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Kerry L. McDaniel
Old Dominion University

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**A STUDY TO EVALUATE THE
EFFECTIVENESS OF BLOCK SCHEDULING
TO DETERMINE WHAT FORM OF BLOCK SCHEDULING
SHOULD BE ADOPTED BY
LAKE TAYLOR HIGH SCHOOL,
NORFOLK, VIRGINIA**

**A Research Paper
Presented to the Graduate Faculty
of the Department of Occupational and Technical Studies
at Old Dominion University**

**In Partial Fulfillment
of the Requirements for
the Master of Science in Education Degree**

**By
Kerry L. McDaniel
July 1997**

APPROVAL PAGE

This research paper was prepared by Kerry L. McDaniel under the direction of Dr. John M. Ritz in OTED 636, Problems in Education. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science in Education.

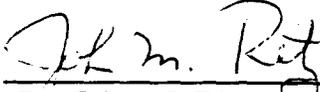
APPROVAL BY:  7-24-97
Dr. John M. Ritz **Date**
Advisor and Graduate
Program Director

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CHAPTER I

Introduction

The Carnegie structure of six or seven 45 to 55 minute classes per day for the entire 180 day school year represents the old paradigm of scheduling high school students. The Copernican Plan of teaching students in much longer blocks of time and completing the course in less time is the new paradigm. School reform being called for by offices as high as the President of the United States requires educators to abandon the old paradigms and move on to new and innovative ways to bring our nation's schools and graduates back to the status of second to none. One the ways we can do this is by restructuring our school schedules.

Our nation's industries have had to restructure to maintain a competitive edge over worldwide competition; now is the time for our schools to do the same. Just as our industries have had to change in order to compete globally, so should our schools. To keep jobs in the United States, we must deter employers from exporting employment overseas. Educators can assist by improving the efficiency of our operations and the quality of our product, our graduates. This can be accomplished through curriculum compression and emphasis on career-based curriculum.

One of the best methods available to education for compressing curriculums and making time for career-based courses is through block scheduling. Block scheduling can be implemented several different ways but expected outcomes should remain constant; essentially less is more. Less classes taught daily and less days to complete the course equals more classes available during the school year and more

time available to pursue additional courses. Having more time available, both for individual classes and for the number of classes available to students during their high school career, will increase the depth and breadth of their knowledge.

Statement of the Problem

The problem of this study was to evaluate the effectiveness of block scheduling to determine what form of block scheduling should be adopted by Lake Taylor High School in Norfolk, Virginia.

Research Goals

The goals of this study were to answer the following questions:

- 1. Does a change to block scheduling provide more academic options for students?**
- 2. Does a change to block scheduling provide for greater academic success?**
- 3. Does a change to block scheduling reduce disciplinary and attendance problems?**
- 4. Does a change to block scheduling increase non-lecture teaching strategies?**
- 5. What form of block scheduling should be implemented at Lake Taylor High School?**

Background and Significance

Lake Taylor High is an urban school in Norfolk, Virginia. Its student population is approximately 63% African American, 23% White, and a 14% mix of

Asian-Pacific Islanders and Hispanics. Lake Taylor High is currently investigating a change from their present Carnegie structure to some form of a block schedule. A decision must be reached prior to the start of the 1998/1999 school year for proper planning and staff development to occur.

Some of the ground work completed thus far has been the introduction of the concept to the professional staff, accumulation of literature, and field trips to schools currently utilizing a block schedule. Administrators recognize that another year of planning and staff development is necessary to ensure a smooth and well-supported transition to a block schedule. However, the 1997/1998 school year must focus on specific implementation of one form of block scheduling.

This study sought to reach beyond local boundaries and develop a database of schools currently teaching using block scheduling. Surveys were distributed to schools over a wide geographic area and gathered information from school administrators. The questions asked were aimed at determining if block schedules can make a significant difference in the academic success of students and improve the environment of today's high schools. From the data gathered and the information compiled, recommendations were made to which type of block schedule would best meet the needs of Lake Taylor's students and how best to implement the change.

