school climate, student outcomes, and operating efficiency?**

\* Do you feel that the survey results reflect a true representation of attitudes toward the block schedule?

\* Did the model document events and present an accurate reflection of those events in relation to the school's move to block scheduling?

\* The student survey relies on comparison judgments made by the students between the two scheduling types. Do you feel that the students are capable of making such comparisons?

\* Are the survey instruments themselves written in an unbiased mode, leaning neither towards or against the block schedule?

\* Does the addition of school-based empirical data (to the extent available) impact the legitimacy of the model? If so, how?

\* Does the model cover the major areas of the school program which are impacted by such an innovation as a schedule change?

\* What areas of impact to the total school program does the model miss?

\* Did the model measure what it was intended to measure, i.e. the impact of the schedule on the school, students, and teachers?

**2. To what extent did the evaluation offer utility and value in deciding the overall impact of block scheduling compared to the single-period schedule in your school?**

\* Was the implementation of the model intrusive (disruptive) to the school program or the school day?

\* Was the implementation carried out in a timely fashion?

**3. To what extent did the evaluation highlight the strengths and weaknesses of block scheduling compared to the single period day?**

\* Did the model produce any surprises to you in the areas of strengths and weaknesses?

\* Do the findings in the report presented to you agree with the data collected by the model?

\* Was the model design appropriate as a vehicle for identifying strengths and weaknesses? How would you change the design to improve or fine-tune it for this purpose?

**4. To what extent did the evaluation help detect potential improvements or refinements to the school schedule or the implementation of block scheduling?**

\* Did the report generated by the model point out any particular areas of the school program that may merit consideration for potential change?

\* Did the model point out any changes in the implementation process of block scheduling that you would suggest for others considering moving to block scheduling?

\* Does the model aide in the improvement of instruction to any degree? If so, how?

\* What additional components would you add to the model to facilitate its use as a vehicle for suggesting corrective actions?

## **CHAPTER 4**

### **RESULTS**

This chapter describes the evaluation of the model by the principals of the test site schools. A brief review of the implementation of the model and the subsequent construction of the final reports precedes the interview results.

#### **Model Implementation**

The model was implemented at each of three test sites between February and April, 1997. The researcher went to each test site and collected data in one day visits. Students were surveyed in classrooms, generally in single-grade subjects such as English and social studies classes. The survey took an average of 20 minutes in the classrooms. The researcher introduced the survey and its purpose and answered any questions from the students prior to its administration.

The teachers were surveyed in faculty meetings held either before or after school. The researcher described the purpose of the study and the instrumentation prior to its administration. The principal was interviewed and documents were gathered and school records were reviewed by the researcher in both the administrative and guidance offices of each school.

The data were analyzed and summary reports were prepared for each school. A copy of each final report is found in Appendix A. The reports were returned to the schools and evaluation interviews with the principals of each school were held in June, 1997. The principals were given a copy of the evaluation standards (chapter 3) and the interview was conducted by the researcher. The results of the interviews follow.

## School A

The principal was interviewed on July 11, 1997.

Question 1: Did the evaluation help answer the over-riding questions about the impact of block scheduling on instruction, school climate, student outcomes, and operating efficiency?

The principal believes that the study gave him good information to help answer the overriding questions about the impact of block scheduling on the school program. He emphasized the results of block on the school climate and stated that the large percentage of students who agreed that the block schedule had allowed their teachers to get to know them better is supportive evidence of his own perception.

He felt that the survey results reflected true attitudes towards the block schedule and that the model had helped document events of the school's move to block scheduling. When asked if he felt that the students were truly able to make comparative judgments between the two schedule types he replied; "Oh, by all means!". He also stated that he believed that the survey instruments were written in an unbiased manner.

The principal agreed that the addition of empirical data to the model added value, yet he stated that it is difficult to "make the comparison" between the two schedule types based on hard data because it was "like comparing apples to oranges". When discussing the question of whether or not the model could aide in the improvement of instruction, the principal concentrated on the student comments about seat time and excessive lecture and said that he thought that he would use that information to help plan in-service on active learning strategies.

At the same time, the principal was pleased that 75% of students agreed that teachers did use more activities on the block and that more time is devoted to instruction on the block

schedule. Once again, he commented that these figures had bolstered what had previously been his suspicions.

Question 2: Did the evaluation offer utility and value in deciding the overall impact of block scheduling compared to the single-period schedule in the school?

The principal believes that the implementation of the model was neither intrusive nor disruptive to the school day and that the model was carried out in a timely fashion. He stated that he believes that the model measured what it was intended to measure.

The principal was asked whether or not the model covered all of the areas it should have covered. He stated that he would have liked to have added some indicators that would have measured the differences in teacher attitudes towards the block schedule during the first years of implementation compared with attitudes developed later on during the third year of implementation. He commented that teacher attitudes towards the block were changing with time, adding that it was the really good teachers who had responded well to the block.

Question 3: Did the evaluation highlight the strengths and weaknesses of block scheduling compared to the single period day?

The principal agreed that the information in the report agreed with the data collected while adding that a significant number of faculty members had not been present during the survey. He pointed out that he had been surprised that the percentage of teachers who preferred the block was low.

The principal believes that the model was “simple enough to be employed” and that it was appropriately designed to identify the strengths and weaknesses of block scheduling. He pointed out that the results supported his own beliefs about the strengths of the block schedule in the following areas:

1. The increase in dual enrollment numbers.
2. An improvement in student grades.
3. An increase in the numbers of students passing classes at the end of the term.
4. The overall improvement in school climate and the reduction of the interruptions through frequent class changes.

Question 4: Did the evaluation help detect potential improvements or refinements to the school schedule or the implementation of block schedule?

The principal stated that he would “have some more in-service” in the areas of active learning strategies. In addition, he indicated that he was in the process of examining the issue of teacher duties in relation to the block schedule.

When asked if he would add additional components to the model he replied that he would add “a few more specific questions for the teachers” to get more details about their expressed areas of concern. He also commented that would like to have had some measure of changes in teacher perception to the block schedule over time.

In regards to the implementation process, the principal stated that he would recommend to others moving to block scheduling that in-service on active learning strategies was very important and that it should be on-going. He stated that overall perceptions had been more positive in the beginning of implementation and that this was in part due to human nature and the tendency of people to find something to blame for their troubles. Once again, he emphasized that it was the good teachers who responded well to the block and the marginal teachers who seemed to complain more about the drawbacks.

**School B**

The principal was interviewed on July 15, 1997.

Question 1: Did the evaluation help answer the over-riding questions about the impact of block scheduling on instruction, school climate, student outcomes, and operating efficiency?

The principal agreed that the model helped answer the overriding questions of the impact of block scheduling on instruction, school climate, student outcomes, and operating efficiency. He commented that the information validated many of his “notions” or “theories” about the impact of the schedule change at the school.

The principal also agreed that the survey results reflected a true representation of attitudes towards the block schedule, and that the model had documented events in relation to the school’s move to block scheduling. When asked whether or not he felt that the students were able to make comparison judgments between the two types of schedules, he answered emphatically in the affirmative. He went on to add that he wished he could tell who had made which comments because he could “validate the comments in order to better understand the respondents needs and what their motivations were”. On the other hand he recognized that by tagging the responses to individuals he may not have gotten such candid remarks.

The principal agreed that the survey instruments were written in an unbiased fashion, adding that the instruments were “one of the major strengths of the study” (model).

The principal agreed that the model would aide him in the improvement of instruction because it “shows the strong and weak points, and we can address those, especially the

Question 2: Did the evaluation offer utility and value in deciding the overall impact of block scheduling compared to the single-period schedule in the school?

The principal agreed that the study offered utility and value while adding that the overall impact of the move to block scheduling was “yet to be determined”. He commented that the model “has the potential to provide that kind of information but that he had not had the time to study the results in enough detail at this time”.

The implementation of the model was not intrusive or disruptive to the school day according to the principal. The study was carried out in a timely fashion, and the model covered the major areas of the school program which were impacted by the change. The principal commented that the model did not miss any major areas and that overall the results presented a “nice picture” of what had occurred and was still occurring at the school.

Question 3: Did the evaluation highlight the strengths and weaknesses of block scheduling compared to the single-period day?

The principal stated that the model was “right on target” in identifying strengths and weaknesses of the block schedule. He stated that he was not surprised per se by the results at all except that he was pleased with the overall satisfaction ratings. He mentioned the following specific areas for further study brought out by the model:

1. The need to expand the school’s offerings of dual enrollment classes.
2. The availability of increasing remediation programs for lower level students.
3. Early release of students and issues raised when discussing this topic.
4. The fact that the block schedule had freed up teacher periods for duties and for movement of some staff positions in an effort to reduce student teacher ratios.

The principal stated that the narrative reflected the data collected and that the main thing he would do to change the model would be to include mechanisms to allow him to get more

detail, “to dig deeper”, in the areas of concern expressed through teacher and student comment sections.

Question 4: Did the evaluation help detect potential improvements or refinements to the school schedule or the implementation of block scheduling?

The principal stated that he knew of no specific areas of refinements other than the inclusion of more assemblies and for the students, “opportunities for students to do other things other than sit in class all day”. He stated that because of the school’s relatively small size that they were pretty much locked into the current program with only room enough for small adjustments.

When asked about suggestions for improvement of the implementation of block scheduling into a school, he suggested that more time be spent on in-service activities, and that additional training was something he would add if he were doing it over again. He discussed the impact of student comments about sitting for long hours and teachers lecturing too much when this issue was raised.

The principal stated that if he would add any components to the model for further refinement, that they would be designed to procure more detailed information about the areas of concern expressed through teacher comments. He repeated his belief that he would like to know who the respondents were, to “better know where they are coming from” without reducing spontaneity of responses.

### **School C**

The principal was interviewed on July 15, 1997

Question 1: Did the evaluation help answer the over-riding questions about the impact of block scheduling on instruction, school climate, student outcomes, and operating efficiency?

The principal agreed that the model was helpful. He stated; “it answered a lot of questions for me...it gave a fairly true picture of the feelings of the people involved”. He stated that he felt that the survey results “somewhat” reflected a true representation of attitudes towards the block schedule. He agreed that the model documented events of the school’s transition to block scheduling.

When asked whether or not he believed that the students surveyed were capable of making comparison judgments he said he had no doubt that they could. He further stated that among the different groups surveyed, he would put more weight on some and less on others. He stated that he believed the survey instruments were written in an unbiased fashion. He commented specifically on the impact of the block on the school’s climate and on the changes the new schedule was bringing to instructional styles of teachers. He stated that the survey results had supported his initial perceptions in these areas.

The principal agreed that the addition of empirical data had added to the legitimacy of the model’s results. He alluded to the fact that the master schedules with class sizes had not been secured for the researcher and yet added that he thought the results represented a “true picture” of what had happened as the school moved to block scheduling.

Question 2: Did the evaluation offer utility and value in deciding the overall impact of block scheduling compared to the single-period schedule in the school?

The principal stated that the model has provided him with information about where improvements can be made to the block schedule. He further stated that the school was

committed to the program and that the study had proved valuable in helping determine that they were on the right track.

When asked if the study was intrusive he replied ' "heavens no!"'. He believed that it had been carried out in a timely fashion and that the model covered the major areas of impact on the school program. He stated that he was most interested in the perceptions of the students, and that the model measured what it was intended to measure.

Question 3: Did the evaluation highlight the strengths and weaknesses of block scheduling compared to the single period day?

The principal responded initially with the statement that the model, "gives you an indication of what is and what is not really happening out there". He believes that the data reflect an increase in the use of varied instructional strategies by the teachers but that some teachers were easier to train to this than others. He stated that, in general, teachers with five or six years experience were doing a better job of adjusting to this than those with many years experience.

He said that the model produced no real surprises in the area of strengths and weaknesses and that the report agreed with the data collected. When asked how he would fine-tune the model he stated that he would have added a parent survey, but that he knew how difficult that would be. During this discussion, the principal alluded to some areas he thought the school would concentrate on in the future.

1. increasing dual enrollment.
2. the need to provide more for the lower level students in the way of remediation and active learning strategies. He stated that the block had provided him with more teaching periods to make this a reality. He discussed a ninth grade remediation program that he had implemented largely as a result of freed up teaching periods.

In addition, the principal mentioned that the model had validated many of his perceptions about the impact of the block schedule on the school. He specifically mentioned the following areas:

1. A dramatic improvement in school climate.
2. An increase in the use of active learning strategies by teachers.
3. An overall improvement in student grades and the percentages of students passing classes at the final mark.

Question 4: Did the evaluation help detect potential improvements or refinements to the school schedule or the implementation of block schedule?

The principal stated that they had decided to change from the spilt-block AP English and government classes, but that they would be keeping these in band and choir. He also said that he identified some problems with the lower level classes and the manner in which time was spent in these classes.

He discussed the use of teacher duty periods, saying that he only used teachers once a month for a week on lunch duty and that he would stay with that arrangement.

The principal discussed the teacher comments about the lack of planning and preparation time and stated that they had the majority of 90 minutes planning daily.

When asked about implementation suggestions for others moving to block scheduling, the principal stated that he would recommend “really looking hard at the lower level classes...provide a sort of safety net that they could fall into if they fell through the cracks”.

## CHAPTER 5

### SUMMARY AND CONCLUSIONS

The purpose of the study was to develop and test a block scheduling evaluation model. Conceptual development of the model utilized a review of the literature and focused on identifying the components of the school program most consistently identified with scheduling type. The components included in the framework include instruction, school climate, student outcomes, and operating efficiency.

Data collection instruments were developed which are consistent with the identified components of the educational program. The instruments were piloted and refined for use in the test schools. Three test schools were selected and the evaluation model was implemented at each site. The model design included four major data collecting components.

1. Interview with the pilot school principal
2. Collection and analysis of documents
3. Survey of the students
4. Survey of the teachers

The data were collected and summarized for each test school. The summaries were returned to the principals of the schools for review.

Standards for evaluation of the model were adapted from the Standards for Evaluations of Educational Programs, Projects, and Materials (1981). The model was tested for its overall effectiveness, its utility and value, its ability to identify strengths and weaknesses, and its ability to point out refinements or changes to the program. The results from the test sites were subjected to

analysis based on the four evaluation standards by both the researcher and the principals of the pilot schools in the study.

### **Effectiveness of the Model**

**To what extent did the evaluation help answer the over-riding questions about the impact of block scheduling on instruction, school climate, student outcomes, and operating efficiency?**

The principals agree that the model is an effective tool to help determine the impact of the block schedule on instruction, school climate, student outcomes and operating efficiency.

The principals believe that the instrumentation is appropriately designed to gather information on each of the identified components of the school program. One of the principals commented that one of the strengths of the study is the unbiased writing of the survey items.

The principals believe that the survey results reflect a true representation of attitudes towards block scheduling. In addition, they are completely confident that the students are capable of making comparison judgments between the two schedule types as required in the student survey.

Each principal stated that the model gave a clear picture of the impact of block scheduling on the school. They typically commented that the model gave a clear indication of “what was going on out there”. The principals report that the model covers the major areas of impact to the school program. One principal suggested that the model include parent surveys. Another suggested that the model should include indicators in the area of teacher duty assignments on the block schedule.

The researcher reports that the collection of school-based empirical data was hindered by the availability of master schedules with course loads from years prior to the implementation of block scheduling. This negatively impacted the completion of pre and post block scheduling information on the numbers of dual-enrollment students, student-teacher ratios, and the numbers of students that teachers contacted on a daily basis.

### **Utility and Value of the Model**

**To what extent did the evaluation offer utility and value in deciding the overall impact of block scheduling compared to the single-period schedule in your school?**

The principals report that the model implementation is neither disruptive or intrusive. The one-day administration of the instruments to students and teachers and the follow-up interview with the researcher are perceived as minimally taxing on the principal and the schools' time resources.

The final reports came back to the principals in a timely fashion. Each of the principals commented that the reports were concise and contained both clear summaries and supporting documentation.

The data collection was completed in one day site visits. The principal interview and document analysis was made between visits to classrooms for survey administration. Teachers were surveyed in faculty meetings either prior to the school day or in the afternoon. Data analysis was accomplished by hand tabulation of survey and comment results. The researcher believes that while optical scan equipment would have increased the speed of tabulation, the familiarity of the researcher with the data would have been compromised.

### **Ability to Identify Strengths and Weaknesses**

**To what extent did the evaluation highlight the strengths and weaknesses of block scheduling compared to the single period day?**

The principals report that the model is effectively designed to identify the strengths and weaknesses of block scheduling. All three principals commented on the overwhelming student reaction; that students love the reduction in daily classes and the idea of getting them over with in one semester, but they HATE sitting through a 90 minute class.

Each principal expressed interest in the responses to the open-ended questions which asked about the strengths and weaknesses of block scheduling. During the interview, two of the three principals stated that the feedback from the comments merited serious attention. The third stated that the comments indicated that he needed to plan specific teacher in-service activities for the next school year.

The researcher reports that the commonality of student and teacher comments to the open-ended questions, “*What is the BEST thing about block scheduling?*”, and; “*What is the WORST thing about block scheduling?*” indicate that the data represent true and accurate reflections of students and teachers to block scheduling. The researcher tabulated the student and teacher comments according to comment composition. The responses led the researcher to place high validity in the assertion that the model was effective in determining the strengths and weaknesses of block scheduling.

### **Ability of the Model to Detect Improvements or Refinements**

**To what extent did the evaluation help detect potential improvements or refinements to the school schedule or the implementation of block scheduling?**

The principals agree that the model is effective at detecting potential improvements or refinements to the school schedule as indicated by the high frequency of responses to this question during the evaluation interview.

As an example, potential areas of change in the various schools detected through the model include:

1. increased in-service in the area of active learning strategies, both during implementation and as maintenance in-service;
2. reduction in the use of split-block classes;
3. an increase in remediation courses for lower level students;
4. an increased emphasis needed on dual-enrollment courses, and;
5. analysis of teacher duty assignments.

The principals state that the model helped them identify areas of improvement that they would suggest to other schools thinking about implementing block scheduling. One principal stated that he would place more of an emphasis on preparing a “safety net” for slower learners through remediation and testing--re-testing strategies. One suggested that he would focus on spending more time on in-service concerning active learning strategies.

The quantity and specificity of the principals responses to this evaluation standard showed that the results of the model would provide the principals and their staff with needed feedback for analysis in the future. One principal commented that the “final results were not in yet”, but that the data provided by the model was an important “springboard” for further study.

## **Revision of the Model**

The evaluation of the model effectively points out areas of improvement for future implementation. These include improvements in instrumentation and data analysis, inclusion of indicators for specific concerns of teachers and administrators, and the expansion of data collection techniques.

**Improvements in instrumentation** are dictated by the need for more detailed information in the area of teacher concerns about the block schedule. Each of the principals interviewed expressed a desire for more in-depth information from the teachers when discussing the impact of duty periods and the perceived increase in planning required by the block schedule.

The instrumentation will be expanded to query teachers about specific concerns as reflected in the teacher comment section of the school reports. Teachers will be asked to prioritize the degree of difficulty of teacher daily lesson planning, providing students feedback, inclusion of active learning strategies, obtaining materials, and unit planning. Teachers will also be asked to compare the level of difficulty of these areas compared to the same areas on the seven-period day.

**Improvements in data analysis** will center on technological aspects of data collection and analysis. Data analysis for future implementation will utilize optical scanning of all surveys as well as a more detailed comment analysis built on a framework developed from the test cases. Teacher comments will be categorized according to years experience on the block schedule, grade level of courses, years experience of the teacher, and education level of the teacher. In addition, a project is underway to collect survey input from teachers across the country based on a response survey posted on the world-wide web.

**Inclusion of other indicators** are needed to expand the understanding of the impact of block scheduling on the school programs and student learning. *Standardized test scores* from schools using varied schedule types will be examined and tracked in future model implementation. In addition, a *cost analysis* component will be included in future applications of the model.

**Expansion of data collection techniques** was identified as an area for improvement of the model by the evaluation. The revised model will include *systematic observation* as an additional data collection component to compliment and expand on the existing principal interview, document analysis, student survey, and parent survey.

The research suggests that observation by a team of trained professionals would provide information on the implementation of varied instructional strategies in block schedule classes. While teachers have stated that they are increasing their use of varied instructional strategies, classroom observation over a two to three day period is needed to ascertain the degree to which this is actually occurring in the classroom. The overwhelming student responses concerning boredom and seat time highlight the need for this type of data collection.

*Parent surveys* will be incorporated into the model for future implementation. Parent opinions on the impact of block scheduling on their students will focus on topics such as student-teacher relationships, difficulty in scheduling, expansion of credit earning potential, perceived increases in student learning, impact on student stress levels, and impact on extra-curricular activities. Parents will be selected at random and mailed surveys at each site in future implementations of the model.

*Document collection* techniques will be enhanced and expanded in future model implementations. The researcher will utilize an extensive search of student records and past

master schedules to determine the impact of block scheduling on teacher daily student contacts, student/teacher ratios, and the numbers of students enrolled in dual-enrollment courses. This data collection will also be expanded to include a study of increased credit earning potential of students on the block schedule and how this impacts the school program.

### **Epilogue**

In review, the researcher sees the necessity of critiquing the data collection phase of the evaluation of the block scheduling model. The study incorporates the collection of empirical data on several indicators revolving around efficiency issues and student outcomes. The lack of such data at the site schools hindered the complete application and thus the complete evaluation of the model.

The availability of these data are vital to a complete evaluation of block scheduling as stated in the introduction to the paper. Future applications of this model or any subsequent model must be designed and carried out so that these data are made available to the researcher. An example of such information can be assessed on the internet at the researchers home school site <http://www.bev.net/education/schools/shms>.