Limitations

The limitations of this study were as follows:

- 1. The survey was limited to administrators of high schools currently using block schedules.**

2. **The survey was limited to the areas of increased academic options for students and their academic success under block schedules.**
3. **The survey was limited to areas of discipline and attendance as tangible indicators of the success of block scheduling's effectiveness.**

Assumptions

This study was based on the following assumptions:

1. **Resistance to change by the teaching staff did not adversely effect the surveyed high school's implementation of block schedules.**
2. **The change from a Carnegie structure to a Copernican plan was seen as benefiting both teachers and students by administrators.**
3. **Schools surveyed would have demographics similar to Lake Taylor High School.**
4. **Surveys would be returned to the researcher whether the data was favorable or unfavorable.**

Procedures

To determine what form of block scheduling should be adopted by Lake Taylor High, a survey was developed and distributed. Distribution was limited to administrators of high schools currently using block schedules. Upon return of the surveys, the data collected was used to answer the research questions and make a recommendation to the administration of Lake Taylor High School.

Definitions of Terms

The following definitions were provided to assist the reader in understanding the terms related to this study:

- Lake Taylor High:** One of Norfolk Public School's high schools located in Norfolk, Virginia.
- Carnegie Structure:** Students typically enroll in six courses that meet daily for approximately 45 minutes for the entire 180 day school year.
- Copernican Plan:** Classes are taught in much longer periods and they meet for only part of the school year.
- Block Schedules:** Schedules in which students meet only three or four classes of longer duration daily.
- Alternate Day Schedules:** Students and teachers meet their classes every other day for extended periods.
- 4 X 4 Block Scheduling:** Students enroll in four courses which meet for approximately 90 minutes every day for 90 days.
- Postsecondary Study:** Four-year high schools using semester length courses can offer all students a year of postsecondary study in addition to a full high school program. (College Prep and Career Prep)

Overview of Chapters

Chapter I offered an introduction to block scheduling and the importance of school restructuring. The problem statement, research goals, and background and significance of the study were provided. Additionally, the study's limitations, assumptions and procedures were explained. Finally, the reader was provided with definitions of terms important to this study.

A review of literature will be provided in Chapter II and Chapter III will provide the methods and procedures used to collect the research data. Chapter IV will report the findings of the data collection and Chapter V will provide a summary of the study and present conclusions and recommendations based on the findings of this study.

CHAPTER II

Review of Literature

The purpose of this chapter was to review the literature related to the goals of the research study regarding the effectiveness of various forms of block scheduling. Contained within this chapter are sections on academic options, academic success, discipline and attendance, and different forms of block scheduling.

Academic Options

The Carnegie structure in use today has students attending six or seven classes per day for the entire school year. In a four year period this provides students the opportunity to attend 24 to 28 classes. In a 4 X 4 block schedule, students would attend only four classes per day but they would finish these classes in 90 days. At the end of ninety days they would have completed four courses and would begin four new courses the next semester. This type of schedule provides an opportunity to attend up to 32 courses during four years of high school. The increase in opportunities for students is a minimum of four additional classes to a maximum eight additional classes.

Students could choose between the offerings at their high school for additional courses or could elect to begin postsecondary studies as upper classmen. Postsecondary studies could be local community college for the college bound student or vocational courses for those who want to start a career following high school graduation. Regardless of whether the student elects college prep or career

prep for his or her postsecondary study, he or she would have more options with block scheduling.

These increased options may be of the utmost importance to students who fail a course. The opportunity to retake a course during the normal school year instead of attending summer school can be very attractive to students. Schools with large “at-risk” populations could provide opportunities to students to make up for lost time due to academic failure or failure due to attendance. The increased academic options provided by block scheduling could have a direct influence on the academic success of today’s high school student.

Academic Success

The true measure of a school’s effectiveness should be the academic success of its students. Based on data reported in the Virginia Department of Education documents *Facing Up*, 1970-88, and the Superintendent’s Annual Report for Virginia, 1989-92, only three of four Virginia high school students have earned their diploma within four years of entering the ninth grade. Doubling the number of chances students have to take and pass their courses will immediately improve high school graduation rates (Edwards, 1995, p. 23-26).

Clarence M. Edwards is the curriculum coordinator for Orange County High School, Virginia, and a proponent of the 4 X 4 block schedule. He believes if high schools are to be prepared to educate every student to successfully compete in the global community, some changes must be made. The structure and focus of the system itself must help in achieving greater academic success for the students. To educate every student to compete in today’s global economy, high schools need the

efficiency of a four-period day and semester-length courses (Edwards, 1995, p. 24-25).

The Carnegie structure with its 45-50 minute class intervals has created a very narrow view of human learning, one focusing on recall and recognition, rather than thinking and learning (Kruse and Kruse, 1995, p. 6). To meet the demands of industry and be responsive to our nation's concerns, we must produce graduates with critical thinking and problem solving skills. Our system has empirical methods to measure the success of our students while in school but loses sight of what will make them successful in the world of work. We stress attendance and punctuality, which has a direct correlation to the world of work, but fail to ensure our students possess the skills necessary to compete in the marketplace. A Copernican Plan with its longer class periods allows for the type of instruction that can develop critical thinking and problem solving skills.