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**APPENDIX A**  
**FINAL SCHOOL REPORTS**

**Semester Block Scheduling Evaluation  
Report**

**School A, 1997**

**Prepared as partial fulfillment of requirements  
for Doctorate in Education Degree**

**for Virginia Polytechnic Institute and State University**

**William Paul Fletcher, Jr.**

## **Introduction**

On February 12, 1997, an evaluation model of block scheduling was pilot tested at School A. The model included surveys of faculty, senior students, and an interview with the principal, as well as data collection through various school and student records.

The model was constructed around current themes present in the literature on block scheduling and is divided into the impact of the block schedule on instruction, school climate, student outcomes, and operating efficiency. Furthermore, the model was designed to compare the impact of the semester block schedule with that of the traditional seven period day.

## **The Study**

The faculty was surveyed during a faculty meeting on February 12, 1997. Thirty eight (38) teachers completed the survey instrument. The responses of the faculty are found in Appendix A. Summary comments and specific samples to the open-ended questions included on the survey are also attached.

The student surveys were conducted employing only senior students who could compare the semester block schedule to the seven-period day which they operated on during the 1994-93 school year as freshmen. Of the 157 seniors in the school, 63 were surveyed through English 12 and U.S. Government classes in blocks 3 and 4. A compilation of student responses to the survey as well as a summation of student comments is included in Appendix B.

## **The Results**

### Instructional Issues:

The principal stated that the compelling reason to move to block scheduling was improvement of instruction and the academic atmosphere. The principal believes that the teachers have increased the use of varied instructional strategies and that their instruction has improved under the block schedule. Thirty-seven (37) percent of the both students and teachers believe that instruction has improved on the block schedule.

A majority of students and teachers agree that teachers have increased their use of varied instruction strategies. Students also agree that block classes are more interesting. They disagree however, that teachers use less lecture in block classes and many student comments reflected this belief.

Both students and teachers believe that the block classes help teachers individualize instruction. In addition, students state that they have more opportunity to get involved in class discussions. Teachers agree that the block classes allow them to complete the learning cycle in a given class period, and both groups strongly agree that the block schedule reduces time lost to instruction. Neither group believes that the block classes impair continuity of instruction, and neither group thinks that the block classes aggravate problems associated with teacher absences.

- 75% of students strongly agreed with the statement: *Teachers use more activities on block scheduling.*
- 68% of students disagreed when asked if their teachers use less lecture on the block schedule.
- 60% of teachers agreed that the block had allowed them to increase their use of varied instructional practices.
- Fifty percent (50%) of the teachers believe that block scheduling has helped them to increase individualization of instruction.
- Students responded to a survey item (*I find I have more opportunity to get involved in class discussions*) with 52% in agreement.
- 58% of teachers agreed that block classes allow them to complete the learning cycle in one lesson.
- 42% of teachers agree that block scheduling reduces time lost to instruction.
- Seventy-five percent (75%) of students agreed with the statement: *More class time is devoted to instruction on block scheduling.*

### School Climate Issues

Researchers claim that the block schedule improves school climate by reducing discipline rates and by promoting better relationships between teachers and students. The principal and a majority of teachers believe that the block schedule has helped reduce discipline incidents, while student responses were ambiguous on this issue. A large majority of students feel that student-teacher relationships have improved on the block while only 30% of teachers agree with the same statement.

- Seventy percent (70%) of students agreed that: *Block scheduling has helped my teachers get to know me better.*

### Student Outcomes

Many researchers use student outcome measure such as grades, dropout rates, attendance rates, student motivation perceptions, and numbers of advanced placement students as measures to show changes under the block schedule. The students at School A strongly agree that finishing a class in half a year is a plus. In addition, 50% of students agreed with an item that states that block scheduling has helped students focus on graduation from high school.

A majority of students believe that their grades have improved while the teachers believe that there has been little change in student grades. The principal states that not only have grades improved, but honor roll rates increased on the block schedule. In addition, the numbers of

students earning dual enrollment credits has increased on the block schedule while neither group believes that advanced placement test scores have improved.

Both students and teachers agree that neither attendance or drop-out rates have been impacted by the block school. They both agree, however, that the schedule has made it more difficult for students to complete make-up work, and that the schedule increases problems related to transfer students.

- Ninety-two percent of students agreed with the statement: *One of the best things about block scheduling is the chance to finish a class in half a year.*
- Both students and teachers believe that attendance rates have not been impacted by the block schedule (57% and 34% respectively).
- When it comes to make-up work, 50% of the teachers agreed that block scheduling has made it harder for students to complete make-up work while 59% of the students agreed with a similar statement.
- Data from the Virginia Outcome Accountability Project shows that the dropout rate has declined under the block schedule. The dropout rate between 94-95 and 95-96 has averaged 2.5%, while dropout rates from the four school years previous to the implementation of block scheduling averaged 4.5%.
- Fifty-four percent (54%) of students agreed that their grades have improved on the block schedule.
- A significant number of students (44%) believe that block scheduling has led to an increase in enrollment in dual-enrollment courses.
- 50% of students agreed with an item that states that block scheduling has helped students focus on graduation from high school.

#### Operating Efficiency

Students believe that the block schedule has reduced their homework loads and that they have fewer teachers to deal with regularly. Both students and teachers agree that students are earning more credits on the block schedule. A review of student transcripts showed that the average ninth grader earned 6.08 credits before the block schedule was implemented compared with 7.23 credits after implementation.

Neither students or teachers believe that the block schedule impacted student-teacher ratios. Teachers agree that they are teaching more classes annually and that there has been no reduction in their daily preparations.

● 71% of teachers disagreed with a statement that block scheduling had reduced their daily preparations.

● 65% of students agree that their homework load has been reduced on the block schedule and 50% of teachers concur with this opinion.

● Seventy-three percent (73%) of students agree that they are earning more credits under the block schedule and 68% of students agree that block scheduling makes it easier to re-take failed courses. A review of student records comparing the 9th grade class of 93-94 to the ninth grade class of 94 - 95 (first year on block scheduling) shows that the average freshman on the traditional seven-period day earned 6.08 credits while the average freshman on the block schedule earned 7.22 credits.

### **Overall Satisfaction**

Fifty-five percent (55%) of teachers agreed with the statement “*I prefer block scheduling to the traditional seven period day*”. Ten percent (10%) said that there was no change and 24% disagreed with the statement.

Among the students, 75% said that they prefer block scheduling to the traditional seven-period day, and 55% agreed with the item; “*our school is a better school on the block schedule*”.

## Appendix A--I: School A Teacher Responses

### Block Scheduling Teacher Survey: School A Results

N = 38. All data reflect percent of total responses

**When I compare the block schedule to the traditional seven-period day, I find that...**

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
1. Block scheduling has allowed me to increase my use of varied instructional practices.	8	11	24	34	26	
2. Block classes provide enough time for each individual student to learn.	3	11	29	37	18	3
3. Block scheduling has allowed me to increase individualization of instruction.	3	24	24	37	13	
4. Block classes allow me to complete the learning cycle in an individual class session.	3	11	26	47	11	3
5. Block classes reduce time lost to instruction.	13	16	18	29	13	8
6. Block scheduling has improved student attendance.	11	18	24	13	5	34
7. Block scheduling has decreased the dropout rate.		3	13	5	3	18
8. Block scheduling has reduced discipline incidents.	8	13	29	32	16	13
9. Block scheduling has improved student grades.	8	8	39	16	3	18
10. Block scheduling has improved AP scores.	5		11	3	76	
11. Block scheduling has increased dual enrollment.		5	8	24		68
12. Block scheduling has reduced my daily preparations.	42	29	5	18	8	
13. Block scheduling has reduced the number of students I work with daily.	11	16	3	42	32	
14. Block scheduling has increased the number of classes I teach annually.	8	5	16	24	42	
15. Block scheduling has reduced student homework loads.	3	18	11	37	13	18

	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 No Change</b>	<b>4 Agree</b>	<b>5 Strongly Agree</b>	<b>6 No Opinion</b>
16. Block scheduling has increased the number of credits students earn.		<b>8</b>	<b>8</b>	<b>42</b>	<b>32</b>	<b>8</b>
17. Block scheduling has increased the opportunity for students to re-take failed courses.	<b>3</b>		<b>3</b>	<b>76</b>	<b>21</b>	
18. In-service on active learning strategies is very important for proper implementation of block scheduling.	<b>3</b>	<b>3</b>	<b>8</b>	<b>58</b>	<b>24</b>	<b>5</b>
19. Block scheduling has decreased student/teacher ratios.	<b>21</b>	<b>29</b>	<b>11</b>	<b>21</b>	<b>5</b>	<b>13</b>
20. Block scheduling has had a negative impact on student learning in sequential classes such as foreign language and math.	<b>3</b>	<b>5</b>	<b>3</b>	<b>29</b>	<b>13</b>	<b>45</b>
22. Block scheduling has had a negative impact on performance classes (music, art, drama).		<b>8</b>	<b>5</b>	<b>16</b>	<b>18</b>	<b>50</b>
23. Block scheduling has increased the problems associated with transfer students.		<b>8</b>	<b>8</b>	<b>42</b>	<b>8</b>	<b>34</b>
24. Block scheduling has made it harder for students to complete make-up work.	<b>3</b>	<b>16</b>	<b>29</b>	<b>34</b>	<b>16</b>	<b>3</b>
25. Block scheduling reduces rates of student retention of information.		<b>18</b>	<b>26</b>	<b>13</b>	<b>5</b>	<b>37</b>
26. Block scheduling has led to an increase in student boredom.	<b>5</b>	<b>21</b>	<b>32</b>	<b>29</b>	<b>11</b>	<b>5</b>
27. Block scheduling has increased the problems associated with the use of substitute teachers.	<b>5</b>	<b>8</b>	<b>32</b>	<b>29</b>	<b>5</b>	<b>18</b>
28. Block scheduling has helped students focus more on earning credits towards graduation.		<b>13</b>	<b>26</b>	<b>26</b>	<b>3</b>	<b>32</b>
29. My instruction has improved as a result of block scheduling.	<b>8</b>	<b>8</b>	<b>42</b>	<b>26</b>	<b>11</b>	<b>5</b>
30. Block scheduling has improved student learning.	<b>5</b>	<b>21</b>	<b>37</b>	<b>24</b>	<b>8</b>	<b>5</b>
31. I prefer block scheduling to the traditional seven period day.	<b>11</b>	<b>13</b>	<b>11</b>	<b>32</b>	<b>24</b>	<b>3</b>
32. Block scheduling has improved the quality of student/teacher relationships.	<b>13</b>	<b>8</b>	<b>50</b>	<b>24</b>	<b>5</b>	

33. The BEST thing about block scheduling compared to the traditional seven-period schedule is:  
See attached comments.

34. The WORST thing about block scheduling compared to the traditional seven-period schedule is:

See attached comments.

35. Are there issues concerning the impact of the block schedule on the school which are not reflected in this survey? If so, what are they?

See attached comments.