The great advantage longer instructional periods has over shorter ones is the amount of time that can be devoted to synthesis. Lessons can end with "synthesis," which consumes between 15 and 30 minutes, depending on the content of the lesson and the length of the block. The teacher can assist students in connecting the explanation part of the lesson with the application phase. Students reflect and review; teachers can assess students' learning by questioning in a way that requires higher order thinking and problem solving skills (Canady and Rettig, 1996, p. 22).

When we can start to measure the academic success of our students in terms of how well they are prepared to enter the world of work, regardless of whether it

occurs after high school or after college, instead of how well they do on standardized tests, we are well on the way to taking full advantage of block scheduling.

The success of block scheduling and the success students have is dependent on effective teaching strategies. Some of the strategies in Table 1 are currently being used in both Carnegie and Copernican Plans, however longer periods of instruction allow for more complex and varied uses. Additionally, the longer the block, the more strategies are possible.

Table 1 Success of the 90 - Minute Block, Effective Teaching Strategies

1. **Warm Ups:** As students walk into class, have some kind of an activity for them.
2. **Movement:** Plan opportunities for students to move around during the class.
3. **Cooperative Learning:** Group activities offer time for sharing ideas as well as socialization.
4. **Media Center:** Use the media center as a diversion and “change of scenery” whenever the curriculum renders it appropriate.
5. **Computer Lab:** Use the computer lab and available programs to enhance your classroom activities whenever appropriate.
6. **Videos:** Use videos when appropriate, but do not plan to show a film for the entire block. Always have some kind of written work to accompany the video.
7. **Other Media:** Use other media to help keep student attention and make the lesson “come alive.”
8. **Large Group Discussion:** Teachers guide the discussion with challenging, higher level questions, but may need to pull reluctant students into the discussion.
9. **Interactive Lectures Coupled With Discussion:** The teacher lectures, stopping at intervals to discuss the material with students.
10. **Integration:** Plan integrated activities with other departments in the school.
11. **Peer Teaching:** Use the higher achieving students in your class to tutor low achievers. Remember: “teaching is learning twice.”
12. **Guided Practice:** After teaching a new skill, have the students practice the skill during class so they can obtain assistance if necessary.

(Cunningham and Nogle, 1996, p. 32)

The academic success students have in school can be affected by the school's "climate". If the school's climate is primarily an environment of teaching and learning, students will enjoy great success regardless of how the school schedules its time. Student achievement is the primary goal of education, however, all too often student's academic success is adversely affected by disciplinary and attendance problems.

Discipline and Attendance

Creating a climate that is conducive to teaching and learning is the responsibility of the high school principal. Limiting disruptions is one way of accomplishing this task. Block scheduling offers the opportunity to limit disruptions by reducing the number of times per day that a student changes classes.

Releasing the student body into narrow hallways six, seven, or eight times each school day for four or five minutes to go to the bathroom, to their lockers, or to "get a date," creates noise, stress and, in many schools, bedlam (Canady and Rettig, 1996, p. 3). Additionally, students report to a different "boss" every 50 minutes and must adjust to several different sets of rules and expectations. Block scheduling, in most cases, reduces the number of times students change classes to four per day. This reduces opportunities for conflicts in the hall and the number of different teaching environments students face daily (Buckman, King, and Ryan, 1995, p. 10).

Research conducted by Joseph M. Carroll showed that block scheduling has a positive impact on areas of student conduct, attendance, discipline, and dropout rates. The report showed a moderate increase in attendance and reductions in the rate of suspensions. A significant improvement occurred in the area of dropout

rates. Carroll explained the reductions in suspension and dropout rates occurred because the change to longer blocks of instruction improves the relationships between teachers and students and provides more manageable workloads for both (Carroll, 1994, p. 110-112).

Although many articles can be found that relate improved areas of success for schools that have adopted block scheduling, comparisons of the various forms of block scheduling and which form provides the greatest benefit is lacking. The next section provides details of the various forms of block scheduling that were evaluated for this research problem.

Forms of Block Scheduling

Block schedules come in many forms. This section details forms of block scheduling currently being used at high schools in Virginia. In Table 2, the reader will find the total number of high schools in Virginia that use some form of block scheduling.