**School A Block Scheduling Survey**  
**Comment Analysis: Teacher**

Survey Question: The BEST thing about block scheduling compared to the traditional seven-period schedule is:

Comment numbers:

Fewer classes (for teachers)	6
Time on task and lab time	7
Vary instructional methods, complete cycle	7
Time saved by lessened startups, etc.	4
Single semester classes	3
Fewer students	2

Specific Examples:

- Young students are able to keep track of 4, rather than 6 or 7 classes.

Survey Question: The WORST thing about block scheduling compared to the traditional seven-period schedule is:

Comment numbers:

Lack of continuity	5
Less class time	5
Planning time lacking	8
The need to “push” classes	4
Student boredom	3
Longer preparation time	5
Club time reduced	3

Specific Examples:

- Less continuity for those students who must skip a semester.
- Not as much linear time on subject matter, have lost a project within each class.

- Time to vary instructional methods, complete the process... simulations, group projects, gaming techniques, etc.
- Fewer number of classes each day.
- Fewer papers to grade.
- More instructional time in shop/lab classes.
- Having fewer students at one time.
- The ability to add more variety to instruction.
- You have the time to start a task and most likely finish it without re-teaching the next day.
- Working with 70-90 students at a time rather than 120-140.
- Kids can see the end in sight.

- Not enough planning time.
- Long preparation time.
- Not as much down time, class time is always on-task.
- If a teacher is not prepared, 90 minutes is a long time to fill.
- Not seeing club officers on a regular basis.
- Teachers continue to teach in the same traditional way, student boredom.
- Not enough time to plan and keep up.
- Can't cover enough material.
- Students are rushed through material.
- Less time to teach the subject. 90 day sem. X 90 min. = 135 hr.  
180 day yr. X 52 min. = 150 hr.

**School A Block Scheduling Survey**  
**Comment Analysis: Teacher**

Survey Question: Are there issues concerning the impact of the block schedule on the school which are not reflected in this survey? If so, what are they?

Specific Comments:

- More money for materials.
- Planning time usually does not increase.
- Not enough electives.
- Clubs, activities are interrupted.
- Special needs students.
- Students completing graduation requirements too early
- Lower level/special education students have attendance problems and get behind

## Appendix A--II: School A Student Responses

### Block Scheduling Student Survey: School A Results

N = 63. All data reflects percent of total responses.

**When I compare block scheduling to the traditional seven period day, I find that...**

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
1. Teachers use more activities on block scheduling.		5	17	62	13	
2. Having substitute teachers is more difficult on block scheduling.	6	30	40	17	2	3
3. Teachers do a better job of understanding my own individual needs.	2	5	30	51	8	3
4. It is harder to schedule classes like French I and French II back-to-back.	11	19	16	17	6	27
5. More class time is devoted to instruction on block scheduling.		5	16	56	19	3
6. My attendance has improved on block scheduling.	10	10	57	13	8	2
7. The dropout rate has decreased on block scheduling.	5	11	11	14	2	87
8. Our school is a better school on block scheduling.	3	8	13	38	17	14
9. Block scheduling has helped my teachers get to know me better.		13	16	54	14	2
10. My grades have improved on block scheduling.	3	6	33	32	22	2
11. Block scheduling has improved our schools Advanced Placement scores		5	8	19	6	62
12. Block scheduling makes it harder to make-up work after an absence.	5	13	21	27	32	2
13. Block scheduling has reduced my homework load.	5	13	16	30	35	
14. Block scheduling reduces the number of teachers I work with daily.			3	52	43	
15. Block scheduling has increased the number of credits I earn each year.		2	13	32	41	6
16. Block scheduling has decreased class sizes.	5	25	48	6	3	11

	1 Strongly Disagree	2 Disagree	3 No Change	4 Agree	5 Strongly Agree	6 No Opinion
17. With block scheduling, I find that I have more opportunity to get involved in class discussions.		10	33	27	10	3
18. Block scheduling has reduced discipline problems.	5	11	44	11		29
19. Block scheduling is harder on transfer students.	2	5	6	17	6	48
20. Block scheduling has increased dual enrollment in college classes at my school		2	3	37	8	32
21. Block scheduling has made my classes more interesting.	3	10	30	49	6	
22. Block scheduling makes school a more enjoyable place to be.	17	11	38	20	5	6
23. Block scheduling has helped me focus on my graduation from high school.	2	8	35	35	14	3
24. My teachers have reduced the amount of lecture they use in class.	17	51	22	2	5	
25. I prefer block scheduling to the traditional seven (six, or eight) period day.	10	10	3	35	40	
26. Block scheduling helps some students more than others.		2	5	68	13	10
27. Block scheduling has made it easier to re-take failed courses.	2	3		38	30	25
28. One of the best things about block scheduling is the chance to finish a class in half a year.		2	2	52	40	3
29. Block scheduling has improved my teachers' instruction.		8	52	32	5	2
30. Block scheduling has improved my understanding of the concepts taught.	3	5	32	46	3	10

31. What is the *best* thing about block scheduling?

See attached comments.

32. What is the *worst* thing about block scheduling?

See attached comments.

33. Are there issues concerning block scheduling which are not reflected in this survey? If so, what are they?

See attached comments.

**School A Block Scheduling Survey  
Comment Analysis :Student**

**Survey Question: What is the best thing about block scheduling?**

Comment numbers:

Less homework	17
Four classes	12
More shop time	3
8 credits yearly	8
New classes/semester	8
Better comprehension	5

**Specific examples:**

- Getting the extra credit and getting it all with.

**Survey Question: What is the worst thing about block scheduling?**

Comment numbers:

Boring/long classes/sitting too long	48
Absences/make-up work	3
Lecture	2

**Specific Examples:**

- Hour and a half of solid learning.

- Because I was lazy in earlier years I fell behind and because of block scheduling I caught back up.
- Short years
- More time to do “homework” in class.
- It makes it easier for teachers to help us through sections that are harder to understand.
- More in depth coverage since the 90 minutes is allocated each day.
- Less homework
- I like changing classes at the end of the semester.

- Harder to take SAT’s if you haven’t been refreshed.
- Making up work after absences.
- Ya, it gets rather boring at times
- One and one half hour lectures from teachers who bore me.
- Long classes.
- Teachers still lecture for the whole time.
- Some classes aren’t as interesting and therefore 90 min. can seem like an eternity.

## **School A Block Scheduling Survey**

### **Empirical Data Summary**

1. Data from the Virginia Outcome Accountability Project suggests that the dropout rate has declined under the block schedule. The dropout rate between 94-95 and 95-96 has averaged 2.5%, while dropout rates from the four school years previous to the implementation of block scheduling averaged 4.5%.

2. A review of student records comparing the 9th grade class of 93-94 to the ninth grade class of 94-95 (first year on block scheduling) shows that the average freshman on the traditional seven-period day earned 6.08 credits while the average freshman on the block schedule earned 7.22 credits.

**Semester Block Scheduling Evaluation  
Report**

**School B, 1997**

**Prepared as partial fulfillment of requirements  
for Doctorate in Education Degree**

**for Virginia Polytechnic Institute and State University**

**William Paul Fletcher, Jr.**

## **Introduction**

On April 14, 1997, an evaluation model of block scheduling was pilot tested at School B. The model included surveys of faculty and students, as well as interview with the principal. Data collection through various school and student records was also employed.

The model was constructed around current themes present in the literature on block scheduling and is divided into the impact of the block schedule on instruction, school climate, student outcomes, and operating efficiency. Furthermore, the model was designed to compare the impact of the semester block schedule with that of the traditional seven period day.

## **The Study**

The faculty was surveyed during a faculty meeting held in the library before school. Twenty two (22) teachers completed the survey instrument. The responses of the faculty are found in Appendix A. Summary comments and specific samples to the open-ended questions included on the survey are also attached.

Seniors, and juniors were surveyed through English and Social Studies classes. All of the students who were surveyed could compare the block schedule to the seven period day previously employed during the 1994-95 school year. Of the total population of 185 high school students, 62 students were surveyed (65% of the juniors and seniors). A compilation of student responses to the survey as well as a summation of student comments is included in Appendix B.

## **The Results**

### Instructional Issues:

The principal stated that the majority of teachers have increased the use of varied instructional strategies and that their instruction has improved under the block schedule. Fifty percent (50%) of students believe that instruction has improved on the block schedule while 65% of teachers believe that their instruction has improved on the block schedule.

In addition, a majority of both students and teachers believe that the block schedule has allowed teachers to increase the use of varied instructional strategies, increase individualization of instruction, and increase instructional time. Teachers also report that the block schedule has increased their ability to complete the learning cycle in one class period.

- 71% of students agreed or strongly agreed with the statement: *Teachers use more activities on block scheduling.*
- 85% of the teachers believe that block scheduling has helped them to increase individualization of instruction.
- 80% of teachers agreed with the statement: *Block classes provide enough time for each individual student to learn.*

- 84% of teachers agreed that block classes allow them to complete the learning cycle in one lesson.
- A large number of students at School B commented that scheduling back-to-back classes was harder on block scheduling.
- 70% of teachers agree with the survey item *Block scheduling reduces time lost to instruction.*
- 71% of students agreed with the statement: *More class time is devoted to instruction on block scheduling.*

#### School Climate Issues:

Researchers claim that the block schedule improves school discipline rates by reducing the general activity of the school through a reduction in class changes, and that it promotes better relationships between teachers and students. The teachers and students agree that the schedule has improved the quality of teacher-student relationships, but they report no change in discipline rates.

- 56% of students agreed that: *Block scheduling has helped my teachers get to know me better.*

#### Student Outcomes:

Many researchers use student outcome measure such as grades, dropout rates, attendance rates, student motivation, and numbers of advanced placement students as measures to show changes under the block schedule. Both students and teachers at School B agree that the block schedule has improved student grades and student motivation. With some minor variation, both groups agree that student attendance rates and dropout rates have not been impacted by the new schedule.

- 92% of students agreed with the statement: *One of the best things about block scheduling is the chance to finish a class in half a year.*
- 53% of students agreed that their grades have improved on the block schedule while 50% of teachers believe that student grades have improved on the block schedule.
- 45% of students agreed with an item that states that block scheduling has helped students focus on graduation from high school.

#### Operating Efficiency:

The principal believes that the block schedule is clearly a more efficient way to operate the school. Teachers and students agree that students are earning more credits but disagree that student-teacher ratios have decreased. Teachers report that while the number of daily classes has decreased, the number of annual preparations has not necessarily decreased. A majority of both students and teachers believe that student homework loads have been reduced.

- 45% of teachers disagreed with a statement that block scheduling had reduced their daily preparations.
- 61% of students believe that block scheduling has reduced their homework loads. Sixty-five percent (65%) of teachers agreed with a similar item.
- 50% of teachers agree with a statement that block scheduling has reduced student/teacher ratios.
- 89% of students agree that they are earning more credits under the block schedule.

**Overall Satisfaction:**

Seventy-five percent (75%) of teachers agreed with the statement *“I prefer block scheduling to the traditional seven period day”*.

Among the students, 76% said that they prefer block scheduling to the traditional seven-period day, and 58% agreed with the item; *“our school is a better school on the block schedule”*.

## Appendix A--III: School B Teacher Results

### Block Scheduling Teacher Survey: School B Results

N = 22. All data represent percent of total responses.

**When I compare the block schedule to the traditional seven-period day, I find that...**

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
1. Block scheduling has allowed me to increase my use of varied instructional practices.			<b>9</b>	<b>41</b>	<b>36</b>	
2. Block classes provide enough time for each individual student to learn.		<b>5</b>	<b>9</b>	<b>23</b>	<b>50</b>	
3. Block scheduling has allowed me to increase individualization of instruction.			<b>18</b>	<b>27</b>	<b>41</b>	
4. Block classes allow me to complete the learning cycle in an individual class session.			<b>14</b>	<b>36</b>	<b>36</b>	
5. Block classes reduce time lost to instruction.			<b>23</b>	<b>50</b>	<b>14</b>	
6. Block scheduling has improved student attendance.		<b>5</b>	<b>32</b>	<b>36</b>		<b>18</b>
7. Block scheduling has decreased the dropout rate.		<b>9</b>	<b>36</b>			<b>41</b>
8. Block scheduling has reduced discipline incidents.		<b>9</b>	<b>41</b>	<b>14</b>	<b>23</b>	<b>5</b>
9. Block scheduling has improved student grades.			<b>27</b>	<b>36</b>	<b>9</b>	<b>18</b>
10. Block scheduling has improved AP scores.		<b>5</b>	<b>14</b>	<b>9</b>	<b>5</b>	<b>55</b>
11. Block scheduling has increased dual enrollment.		<b>5</b>	<b>27</b>	<b>5</b>		<b>50</b>
12. Block scheduling has reduced my daily preparations.	<b>9</b>	<b>32</b>	<b>9</b>	<b>18</b>	<b>23</b>	
13. Block scheduling has reduced the number of students I work with daily.		<b>5</b>	<b>18</b>	<b>27</b>	<b>41</b>	
14. Block scheduling has increased the number of classes I teach annually.	<b>9</b>		<b>27</b>	<b>32</b>	<b>23</b>	
15. Block scheduling has reduced student homework loads.		<b>9</b>	<b>23</b>	<b>50</b>	<b>9</b>	

	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 No Change</b>	<b>4 Agree</b>	<b>5 Strongly Agree</b>	<b>6 No Opinion</b>
16. Block scheduling has increased the number of credits students earn.				<b>32</b>	<b>55</b>	<b>5</b>
17. Block scheduling has increased the opportunity for students to re-take failed courses.		<b>5</b>	<b>14</b>	<b>41</b>	<b>27</b>	<b>5</b>
18. In-service on active learning strategies is very important for proper implementation of block scheduling.		<b>5</b>		<b>45</b>	<b>41</b>	
19. Block scheduling has decreased student/teacher ratios.		<b>9</b>	<b>18</b>	<b>32</b>	<b>14</b>	<b>14</b>
20. Block scheduling has had a negative impact on student learning in sequential classes such as foreign language and math.		<b>23</b>	<b>5</b>	<b>23</b>		<b>36</b>
22. Block scheduling has had a negative impact on performance classes (music, art, drama).	<b>9</b>	<b>18</b>	<b>9</b>		<b>5</b>	<b>45</b>
23. Block scheduling has increased the problems associated with transfer students.		<b>5</b>	<b>9</b>	<b>23</b>	<b>23</b>	<b>27</b>
24. Block scheduling has made it harder for students to complete make-up work.		<b>9</b>	<b>41</b>	<b>23</b>		
25. Block scheduling reduces rates of student retention of information.		<b>41</b>	<b>36</b>	<b>5</b>	<b>5</b>	<b>5</b>
26. Block scheduling has led to an increase in student boredom.	<b>5</b>	<b>32</b>	<b>18</b>	<b>32</b>		<b>5</b>
27. Block scheduling has increased the problems associated with the use of substitute teachers.		<b>9</b>	<b>27</b>	<b>32</b>		<b>23</b>
28. Block scheduling has helped students focus more on earning credits towards graduation.		<b>5</b>	<b>27</b>	<b>41</b>		<b>18</b>
29. My instruction has improved as a result of block scheduling.			<b>32</b>	<b>45</b>	<b>14</b>	
30. Block scheduling has improved student learning.		<b>5</b>	<b>18</b>	<b>45</b>	<b>9</b>	<b>9</b>
31. I prefer block scheduling to the traditional seven period day.	<b>5</b>	<b>9</b>		<b>32</b>	<b>36</b>	<b>5</b>
32. Block scheduling has improved the quality of student/teacher relationships.		<b>5</b>	<b>27</b>	<b>36</b>	<b>18</b>	<b>5</b>

33. The BEST thing about block scheduling compared to the traditional seven-period schedule is:  
See attached comments.

34. The WORST thing about block scheduling compared to the traditional seven-period schedule is:

See attached comments.

35. Are there issues concerning the impact of the block schedule on the school which are not reflected in this survey? If so, what are they?

See attached comments.

**School B Block Scheduling Survey  
Comment Analysis: Teacher**

Survey Question: The BEST thing about block scheduling compared to the traditional seven-period schedule is:

Comment types and number:

More time for labs, hands-on activities	4
Time to complete the learning cycle	4
New classes each semester	2
The longer class period	1
Fewer preps	1
Fewer number of students	1
More credits for students	2
Fewer classes	3
Better quality of work	1

Survey Question: The WORST thing about block scheduling compared to the traditional seven-period schedule is:

Comment types and number:

Increased preparation/planning time.	2
Length of classes	5
Long classes	2
Sequential classes not back-to-back	3
Student make-up work	2

Specific Comments:

- The pace is a killer, in terms of preparation and planning.
- Trying constantly to find “active” lessons.

Specific Comment examples:

- Education has become more urgent, time more precious.
- Labs in science class, lab and discussion in one period.
- Less preps, can get much deeper in one period.
- Better use of time, less starting and stopping.
- Being able to focus intently on one subject.
- A lesson can be completed within a single period without interference.
- New kids each semester.
- Fewer students per day.
- More time to complete instructional cycle.
- 8 Classes for students instead of 7.

- Too much time between sequential classes.
- Not enough time to switch gears at the end of the semester.
- If absenteeism is a problem, difficult for students to make-up work.
- Student make-up work.
- Lapse in foreign language consecutive classes.
- More difficult for student to take sequential classes.
- Even with 90 minute classes, I cannot cover as much as I did with 7 periods.
- Trying to make the adjustment from the traditional schedule to block with respect to planning.

**School B Block Scheduling Survey**  
**Comment Analysis: Teacher**

Survey Question: Are there issues concerning the impact of block scheduling on the school which are not reflected in this survey? If so, what are they?

Comments:

- \* It is absolutely essential that teachers have an entire, uninterrupted planning block.
- \* Timing of the AP test.
- \* Proper training - teachers given many workshops.
- \* How the block schedule affects clubs.

## Appendix A--IV: School B Student Results

### Block Scheduling Student Survey: School B Results

N = 62. All data represents percent of total responses.

**When I compare block scheduling to the traditional seven period day, I find that...**

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
1. Teachers use more activities on block scheduling.		5	19	53	18	3
2. Having substitute teachers is more difficult on block scheduling.	2	24	44	16	5	10
3. Teachers do a better job of understanding my own individual needs.	2	8	39	32	8	10
4. It is harder to schedule classes like French I and French II back-to-back.	8	16	16	19	8	29
5. More class time is devoted to instruction on block scheduling.	2	5	6	25	19	4
6. My attendance has improved on block scheduling.	10	6	44	23		3
7. The dropout rate has decreased on block scheduling.	3	11	16	10		58
8. Our school is a better school on block scheduling.	3	3	18	34	24	15
9. Block scheduling has helped my teachers get to know me better.	3	5	42	47	10	2
10. My grades have improved on block scheduling.	3	3	32	29	24	5
11. Block scheduling has improved our schools Advanced Placement scores		3	11	15	5	66
12. Block scheduling makes it harder to make-up work after an absence.	2	19	26	18	31	2
13. Block scheduling has reduced my homework load.	6	10	18	26	35	
14. Block scheduling reduces the number of teachers I work with daily.	2	2	2	56	35	2
15. Block scheduling has increased the number of credits I earn each year.	3	2	6	40	48	
16. Block scheduling has decreased class sizes.	2	11	52	21	5	11

	1 Strongly Disagree	2 Disagree	3 No Change	4 Agree	5 Strongly Agree	6 No Opinion
17. With block scheduling, I find that I have more opportunity to get involved in class discussions.			27	48	18	6
18. Block scheduling has reduced discipline problems.	6	5	45	10	3	29
19. Block scheduling is harder on transfer students.	2	11	13	26	6	40
20. Block scheduling has increased dual enrollment in college classes at my school		2	13	11	2	69
21. Block scheduling has made my classes more interesting.	3	10	29	48	6	2
22. Block scheduling makes school a more enjoyable place to be.	10	8	44	23	6	6
23. Block scheduling has helped me focus on my graduation from high school.	2	8	35	26	15	6
24. My teachers have reduced the amount of lecture they use in class.	27	18	29	15	3	5
25. I prefer block scheduling to the traditional seven (six, or eight) period day.	10	6	2	24	52	3
26. Block scheduling helps some students more than others.		2	5	56	32	2
27. Block scheduling has made it easier to re-take failed courses.		5	8	40	26	19
28. One of the best things about block scheduling is the chance to finish a class in half a year.		3	2	47	45	2
29. Block scheduling has improved my teachers' instruction.		3	36	39	11	6
30. Block scheduling has improved my understanding of the concepts taught.	2	2	31	48	13	3

31. What is the *best* thing about block scheduling?

See attached comments.

32. What is the *worst* thing about block scheduling?

See attached comments.

33. Are there issues concerning block scheduling which are not reflected in this survey? If so, what are they?

See attached comments.

**School B Block Scheduling Survey  
Comment Analysis: Student**

Survey Question: What is the best thing about block scheduling?

Comment types and numbers:

Only four classes per day	10
Classes last only one semester	12
Less homework	10
More classes/credits	8
More work done in class	4
More learning	2
Early graduation	1
More discussion	1

Specific Examples:

- The half year classes
- You get 8 credits
- Less teachers to deal with in one day

- You get more time in class to do homework if you have it.
- Being able to get all the classes I need and want
- The best thing about block scheduling is the fact that it makes the day go by faster and I don't become as bored.
- You have more time to do homework and learn more. The time fly's, too.
- Not as much homework.
- The best thing about block scheduling is that you have 4 classes a day instead of 7 or 8.
- Finishing a dreaded class in one semester.
- Reduce the feeling that I'm in a mad rush.
- More time for a class seems to allow me to learn more in a class than on a seven period day.
- The day seems to go by quicker.

## School B Block Scheduling Survey Comment Analysis: Student

Survey Question: What is the worst thing about block scheduling?

Comment types and numbers:

Class length is too long(seat time), boring.	40
Schedules are imbalanced	5
Sequential classes, schedule	5
Make-up work difficult	3
Snow days	1

Specific Examples:

- AP classes, not enough covered in first semester classes for May exam.
- Some teachers don't know how to keep class interesting for one- and-a half hours.
- Limited daily teaching variety.