<u>Form</u>	<u>Number of Schools</u>	<u>Percentages</u>
6 A/B Block	12	4.1%
7 A/B Block	68	23.3%
8 A/B Block	8	2.7%
4 X 4 Block	78	26.7%
Other Block	4	1.4%
TOTAL	170	58.2%

Source: Directory of High School Scheduling Models in Virginia 1996-97; Study of Innovative High School Scheduling in Virginia, James Madison University, Michael D. Rettig. Revised: September 1, 1996

As seen in Table 2, 4 X 4 block scheduling is the most common form of block scheduling in Virginia. With the 4 X 4, students enroll in four 90 minute courses that meet every day for 90 days. Teachers teach three courses each semester. Year-long courses are completed in one semester. Students enroll in four new courses in the second semester.

Table 3 shows a typical 4 X 4 semester block schedule.

Table 3		4 X 4 Semester Block	
8:00-9:30 am	Block I		
9:34-11:00 am	Block II		
11:04-11:30 am	Lunch A	Study/Activity B	
11:34-12:00 pm	Study/Activity A	Lunch B	
12:04-1:30 pm	Block III		
1:34-3:00 pm	Block IV		

(Canady and Rettig, 1996, p. 12)

Note: More information on this type of block schedule can be obtained on the world wide web: classroom.net/classweb/myhome (Winans, 1997, p. 5).

The next highest percentage of schools in Virginia were using an alternate day block schedule. This type of schedule can be 6 A/B Block, 7 A/B Block, or the 8 A/B Block. With A/B schedules, students attend the same classes for the entire academic year. As an example, Ulysses High School in Kansas recently changed to an A/B block schedule. They maintain a web page of information on alternate day block schedules and can be contacted at: uhs73.pld.com/.

The most common alternate day block schedule is the 7 A/B Block. Table 4 shows a 7 A/B schedule. In 7 A/B Block, one half of the students are scheduled for first lunch and the other half are scheduled second lunch. They have fifth period everyday for 59 minutes. This method avoids congestion in the cafeteria and common areas.

Table 4 Alternate Day Block Schedule Built for 7 Courses and 2 Lunch Periods

		<u>"A" Day</u>	<u>"B" Day</u>
	8:00-9:49 am	Period I & HR	Period 2 & HR
	9:55-11:37 am	Period 3	Period 4
First Lunch	11:43-12:07 pm	Lunch	Lunch
	12:13-1:12 pm	Period 5	Period 5
Second Lunch	11:43-12:42 pm	Period 5	Period 5
	12:48-1:12	Lunch	Lunch
	1:18-3:00 pm	Period 7	Period 6

(Canady and Rettig, 1996, p. 7)

In 8 A/B Block, each semester, students take eight 90-minute classes, but classes meet every other day-- four on Day A and four on Day B. A typical 8-Block schedule is shown in Table 5.

Table 5 8 A/B Block

	<u>"A" Day</u>	<u>"B" Day</u>
8:00-9:30 am	Block I	Block V
9:34-11:00 am	Block II	Block VI
11:04-11:30 am	Lunch A	Study/Activity B
11:34-12:00 pm	Study/Activity A	Lunch B
12:04-1:30 pm	Block III	Block VII
1:34-3:00 pm	Block IV	Block VII

(Canady and Rettig, 1996, p. 12)

Of the 41.8% of Virginia high schools still using a Carnegie Plan of six or seven periods per day for the entire school year, some, like Lake Taylor High, are in the planning stages of conversion to some form of block scheduling. As shown in Table 2, only four high schools in Virginia use an alternative block schedule.

Summary

Chapter II, Review of Literature, presented the issue of block scheduling's effectiveness in terms of students having increased academic options and academic success. Teaching strategies for 90-minute blocks were listed and possible reductions in disciplinary problems and absenteeism were discussed. Different forms of block schedules currently in use in Virginia were identified and examples of schedules were provided. Although research has identified the merits of individual forms of block schedules, there is a lack of research comparing the different forms of block scheduling and which form would best meet the needs of an urban high school like Lake Taylor High. Chapter III provides a demographic profile of the population of the research study group and discusses the methods and procedures used to evaluate the various forms of block scheduling to determine what form of block scheduling should be adopted by Lake Taylor High.

CHAPTER III

Methods and Procedures

Chapter III, Methods and Procedures, establishes the procedures used to evaluate the effectiveness of block scheduling. It will define and discuss the population chosen for this study, instrument design, procedures for collecting data, and the statistical analysis method used.