Survey Question: Are there issues concerning block scheduling which are not reflected in this survey? If so, what are they?

Specific comments:

- Block scheduling classes cover only the important issues. For some this is good, for

- Classes such as biology (in which lab stools are used to seat students) become a very big pain in the butt, literally.
- If you have your math classes scheduled far apart.
- Having to sit in boring classes for an hour and a half.
- Having an exam on everything, instead of having semester exams.
- The teachers get to lecture for 90 minutes instead of 30.
- Teachers who lecture twice as much, getting stuck in no-mans' land.
- You have to sit for an hour and a half.
- The worst is when you get a teacher who lectures the entire block.
- The long intervals between the free time you get between classes.
- Absences and make-up work.
- 1 hour , 30 minutes in one class a day.
- The classes are too long.

others who like in-depth discussion it is not so good.

- The credits go up every year to graduate. Plus some classes we take aren't offered.
- I felt that the extra time given to each class allows the teachers to be more creative.
- More time to do your work in class, and have a teacher there to help you out.

**Semester Block Scheduling Evaluation  
Report**

**School C, 1997**

**Prepared as partial fulfillment of requirements  
for Doctorate in Education Degree**

**for Virginia Polytechnic Institute and State University**

**William Paul Fletcher, Jr.**

## **Introduction**

On February 10, 1997, an evaluation model of block scheduling was pilot tested at School C. The model included surveys of faculty and students, as well as an interview with the principal. Data collection through various school and student records was also employed.

The model was constructed around current themes present in the literature on block scheduling and is divided into the impact of the block schedule on instruction, school climate, student outcomes, and operating efficiency. Furthermore, the model was designed to compare the impact of the semester block schedule with that of the traditional seven period day.

## **The Study**

The faculty was surveyed during a faculty meeting. Fifty-one (51) teachers completed the survey instrument. The responses of the faculty are found in Appendix A. Summary comments and samples of responses to the open-ended questions included on the survey are also attached.

Seniors, juniors, and sophomores were surveyed through English and Social Studies classes. All of the students who were surveyed could compare the block schedule to the seven period day previously employed during the 1995-96 school year. Of the total population of 850 students, 113 students were surveyed. The survey included representative samples from each level offered in the curriculum. A compilation of student responses to the survey as well as a summation of student comments is included in Appendix B.

## **The Results**

### Instructional Issues:

The principal stated that the majority of teachers have increased the use of varied instructional strategies and that their instruction has improved under the block schedule. Thirty-two percent (32%) of students believe that instruction has improved on the block schedule while 53% of teachers believe that their instruction has improved on the block schedule.

In addition, both students and teachers report that teachers have increased their use of varied instructional strategies. Students are more involved in class discussions, and they believe that teachers do a better job of understanding their own individual needs. Teachers overwhelmingly report that the block schedule has helped them to increase individualization of instruction.

Teachers report that they are able to complete the learning cycle in one class segment. Teachers and students alike believe that the block schedule has increased instructional time. Teachers do report that the block schedule has increased the problems associated with the use of substitute teachers.

- 53% of teachers believe that their instruction has improved on the block schedule.

- Of the 113 students surveyed, 53% agreed or strongly agreed with the statement: *Teachers use more activities on block scheduling.*
- Sixty-five percent (65%) of students disagreed that their teachers use less lecture on the block.
- 69% agreed that the block had allowed them to increase their use of varied instructional practices.
- 80% of the teachers believe that block scheduling has helped them to increase individualization of instruction.
- Students responded to a survey item (*I find I have more opportunity to get involved in class discussions*) with 55% in agreement.
- 75% of teachers agreed that block classes allow them to complete the learning cycle in one lesson.
- 61% of teachers at School C believe that block scheduling has increased the problems associated with the use of substitute teachers.
- The faculty of School C believes that block scheduling reduces time lost to instruction; (59% agree).
- 67% of students agreed with the statement: *More class time is devoted to instruction on block scheduling.*

#### School Climate Issues

Researchers claim that the block schedule improves school climate by reducing discipline incidents and by promoting better relationships between teachers and students. Teachers at School C generally agree that the block schedule has reduced discipline incidents, but the student responses are ambiguous. Both groups agree that the quality of teacher-student relationships has improved under the block schedule.

- While 41% of teachers believe that block scheduling has reduced discipline rates, the students were ambiguous.
- 52% of students agreed that: *Block scheduling has helped my teachers get to know me better.*
- 61% of teachers say that block scheduling has improved the quality of student-teacher-relationships.

### Student Outcomes

Many researchers use student outcome measure such as grades, dropout rates, attendance rates, student motivation, and numbers of advanced placement/dual enrollment students to show change under the block schedule. The students of School C are clearly motivated by semester length classes. They also report that the block schedule helps students focus on graduation from high school.

The perceptions of both groups on attendance and dropout rates is level. The majority of respondents either believe that there has been no change in these areas or they have no opinion on the issue.

The impact of the block schedule on student grades is clear. Both students and teachers report that student grades have improved on the block schedule. While a large number of students believe that there has been an increase in dual enrollment due to the block, they have no opinion on advanced placement test scores.

- 90% of students agreed with the statement: *One of the best things about block scheduling is the chance to finish a class in half a year.*
- 59% of the students and 45% of the teachers say that attendance rates have not changed under the block schedule.
- 54% of students agreed that their grades have improved on the block schedule while 63% of teachers believe that student grades have improved on the block schedule.
- 59% of students agreed with an item that states that block scheduling has helped students focus on graduation from high school.

### Operating Efficiency

The principal reports that the block is clearly a more efficient use of available resources at School C. The teachers believe that the block schedule has helped reduce student-teacher ratios and that students are earning more credits under the block schedule.

A majority of teachers believe that the block schedule has not reduced their planning and/or preparation time. A large number of teacher comments to the survey fell in this area. A comparison of the 1995-96 master schedule and the 1996-97 master schedule shows that the teachers have more preparations on the block schedule. Each teacher averaged 2.7 preparations per day in 95-96 while they each average 3.2 preparations across both semesters during the current year.

Students report that they are earning more credits and that their homework loads have been reduced on the block schedule. They also report that they work with fewer teachers daily and that the block schedule makes it easier to retake failed courses.

- 73% of teachers disagreed with a statement that block scheduling had reduced their daily preparations.
- A comparison of the 1995-96 master schedule and the 1996-97 master schedule shows that the teachers have preparations on the block schedule. Each teacher averaged 2.71 preparations per day in 95-96 while they average 3.189 preparations across both semesters during the current year.
- 81% of students agree that they are earning more credits under the block schedule.

### **Overall Satisfaction**

Fifty-nine percent (59%) of teachers agreed with the statement “*I prefer block scheduling to the traditional seven period day*”. Ten percent (10%) said that there was no change, 20% disagreed with the statement, and 10% had no comment.

Among the students, 56% said that they prefer block scheduling to the traditional seven-period day, and 29% agreed with the item; “*our school is a better school on the block schedule*”. In an interesting side-note, the numbers of students who prefer block scheduling was higher at the senior level and lower at the sophomore and junior level. While only 20% of the seniors disagreed with the preference item, 36% of combined sophomores and juniors disagreed with the same item.

## Appendix A--V: School C Teacher Results

### Block Scheduling Teacher Survey: School C Results

N = 51. All data represents percent of total responses.

**When I compare the block schedule to the traditional seven-period day, I find that...**

	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 No Change</b>	<b>4 Agree</b>	<b>5 Strongly Agree</b>	<b>6 No Opinion</b>
1. Block scheduling has allowed me to increase my use of varied instructional practices.	2	6	18	43	31	2
2. Block classes provide enough time for each individual student to learn.	0	4	24	41	27	0
3. Block scheduling has allowed me to increase individualization of instruction.	2	6	10	59	22	0
4. Block classes allow me to complete the learning cycle in an individual class session.	0	10	12	41	33	2
5. Block classes reduce time lost to instruction.	4	12	14	37	22	8
6. Block scheduling has improved student attendance.	4	18	45	8	4	20
7. Block scheduling has decreased the dropout rate.	4	18	20	6	0	51
8. Block scheduling has reduced discipline incidents.	6	14	20	30	12	18
9. Block scheduling has improved student grades.	0	10	18	45	18	4
10. Block scheduling has improved AP scores.	0	0	2	4	0	92
11. Block scheduling has increased dual enrollment.	0	0	8	10	12	69
12. Block scheduling has reduced my daily preparations.	47	25	12	4	6	4
13. Block scheduling has reduced the number of students I work with daily.	8	15	16	20	33	6
14. Block scheduling has increased the number of classes I teach annually.	14	8	12	18	43	2
15. Block scheduling has reduced student homework loads.	0	24	20	33	8	14

	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 No Change</b>	<b>4 Agree</b>	<b>5 Strongly Agree</b>	<b>6 No Opinion</b>
16. Block scheduling has increased the number of credits students earn.	<b>0</b>	<b>2</b>	<b>2</b>	<b>43</b>	<b>45</b>	<b>6</b>
17. Block scheduling has increased the opportunity for students to re-take failed courses.	<b>2</b>	<b>4</b>	<b>4</b>	<b>47</b>	<b>22</b>	<b>18</b>
18. In-service on active learning strategies is very important for proper implementation of block scheduling.	<b>0</b>	<b>6</b>	<b>12</b>	<b>41</b>	<b>33</b>	<b>6</b>
19. Block scheduling has decreased student/teacher ratios.	<b>2</b>	<b>24</b>	<b>20</b>	<b>35</b>	<b>10</b>	<b>8</b>
20. Block scheduling has had a negative impact on student learning in sequential classes such as foreign language and math.	<b>2</b>	<b>8</b>	<b>2</b>	<b>16</b>	<b>8</b>	<b>63</b>
22. Block scheduling has had a negative impact on performance classes (music, art, drama).	<b>4</b>	<b>10</b>	<b>6</b>	<b>12</b>	<b>4</b>	<b>63</b>
23. Block scheduling has increased the problems associated with transfer students.	<b>4</b>	<b>1</b>	<b>2</b>	<b>35</b>	<b>30</b>	<b>25</b>
24. Block scheduling has made it harder for students to complete make-up work.	<b>6</b>	<b>20</b>	<b>27</b>	<b>31</b>	<b>12</b>	<b>2</b>
25. Block scheduling reduces rates of student retention of information.	<b>4</b>	<b>18</b>	<b>25</b>	<b>12</b>	<b>2</b>	<b>37</b>
26. Block scheduling has led to an increase in student boredom.	<b>8</b>	<b>22</b>	<b>31</b>	<b>27</b>	<b>6</b>	<b>4</b>
27. Block scheduling has increased the problems associated with the use of substitute teachers.	<b>2</b>	<b>16</b>	<b>14</b>	<b>37</b>	<b>24</b>	<b>6</b>
28. Block scheduling has helped students focus more on earning credits towards graduation.	<b>0</b>	<b>6</b>	<b>18</b>	<b>39</b>	<b>6</b>	<b>29</b>
29. My instruction has improved as a result of block scheduling.	<b>2</b>	<b>4</b>	<b>33</b>	<b>39</b>	<b>14</b>	<b>6</b>
30. Block scheduling has improved student learning.	<b>0</b>	<b>12</b>	<b>25</b>	<b>41</b>	<b>12</b>	<b>8</b>
31. I prefer block scheduling to the traditional seven period day.	<b>8</b>	<b>12</b>	<b>10</b>	<b>35</b>	<b>24</b>	<b>5</b>
32. Block scheduling has improved the quality of student/teacher relationships.	<b>2</b>	<b>3</b>	<b>27</b>	<b>41</b>	<b>20</b>	<b>2</b>

33. The BEST thing about block scheduling compared to the traditional seven-period schedule is:  
See attached comments.

34. The WORST thing about block scheduling compared to the traditional seven-period schedule is:

See attached comments.