Population

The population used for the study was administrators of Virginia high schools that use block schedules. A stratified random sample was made by random selection of twenty percent of schools using 6 A/B Block, twenty percent of schools using 7 A/B Block, twenty percent of schools using 8 A/B Block, and twenty percent of schools using 4 X 4 Block. The total number of schools surveyed was thirty-five.

Instrument Design

The instrument used to determine and compare the effectiveness of the different forms of block schedules was a survey. The surveys were mailed to the office of the principal of the various schools. The first question verified the type of block schedule being used at that particular school. The second question asked for the size of the student body. The remaining questions used the Likert Scale to answer the research goals of this study. One open ended question asked if there were a chance to revisit the decision to adopt a block schedule, would they choose the same form or a different form of block scheduling and why. A sample of the survey questionnaire can be found in Appendix A of the study.

Data Collection

A letter describing the study and the importance of the administrator's participation was mailed the first week of June 1997. The survey questionnaire and a pre-addressed postage paid envelope were attached. The participants were asked to return the survey questionnaires by five working days of receipt. A sample of the cover letter is located in Appendix B.

Statistical Analysis

The survey questionnaires returned by the school administrators were reviewed and analyzed using statistical methods. The Likert Scale answers rated from strongly agree to strongly disagree were reported as actual numbers and means were calculated. The results of the open ended question were summarized and grouped by frequency of response.

Summary

The form of block scheduling implemented at Lake Taylor High School may be determined from the results of this study. The population surveyed, the instrument design, method of data collection, and statistical analysis described in this chapter allowed the researcher to compile data that will be presented as findings in Chapter IV.

CHAPTER IV

Findings

This study was conducted to evaluate the effectiveness of block scheduling to determine what form of block scheduling should be adopted by Lake Taylor High School. This chapter contains the findings of the surveys mailed to and returned by administrators of Virginia high schools using block schedules. Findings are presented in both a narrative form and in supporting tables.

Survey Responses

A total of thirty-five surveys were mailed to administrators of Virginia high schools using block schedules; twenty-eight of these surveys were returned. Table 6 shows the percentage of return of this stratified random sample.

Table 6 Stratified Random Sample Survey Distribution

<u>Block Type</u>	<u>Mailed</u>	<u>Returned</u>	<u>Percentage</u>
4 X 4	16	13	81.25%
7 A/B	14	10	71.4%
6 A/B	3	3	100%
8 A/B	2	2	100%
Total	35	28	80%

Note: Surveys mailed represented 20% of total population

The survey consisted of eight statements. Statement 1 verified the form of block scheduling the respondent was using; statement 2 identified the size of the student population. Statements 3 through 7 were directly related to the research goals and were rated using the Likert Scale.

Survey statements 3 through 7 are listed below:

- 3. A change to block scheduling provided more academic options for our students.**
- 4. Students had greater academic success after our change to block scheduling.**
- 5. Block scheduling reduced disciplinary problems at our school.**
- 6. Block scheduling reduced attendance problems at our school.**
- 7. Block scheduling increased non-lecture teaching strategies at our school.**

Administrators were given the choice of responding: strongly agree (5), agree (4), uncommitted (3), disagree (2), and strongly disagree (1). Statement 8 was an open-ended question asking administrators if there were a chance to revisit their decision to adopt block scheduling at their school, would they choose the same form or a different form of block scheduling and why. Table 7 shows the mean response of all surveys returned. The mean scores indicate that administrators agreed with statements 3, 4, 5, and 7 but were uncommitted concerning attendance problems.

Block Type	Survey Statement	3	4	5	6	7
6 A/B (3)		9	12	11	13	13
8 A/B (2)		6	6	6	5	8
7 A/B (10)		40	37	36	31	39
4 X 4 (13)		62	57	53	46	50
	Total	117	112	106	95	110
	Mean	4.2	4.0	3.8	3.4	3.9

Note: Mean determined by total of all scored responses divided by number of surveys returned (28).

6 A/B Block Schedule

Twelve Virginia high schools were using 6 A/B block schedules during the 1996-1997 school year. Three schools received surveys and all three responded. Mean responses in Table 8 indicate that administrators of these schools agreed with all survey statements with the exception of statement three. They were uncommitted as to whether block scheduling provided more academic options for students. New state guidelines relating to the increase in the number of credits required for graduation may eliminate this form of block scheduling. Table 8 shows the findings of surveys returned by schools using 6 A/B block scheduling.

Table 8 Survey Response From Schools Using 6 A/B Block Schedule

<u>Survey #</u>	<u>Survey Statement</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1		3	4	3	4	5
2		2	4	4	4	4
3		4	4	4	5	4
	Total	9	12	11	13	13
	Mean	3	4	3.66	4.33	4.33

Administrators of schools using 6 A/B block scheduling provided the following responses to statement number 8:

Administrator #1: “We have been on the 6 A/B for five years. If money had permitted, we would liked to have gone to the 7 A/B so that more options would be in place for our students. Dollars drive the decisions, however.”

Administrator #2: “With the new guidelines coming from the state department relating to the increase in the number of credits required for graduation, we will probably investigate the 7 A/B block and the 4 X 4. This type of block schedule will provide more classes during the day thus more opportunities to gain additional credits.”

Administrator #3: “We have several schedules; overall its A/B block. Grade 9 has a 5 period daily block with interval schedule developed by each team. We have a three period grade 10 block daily with interval schedule set by each team. We also have a double period algebra (daily 94 minutes). I/we like these arrangements.”

8 A/B Block Schedule

Eight Virginia high schools used the 8 A/B block schedule in the 1996-97 school year. Two schools received surveys and both responded. The mean response by administrators of these schools were uncommitted on all survey statements with the exception of statement seven. Both administrators agreed that block scheduling increased non-lecture teaching strategies. Table 9 shows the findings of surveys returned by schools using 8 A/B block scheduling. Please note the strong disagreement between administrator number one and administrator number two.

Table 9 Survey Response From Schools Using 8 A/B Block Schedule

<u>Survey #</u>	<u>Survey Statement</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1		5	5	5	4	4
2		1	1	1	1	4
	Total	6	6	6	5	8
	Mean	3	3	3	2.5	4

Only one of the two administrators surveyed provided a response to statement number 8:

Administrator #1: “I would choose a similar one. Because one of our blocks is a study block, I’d only revise to adjust that.”

7 A/B Block Schedule

Sixty-eight Virginia high schools used the 7 A/B block schedule in the 1996-1997 school year. Fourteen schools received surveys and ten responded. Mean responses in Table 10 indicate agreement among these administrators in all areas except attendance. They are uncommitted about block scheduling reducing attendance problems. Table 10 provides their individual responses:

Table 10 Survey Response From Schools Using 7 A/B Block Schedule

<u>Survey #</u>	<u>Survey Statement</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1		2	2	2	2	3
2		3	3	4	3	4
3		5	4	4	3	4
4		4	4	3	3	4
5		5	4	5	4	4
6		4	4	4	3	4
7		5	5	4	4	5
8		5	5	4	3	5
9		5	4	4	4	4
10		2	2	2	2	2
	Total	40	37	36	31	39
	Mean	4.0	3.7	3.6	3.1	3.9

Administrators of schools using 7 A/B block scheduling provided the following responses to statement number 8:

Administrator #1: “No, I don’t believe block scheduling offers any real advantage. It too will pass with time.”

Administrator #2: “Same - Due to growth, if block scheduling had not existed, we would have had to create it. We adopted the block plan for not less than three years. There will be no revote. Personally, I would look at the 4 X 4 for the future. I think it offers more flexibility for students. I would accommodate fine arts/music with an embedded period.”

Administrator #3: “Same, because it has proven effective in improving student achievement.”

Administrator #4: “It could - our community was divided between 7 A/B vs. 4 X 4.”

Administrator #5: “Yes - It has been extremely successful.”

Administrator #6: “4 X 4 is the schedule of choice, but unavailable due to county wide restrictions.”

Administrator #7: “Yes, however we are embedding some 4 X 4 dimensions in the 7 A/B schedule.”

Administrator #8: “Same. Time to create active learning techniques and assessment products. Students are more active in learning. I love our professional development period - creates great “things” for students. More time to interact individually with students. Students love it.”

Administrator #9: “Same form of block schedule.”

Administrator #10: “I definitely would not choose the one we currently have.”

4 X 4 Block Schedule

Seventy-eight Virginia high schools used the 4 X 4 block schedule in the 1996-97 school year. Sixteen schools received surveys and thirteen responded. Administrators of schools using 4 X 4 block scheduling strongly agreed that block schedules provide more academic options for students. Additionally, seven of the thirteen agreed that 4 X 4 block scheduling reduces attendance problems. Mean responses in Table 11 indicate schools using 4 X 4 block schedules have the best results of all the administrators surveyed.