35. Are there issues concerning the impact of the block schedule on the school which are not reflected in this survey? If so, what are they?

See attached comments.

**School C Block Scheduling Survey  
Comment Analysis: Teacher**

Survey Question: The **BEST** thing about block scheduling compared to the traditional seven-period schedule is:

Comment types and number:

More time for labs, hands-on activities	11
Time to complete the learning cycle	7
Getting to know the students better	7
New classes each semester	4
The longer class period	3
Ability to vary instructional techniques	2
Less paperwork	2
Fewer preps	1
Fewer number of students	2
Fewer classes (for students)	2

Survey Question: The **WORST** thing about block scheduling compared to the traditional seven-period schedule is:

Comment types and number:

Increased preparation/planning time.	14
Length of classes	5
Preparing for substitute teachers	4
Problem students in a long class	3
Less capable students in a long class	3
Sequential courses broken up	3
Problems with the lunch schedule	3
Attention span of students	1
Student make-up work after absences	1
Money for extra supplies	1

Specific comment examples

- Having time to complete activities in one class.
- Can complete material.
- More time with students to do activities.
- In English, from pre-writing to final draft in one period.
- The time to really get to know the students.
- Time to complete lessons.
- Allows for better SPED transition.
- Time to teach, time to know students.

Specific Comments:

- Not enough planning time
- Preparing for a substitute teacher
- Too much time spent in class on assignments
- Too long for average/below average students.
- The first year is as if one is a rookie all over again.
- The out of class time spent in preparations and grading.
- Much more work on the teacher.
- In lower level classes it becomes difficult for students (& teacher) to keep up interest in the subject matter so long..
- 87 minutes with the class from “hell”.

**School C Block Scheduling Survey**  
**Comment Analysis: Teacher**

Survey Question: Are there issues concerning the impact of block scheduling on the school which are not reflected in this survey? If so, what are they?

Comments:

- Large class sizes in electives.
- Fewer teacher duties, students unsupervised.
- Allow sufficient time between semesters.
- Lower level kids have a difficult time.
- Success with on-grade or below average versus college bound students.
- Teacher duties outside classroom during the school day, release for social activities.

## Appendix A--VI: School C Student Results

### Block Scheduling Student Survey: School C Results

N = 113. All data represents percent of total responses.

**When I compare block scheduling to the traditional seven period day, I find that...**

	<b>1 Strongly Disagree</b>	<b>2 Disagree</b>	<b>3 No Change</b>	<b>4 Agree</b>	<b>5 Strongly Agree</b>	<b>6 No Opinion</b>
1. Teachers use more activities on block scheduling.	4	5	16	37	16	2
2. Having substitute teachers is more difficult on block scheduling.	4	21	31	19	20	4
3. Teachers do a better job of understanding my own individual needs.	7	11	35	31	12	3
4. It is harder to schedule classes like French I and French II back-to-back.	4	16	8	14	13	40
5. More class time is devoted to instruction on block scheduling.	3	12	12	44	23	4
6. My attendance has improved on block scheduling.	12	3	59	13	9	2
7. The dropout rate has decreased on block scheduling.	9	14	23	4		50
8. Our school is a better school on block scheduling.	19	18	19	19	11	15
9. Block scheduling has helped my teachers get to know me better.	3	7	4	37	15	2
10. My grades have improved on block scheduling.	3	11	31	29	25	1
11. Block scheduling has improved our schools Advanced Placement scores	4	4	19	13	5	55
12. Block scheduling makes it harder to make-up work after an absence.	4	19	21	22	29	6
13. Block scheduling has reduced my homework load.	9	17	10	32	28	
14. Block scheduling reduces the number of teachers I work with daily.	1	1	2	51	42	2
15. Block scheduling has increased the number of credits I earn each year.	4	4	9	45	35	2
16. Block scheduling has decreased class sizes.	6	21	53	10	4	15

	1 Strongly Disagree	2 Disagree	3 No Change	4 Agree	5 Strongly Agree	6 No Opinion
17. With block scheduling, I find that I have more opportunity to get involved in class discussions.	3	4	33	31	24	6
18. Block scheduling has reduced discipline problems.	12	14	32	14	7	21
19. Block scheduling is harder on transfer students.	2	4	8	33	12	46
20. Block scheduling has increased dual enrollment in college classes at my school	1	1	18	30	4	64
21. Block scheduling has made my classes more interesting.	8	20	38	26	11	3
22. Block scheduling makes school a more enjoyable place to be.	18	20	37	13	9	7
23. Block scheduling has helped me focus on my graduation from high school.	2	12	41	30	30	4
24. My teachers have reduced the amount of lecture they use in class.	31	34	28	10		
25. I prefer block scheduling to the traditional seven (six, or eight) period day.	14	16	3	30	26	18
26. Block scheduling helps some students more than others.	1	3	6	69	20	8
27. Block scheduling has made it easier to re-take failed courses.	8	7	15	35	15	27
28. One of the best things about block scheduling is the chance to finish a class in half a year.	4	5	1	51	28	4
29. Block scheduling has improved my teachers' instruction.	2	12	41	27	5	10
30. Block scheduling has improved my understanding of the concepts taught.	3	9	43	35	15	3

31. What is the *best* thing about block scheduling?  
See attached comments.

32. What is the *worst* thing about block scheduling?  
See attached comments

33. Are there issues concerning block scheduling which are not reflected in this survey? If so, what are they?  
See attached comments.

## School C Block Scheduling Survey Comment Analysis: Student

Survey Question: What is the best thing about block scheduling?

Comment types and numbers:

Only four classes per day	24
Classes last only one semester	22
Less homework	17
More classes/credits	11
More work done in class	7
More learning	6
More interesting/enjoyable	3
Early graduation	2
Early release	2
More discussion	1
More lab/shop time	1
Fewer teachers	2
Better grades	1

Specific Examples:

- Longer classes- more learning
- Better grades

- Less teachers
- New teachers and new classmates
- Longer class periods help me understand some of the work better
- Only have class for one-half a year.
- Longer time to finish class work
- The math and science you can get a better understanding of in a longer class period
- Not having the same class for the whole year
- Makes it seem like the year goes by faster
- Only 4 classes
- Get to know what you are really studying
- More credits
- More credits
- Do not have seven classes to deal with all year
- Fewer classes a day

## School C Block Scheduling Survey Comment Analysis: Student

Survey Question: What is the worst thing about block scheduling?

Comment types and numbers:

Class length is too long(seat time)	56
Classes are boring	16
Contact with friends down	12
Schedules are imbalanced	6
Teachers lecture too much	6
Breaks are too short	5
Sequential classes	4
Pace of classes too much	3
More homework	2
Make-up work difficult	2
Substitutes, work load	1

Specific Examples:

- You have the same teacher for 87 minutes
- You cannot take I & II of something
- Some of the teachers don't know how to handle all of the time

Survey Question: Are there issues concerning block scheduling which are not reflected in this survey? If so, what are they?

Specific comments:

- The inability to resolve scheduling conflicts.

### Empirical Data Summary:

1. A comparison of the 1995-96 master schedule and the 1996-97 master schedule shows that the teachers have more preparations on the block schedule. Each teacher averaged 2.7 preparations per day in 1995-96 while they average 3.2 preparations across both semesters during the current year.

- Sometimes it seems a class will never end
- You sometimes don't have a particular class for a whole year
- Having to move so fast
- If you take Spanish, you can go a year without having Spanish class
- It is harder to pay attention for as long and sit for an hour and a half
- Schedules are not equally divided which causes one semester to be harder and one to be really easy
- Working for longer periods with teachers I don't like
- 87 minute classes
- So long
- When having a sub, the work load is so heavy
- Sitting still
- Some teachers haven't adapted their plans to a longer class. A 90 minute lecture could put a scientist to sleep.
- Breaks.
- Some classes are more beneficial if they are a year long (English).
- They told us we wouldn't have all our hard classes in one semester and I did.

**APPENDIX B**  
**BLOCK SCHEDULING TEACHER SURVEY**

## Block Scheduling Teacher Survey

Years teaching experience \_\_\_\_\_

Years on Block schedule \_\_\_\_\_

Department \_\_\_\_\_

Grade Level/ levels of instruction \_\_\_\_\_

**When I compare the block schedule to the traditional seven-period day, I find that...**

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
1. Block scheduling has allowed me to increase my use of varied instructional practices.	1	2	3	4	5	6
2. Block classes provide enough time for each individual student to learn.	1	2	3	4	5	6
3. Block scheduling has allowed me to increase individualization of instruction.	1	2	3	4	5	6
4. Block classes allow me to complete the learning cycle in an individual class session.	1	2	3	4	5	6
5. Block classes reduce time lost to instruction.	1	2	3	4	5	6
6. Block scheduling has improved student attendance.	1	2	3	4	5	6
7. Block scheduling has decreased the dropout rate.	1	2	3	4	5	6
8. Block scheduling has reduced discipline incidents.	1	2	3	4	5	6
9. Block scheduling has improved student grades.	1	2	3	4	5	6
10. Block scheduling has improved AP scores.	1	2	3	4	5	6
11. Block scheduling has increased dual enrollment.	1	2	3	4	5	6
12. Block scheduling has reduced my daily preparations.	1	2	3	4	5	6
13. Block scheduling has reduced the number of students I work with daily.	1	2	3	4	5	6
14. Block scheduling has increased the number of classes I teach annually.	1	2	3	4	5	6
15. Block scheduling has reduced student homework loads.	1	2	3	4	5	6

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
16. Block scheduling has increased the number of credits students earn.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
17. Block scheduling has increased the opportunity for students to re-take failed courses.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
18. In-service on active learning strategies is very important for proper implementation of block scheduling.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
19. Block scheduling has decreased student/teacher ratios.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
20. Block scheduling has had a negative impact on student learning in sequential classes such as foreign language and math.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
22. Block scheduling has had a negative impact on performance classes (music, art, drama).	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
23. Block scheduling has increased the problems associated with transfer students.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
24. Block scheduling has made it harder for students to complete make-up work.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
25. Block scheduling reduces rates of student retention of information.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
26. Block scheduling has led to an increase in student boredom.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
27. Block scheduling has increased the problems associated with the use of substitute teachers.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
28. Block scheduling has helped students focus more on earning credits towards graduation.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
29. My instruction has improved as a result of block scheduling.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
30. Block scheduling has improved student learning.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
31. I prefer block scheduling to the traditional seven period day.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
32. Block scheduling has improved the quality of student/teacher relationships.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

33. The BEST thing about block scheduling compared to the traditional seven-period schedule is:

34. The WORST thing about block scheduling compared to the traditional seven-period schedule is:

35. Are there issues concerning the impact of the block schedule on the school which are not reflected in this survey? If so, what are they?

**APPENDIX C**

**BLOCK SCHEDULING STUDENT SURVEY**

## Block Scheduling Student Survey.

Grade Level \_\_\_\_\_ Years on Block schedule \_\_\_\_\_ Gender M or F

**When I compare block scheduling to the traditional seven period day, I find that...**

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
1. Teachers use more activities on block scheduling.	1	2	3	4	5	6
2. Having substitute teachers is more difficult on block scheduling.	1	2	3	4	5	6
3. Teachers do a better job of understanding my own individual needs.	1	2	3	4	5	6
4. It is harder to schedule classes like French I and French II back-to-back.	1	2	3	4	5	6
5. More class time is devoted to instruction on block scheduling.	1	2	3	4	5	6
6. My attendance has improved on block scheduling.	1	2	3	4	5	6
7. The dropout rate has decreased on block scheduling.	1	2	3	4	5	6
8. .Our school is a better school on block scheduling.	1	2	3	4	5	6
9. Block scheduling has helped my teachers get to know me better.	1	2	3	4	5	6
10. My grades have improved on block scheduling.	1	2	3	4	5	6
11. Block scheduling has improved our schools Advanced Placement scores	1	2	3	4	5	6
12. Block scheduling makes it harder to make-up work after an absence.	1	2	3	4	5	6
13. Block scheduling has reduced my homework load.	1	2	3	4	5	6
14. Block scheduling reduces the number of teachers I work with daily.	1	2	3	4	5	6
15. Block scheduling has increased the number of credits I earn each year.	1	2	3	4	5	6
16. Block scheduling has decreased class sizes.	1	2	3	4	5	6

	<b>1</b> Strongly Disagree	<b>2</b> Disagree	<b>3</b> No Change	<b>4</b> Agree	<b>5</b> Strongly Agree	<b>6</b> No Opinion
17. With block scheduling, I find that I have more opportunity to get involved in class discussions.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
18. Block scheduling has reduced discipline problems.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
19. Block scheduling is harder on transfer students.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
20. Block scheduling has increased dual enrollment in college classes at my school	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
21. Block scheduling has made my classes more interesting.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
22. Block scheduling makes school a more enjoyable place to be.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
23. Block scheduling has helped me focus on my graduation from high school.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
24. My teachers have reduced the amount of lecture they use in class.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
25. I prefer block scheduling to the traditional seven (six, or eight) period day.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
26. Block scheduling helps some students more than others.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
27. Block scheduling has made it easier to re-take failed courses.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
28. One of the best things about block scheduling is the chance to finish a class in half a year.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
29. Block scheduling has improved my teachers' instruction.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
30. Block scheduling has improved my understanding of the concepts taught.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

31. What is the *best* thing about block scheduling?

32. What is the *worst* thing about block scheduling?

33. Are there issues concerning block scheduling which are not reflected in this survey? If so, what are they?

**APPENDIX D**

**BLOCK SCHEDULING LITERATURE MATRIX**

### Block Scheduling Literature Matrix: Journal Articles

	Buckman	Huff	Edwards	Boarman	Shortt	Wilson	Canaday	Alam	Carroll	O'Neil	Kadel
Journal/ Year	NASSP May 95	PDK Dec. 93	PDK May 94	PDK Oct. 94	Ed Leadership Nov. 95	SERVE 1994					
Vary teaching strategies		yes	yes	yes			yes	yes	yes	yes	yes
Provide time to learn	yes			yes		yes				yes	yes
Increase individualization		yes				yes	yes	yes	yes	yes	yes
AP courses/ dual enrollment			yes	yes	yes						
Improve grades	yes		yes	yes				yes		yes	
Complete learning cycles	yes	yes		yes		yes				yes	
Improve learning environment	yes										
Improve relationships	yes			yes			yes	yes	yes	yes	yes
Improve attendance	yes										
Reduce dropouts					yes				yes		
Reduce discipline	yes		yes				yes		yes	yes	
Reduce teacher preps/ student hmwk		yes	yes	yes		yes	yes	yes	yes		yes
Reduce students/ day			yes	yes		yes	yes		yes	yes	yes
Reduce s/t ratio						yes					
Retake courses						yes	yes			yes	
Increase credits earned		yes	yes			yes					
Increase classes taught			yes								yes
Cost savings			yes				yes				
Special education				yes				yes			
Reduce transition time				yes			yes				

**Block Scheduling Literature Matrix: Journal Articles (continued)**

**Concerns on Block**

	Sanchez	Boarman	Shortt	Wilson	Kadel
Journal/Year	Diss. Arizona State Univ.	NASSP May 95	NASSP May 95	NASSP May 95	SERVE 1994
Continuity		yes	yes	yes	
Gaps		yes			
AP		yes	yes		yes
Performance classes		yes	yes		
Transfer students		yes	yes	yes	yes
Costs			yes		
Accreditation			yes		
Teacher absence	yes			yes	yes
Student boredom	yes				
Balancing schedules		yes	yes		

### Block Scheduling Literature Matrix: Theses and Dissertations

	Benton	DeHetre	Cox	Hart	Lewis	Sanchez	Myhre
Type of Report: Date	UNC, Thesis: 1995	U. of Southern Maine, Thesis: 1994	U. of Houston, Diss: 1994	Temple U., Diss: 1993	College of William and Mary, Diss: 1993	Arizona State U., Diss: 1987	U. of North Dakota, Thesis: 1951
Empirical Analysis	No	No	Yes	Yes	Yes	No Qualitative	Yes
Study type	Multiple case	Multiple case	Single case	Single case		Single case	Single case
Vary teaching strategies	yes	yes		yes		yes	yes
Provide time to learn		yes				yes	
Increase individualization		yes				yes	yes
AP courses/ dual enrollment	yes						
Improve grades	yes		yes	yes			
Complete learning cycles						yes	
Improve learning environment							yes
Improve relationships				yes			yes
Improve attendance	yes	yes	yes		yes		
Reduce dropouts	yes	yes		yes	yes		yes
Reduce discipline	yes		yes	yes			
Reduce teacher preps/ student hmk	yes	yes				yes	yes
Reduce students/ day	yes	yes					
Reduce student/ teacher ratio	yes	yes					
Improve test scores					yes		yes
Teacher training						yes	yes
Reduce interference							yes
Increase credits earned	yes	yes		yes			yes

	Benton	DeHetre	Cox	Hart	Lewis	Sanchez	Myhre
Type of Report: Date	UNC, Thesis: 1995	U. of Southern Maine, Thesis: 1994	U. of Houston, Diss: 1994	Temple U., Diss: 1993	College of William and Mary, Diss: 1993	Arizona State U., Diss: 1987	U. of North Dakota, Thesis: 1951
Increase classes	yes						yes
Cost savings							yes
Special education							yes
Reduce transition time						yes	yes

**APPENDIX E**

**ADVISOR REQUEST, PERMISSIONS FOR STUDY**

January 23, 1997

Superintendent

Dear \_\_\_\_\_:

I am writing to you to ask your support and assistance of a study conducted by Mr. William (Bill) Fletcher. \_\_\_\_\_ School is one of over 100 high schools in Virginia which has implemented block scheduling. We would like to include that school in a study which will result in the development of an evaluation instrument for use by schools who have implemented block scheduling.

As you know, we are constantly challenged to assess the effectiveness of change. Many of the schools around the state have already conducted evaluations on one type or another to assess this particular "innovation." Our review of those evaluations suggests many are *ad hoc* and less than comprehensive.

What Bill has done is to develop a **process and instruments** tied to the claims, hopes and research about block scheduling. We now need to pilot test the process and instruments in several settings to determine if they provide the kind of information which will be useful to principals, teachers and policy makers.

While this is **not** a request to evaluate block scheduling at \_\_\_\_\_ School, an evaluation product will be the result of the study. That product will be returned to the school and the principal will be interviewed regarding the usefulness of the product--whether it was worth the effort, whether it provides useful formative evaluation data, and so on. Let me emphasize that this is not a study which focuses primarily on evaluation of block scheduling but rather a study **which seeks to produce a useful process by which block scheduling can be evaluated.**

Bill has already discussed this research with the principal who has indicated his interest in and willingness to participate in the study. The study will involve a minimum amount of time on the part of teachers and students--an instrument which will take about five minutes to complete. Two interviews with principals--one prior to preparation of the report and one following the report to assess the value of the report--will be required. In return, the school will receive the evaluation report for use in any way the school desires. Schools will not be identified in the study. Again I would emphasize that school data are not important to this study--the usefulness and effectiveness of the process and the instruments are the focus of this study.

We hope to move forward with this study in early February. If you have any questions or concerns, please feel free to call me either at my number in Johnson City or at home in Blacksburg

(Kathie will forward the call to me in the evening. Mr. Fletcher is also available, willing to share copies of the instruments or provide any other information you might require.

Thank you for your consideration of this request.

Sincerely,

Wayne M. Worner  
James H. Quillen Chair of Excellence  
in Teaching and Learning  
College of Education  
ETSU

Date:

TO: Wayne Worner

FROM:

RE: Research to construct an evaluation model/Fletcher Study

The study as proposed has my approval \_\_\_\_\_.

I would like additional information about the proposed study: \_\_\_\_\_.

Please complete this form and return it in the envelope provided.

Thank you.

Wayne Worner

## VITA

**William P. Fletcher, Jr.**  
**191 Union Valley Road**  
**Riner, Va. 24149**

(540) 381 2458 e-mail: bfletch@vt.edu

- Education**
- 1997 Ed. D : Educational Leadership  
Virginia Polytechnic Institute and State University  
Blacksburg, Va.
- 1985 M. Ed. ; Secondary Administration  
University of Virginia ; Charlottesville, Va.
- 1980 B. S. ; Major, Psychology. Minor, Biology  
Virginia Polytechnic Institute and State University  
Blacksburg, Va.
- Experience**
- 1994 - Present: Assistant Principal  
Shawsville High and Middle School  
Montgomery County Public Schools  
Christiansburg, Va.
- 1992 - 1994: Principal  
Christiansburg Middle School  
Montgomery County Public Schools  
Christiansburg, Va.
- 1991 - 1992: Assistant Principal  
Blacksburg High School  
Montgomery County Public Schools  
Christiansburg, Va.
- 1985 - 1991: Assistant Principal  
Alleghany High School  
Alleghany Highlands Public Schools  
Covington, Va.
- 1980 - 1984: Science Teacher  
Madison County High School  
Madison County Public Schools  
Madison, Va.