Table 11 **Survey Response From Schools Using 4 X 4 Block Schedule**

<u>Survey #</u>	<u>Survey Statement</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1		5	4	4	4	3
2		5	5	4	4	4
3		5	4	5	3	4
4		5	5	4	3	4
5		5	4	4	5	5
6		5	4	4	4	4
7		5	4	4	2	3
8		3	3	4	2	2
9		5	4	4	5	5
10		5	5	4	2	4
11		4	5	5	3	4
12		5	5	3	4	4
13		5	5	5	5	4
	Total	62	57	53	46	50
	Mean	4.8	4.4	4.1	3.5	3.8

Administrators of schools using 4 X 4 block scheduling provided the following responses to statement number 8:

Administrator #1: “I would choose the same form because our students have shown gains in academic achievement, attendance and behavior. The climate is better because of less class changes and students get more hands-on and individual attention.”

Administrator #2: “Yes, it fits the needs of our students.”

Administrator #3: “We implemented our 4 X 4 this year. During the spring we surveyed students, parents and faculty - we then voted at all levels. The decision to retain 4 X 4 prevailed.”

Administrator #4: “I would choose the same. I am very impressed with the 4 X 4 block. It gives students the opportunity to receive four credits each term. The teachers enjoy the ninety minute block of instructional time. The 4 X 4 block also helps the attendance policy. Students who have difficulty attending school will get a second chance the following term to receive four credits. A student who fails a class could, if space is available, repeat that class the same year.”

Administrator #5: “We would choose the same form of schedule.”

Administrator #6: “Same”.

Administrator #7: “We would not change back.”

Administrator #8: No comment provided.

Administrator #9: “Same schedule would be chosen again. Good Luck!”

Administrator #10: “Absolutely the same form! It promotes mastery learning and greater academic opportunities for students and staff.”

Administrator #11: “Yes, 4 X 4 offers more for students, more options - less stress; four classes to prepare for instead of seven. More time for teachers to plan.”

Administrator #12: “Yes, it works for us.”

Administrator #13: “Same form. Our students are performing better having to be concerned with only four subjects at a time instead of six or more. The format of the 4 X 4 block allows all the things stated above, as well as it allows students and teachers to start with a new setting after ninety days, Fall Term.”

Summary

The findings of the various forms of block scheduling and the scoring used to determine mean scores have been used to develop Table 12. It compares the means of each type of block schedule surveyed and totals the means for a comparison by group. The scores are used to rank order the forms of block scheduling. High score indicates the form of block scheduling with greatest approval by administrators.

Table 12 Total of Means by Block Schedule Category

<u>Statement #</u>	<u>6 A/B</u>	<u>8 A/B</u>	<u>7 A/B</u>	<u>4 X 4</u>
3	3	3	4	4.8
4	4	3	3.7	4.4
5	3.66	3	3.6	4.1
6	4.33	2.5	3.1	3.5
7	4.33	4	3.9	3.8
Total	19.32	15.5	18.3	20.6

In Chapter V of this study the research will be summarized, a conclusion of the data collection will be drawn, and a recommendation will be made.

CHAPTER V

Summary, Conclusions, and Recommendations

The purpose of this chapter was to report the summary, conclusions, and recommendations of this study. This information was based on the results of the research data obtained by the mailing of surveys to administrators of Virginia high schools utilizing a block schedule. Twenty percent of the population were mailed surveys and eighty percent of the surveys were returned.

Summary

The problem of this study was to evaluate the effectiveness of block scheduling to determine what form of block scheduling should be adopted by Lake Taylor High School in Norfolk, Virginia. A stratified random survey was designed and mailed to thirty-five participants the first week of June 1997. Eighty percent of the school administrators responded representing Virginia high schools using either 6 A/B, 7 A/B, 8 A/B, or 4 X 4 block scheduling.

The survey was designed to answer the following research goals:

- 1. Does a change to block scheduling provide more academic options for students?**
- 2. Does a change to block scheduling provide for greater academic success?**
- 3. Does a change to block scheduling reduce disciplinary and attendance problems?**
- 4. Does a change to block scheduling increase non-lecture teaching strategies?**
- 5. What form of block scheduling should be implemented at Lake Taylor High School?**

Findings from the data were presented in narrative and table format. Based on statistical analysis of the data, conclusions were drawn and recommendations were made.

Conclusions

The following conclusions were drawn from this research :

1. *A change to block scheduling does provide more academic options for students.*

The overall response from school administrators was a mean of 4.2 which indicated administrators agreed on this issue. However, administrators of 6 A/B and 8 A/B schools both had means of 3 which indicated they were uncommitted, administrators of 7 A/B schools agreed with a mean of 4, and administrators of 4 X 4 schools were in strong agreement with a mean of 4.8.

2. *A change to block scheduling does provide for greater academic success.*

The overall response from school administrators was a mean score of 4.0 which indicated they agreed on this issue. However, administrators of 8 A/B schools were uncommitted with a mean score of 3 while administrators of 6 A/B, 7 A/B, and 4 X 4 schools all agreed with means of 4, 3.7, and 4.4 respectively.

3. *A change to block scheduling does reduce disciplinary problems in schools.*

The overall response from school administrators was a mean score of 3.8 which indicated they agreed on this issue. However, administrators of 8 A/B schools were uncommitted with a mean of 3. Administrators of 6 A/B, 7 A/B, and 4 X 4 schools all agreed with means of 3.6, 3.6, and 4.1 respectively.

4. A change to block scheduling may have no effect on attendance problems.

The overall response from school administrators was a mean score of 3.4 which indicated administrators were uncommitted on this issue. However, administrators of 6 A/B schools had a mean score of 4.3 and administrators of 4 X 4 schools had a mean score of 3.5 which indicated they agreed that block scheduling reduced attendance problems. Administrators of 8 A/B schools had a mean score of 2.5 and administrators of 7 A/B schools had a mean score of 3.1 which indicated they were uncommitted on this issue.

5. A change to block scheduling does increase non-lecture teaching strategies.

Overall school administrators agreed on this issue with a mean score of 3.9. The individual mean scores of 6 A/B, 8 A/B, 7 A/B, and 4 X 4 schools were 4.3, 4, 3.9, and 3.8 respectively.

Recommendations

Based on an analysis of the data from this study, the researcher recommends Lake Taylor High School proceed with staff development and community relations based on the 4 X 4 block schedule. The research showed that the 4 X 4 model had the greatest level of acceptance by school administrators and they provided the most favorable comments. Administrators of other forms of block schedules indicated some had adopted parts of the 4 X 4 format into their schedules and others were investigating or contemplating a change to the 4 X 4 model. Additionally, the researcher recommends any future research into block scheduling should concentrate the study solely on urban schools with student body size and demographics similar to Lake Taylor High School.

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APPENDIX A
Survey Questionnaire

Block Scheduling Survey

Purpose: A study to evaluate the effectiveness of block scheduling to determine what form of block scheduling should be adopted by Lake Taylor High School in Norfolk, Virginia.

Directions: For each statement listed below, circle the response which most nearly reflects your block scheduling experience. Please answer the question at the bottom of the page as completely and honestly as you can.

1. The form of block scheduling used at my school is:

6 A/B Block 7 A/B Block 8 A/B Block 4 X 4 Block

2. The student population at my school is:

less than 500 500 to 1,000 1,000 to 1,500 greater than 1,500

3. A change to block scheduling provided more academic options for our students.
(i.e., additional class choices, curriculum acceleration, opportunity to repeat classes, etc.)

strongly agree agree uncommitted disagree strongly disagree

4. Students had greater academic success after our change to block scheduling.

strongly agree agree uncommitted disagree strongly disagree

5. Block scheduling reduced disciplinary problems at our school.

strongly agree agree uncommitted disagree strongly disagree

6. Block scheduling reduced attendance problems at our school.

strongly agree agree uncommitted disagree strongly disagree

7. Block scheduling increased non-lecture teaching strategies in our classrooms.

strongly agree agree uncommitted disagree strongly disagree

8. If there were a chance to revisit the decision to adopt a block schedule at your school, would you choose the same form or a different form of block scheduling? Why?

(over if necessary)

APPENDIX B

Sample Cover Letter

Sample Cover Letter

**Kerry L. McDaniel
105 Cove Crescent
Yorktown, VA 23692**

**Woodrow Wilson High School
1401 Elmhurst Lane
Portsmouth, VA 23701-1798**

Dear Principal Wallace:

Lake Taylor High School in Norfolk will be adopting a block schedule format in the 1998/1999 school year. To assist us in preparing for this transition, I am conducting research to evaluate the effectiveness of block scheduling. My goal is to determine what form of block scheduling should be adopted by Lake Taylor High School.

You have been selected through a stratified random sample to participate in this research. Your participation is of utmost importance to this study. As an administrator of a high school that is using block scheduling, your response(s) to the attached survey will assist my school in determining what form of block scheduling will best meet the needs of our student body.

Please complete the attached survey and mail it in the enclosed stamped envelop. It is short and will require less than five minutes to complete. The information you provide is for general statistical analysis and will not be identified with your school. Your response within five working days of receipt of this request is greatly appreciated.

Sincerely,

**Kerry L. McDaniel
Lake Taylor High School**