APPENDIX A

REVIEW OF LITERATURE ON HIGH SCHOOL BLOCK SCHEDULING

Author/Date	Topic	Purpose	Sample	Methodology	Results
Bateson (1990)	Science Achievement in Semester and All-Year Courses	To investigate the effects of full-credit semester schedules (blocked) and all-year schedules (traditional) on tenth-grade science achievement.	10^{th} grade science students in British Columbia, n=28,068	ANOVA	Students in all-year courses consistently outperformed both first and second semester students in the cognitive domains tested on multiple-choice tests of curriculum-based science, and there were no significant differences in the affective domains.
Deuel (1999)	Block Scheduling in Large, Urban High Schools: Effects on Academic Achievement, Student Behavior, and Staff Perceptions	To evaluate the effects of the implementation of 7-period rotator and 4 x 4 block scheduling in Broward County (Florida) schools.	10 high schools on 4 x 4 n=23,248. 12 high schools on 7 bell n=26,581	Pre-and Post-test design; descriptive statistics	Students in block schools earned more A's, fewer C, D, and F's and higher grades in advanced mathematics. No differences in attendance or suspensions were found. The staff reported the use of new instructional strategies.

Author/Date	Topic	Purpose	Sample	Methodology	Results
Eineder & Bishop (1997)	Block Scheduling the High School: The Effects on Achievement, Behavior, and Student-Teacher Relationships	To evaluate the 4 x 4 block schedule during the first two years of implementation at one rural high school.	n not given	t-test; chi square	Students in block schools earned higher grade point averages; more students attained the honor roll status. Discipline referrals were reduced, student-teacher relationships improved, and teachers and students preferred the block schedule to the traditional schedule.
Gruber & Onwuegbuzie (2001)	Effects of Block Scheduling on Academic Achievement Among High School Students	To determine the effects of block scheduling on academic achievement (Georgia High School Graduation Test and grade point average) between students who received instruction in the 4 x 4 block (class of 2000) and students who received instruction in a traditional schedule (class of 1997).	n=115 on 4 x 4; n=146 on traditional	t-test	No significant difference in grade point averages or in scores on the writing portion of the GHSGT was found between the two groups. Statistically significant differences were found for English, mathematics, social science, and science on the GHSGT. Students who received instruction in the traditional schedule received higher GHSGT scores.

Author/Date	Topic	Purpose	Sample	Method	Results
Guskey & Kifer (1995)	Evaluation of a high school block schedule restructuring program	To describe the change from a traditional schedule to a 4 x 4 schedule; to identify and to resolve problems during implementation; and to assess the impact of the new schedule	One high school of 1400 students	Survey research; descriptive statistics	No significant difference on the end-of-course state assessments. However, 9th grade students scores increased in reading, math and citizenship; African-American students showed significant difference on end-of-course assessments.
Lawrence & McPherson (2000)	A Comparative Study of Block Scheduling and Traditional Scheduling on Academic Achievement	To determine the impact of block scheduling on academic achievement on end-of-course high school tests (North Carolina) in Algebra I, Biology, English I, and U.S. History	Two high schools n=4,759	t test compared two years on the traditional schedule and two years on the 4 x 4 block schedule	Mean scores for students on the traditional schedule were significantly higher than those on the block schedule.

Author/Date	Topic	Purpose	Sample	Methodology	Results
McCreary & Hausman (2001)	Differences in Student Outcomes between Block, Semester, and Trimester Schedules	To assess differences in student outcomes between students in high school using an alternate day (A-B), 4 x 4, and trimester schedule in one urban school district.	Three high schools, 2400 on trimester; 2500 on 4x4; 2400 on A-B	ANCOVA	Students in the 4 x 4 maintained a higher grade point average than students on the alternating day or trimester schedule. The 4 x 4 students also had higher STAT 9 math scores. There was no difference between trimester and A-B STAT 9 math. Science scores were higher for trimester and A-B than the 4 x 4.
Mutter, Chase & Nichols (1997)	Evaluation of a 4x4 block schedule	To evaluate the 4x4 block schedule at one high school after one year of implementation	n not given	Questionnaire	The majority of students, parents, teachers, and administrators preferred the block to the six-period schedule. Students earned more credits and repeated courses without attending summer school. Course grades and student attendance improved.

Author/Date	Topic	Purpose	Sample	Methodology	Results
Queen, Algozzine, & Eaddy (1998)	Implementing 4 x 4 Block Scheduling: Pitfalls, Promises, and Provisos	To evaluate the implementation of 4x4 block schedule in three high schools	Pop. at each high school reported to be 750-900 students	Questionnaire; descriptive statistics	Teachers reported greater flexibility in instruction and few changes in student performance on end-of-course tests in math and science. Increased performance in social science was reported.
Schroth & Dixon (1996)	The effects of block scheduling on student performance	To compare math achievement scores in block (4 x 4 & A-B) and nonblock scheduled schools	Two schools; 7^{th} grade math; school #1 n=260, school #2 n=273	ANOVA (3x2x3) using the Texas Assessment of Academic Skills (TAAS)	Students in school #1 using traditional schedule showed no significant difference to students in school #2 using A-B or 4 x 4 on the TAAS. Students were grouped high achievers (4x4) and low achievers (A-B).

Author/Date	Topic	Purpose	Sample	Methodology	Results
Veal & Flinders (2001)	How Block Scheduling Reform Effects Classroom Practice	To study three contiguous schedules (traditional, 4 x 4, and a hybrid) at one high school and the effects of the schedule on classroom practice.	Teachers, parents, and students were surveyed, n not given.	Likert scale surveys, interviews, and classroom observations. Pearson Chi Square, response rate, ANOVA	Teachers reported a move to more student-centered instruction; teachers and students reported improved student-teacher relationships; teachers reported an increase in pace of instruction and heightened anxiety for a need for more planning time.
Veal & Schreiber (1999)	Block Scheduling Effects on a State Mandated Test of Basic Skills	To examine a tri-schedule (A-B, 4x4 and traditional) on student academic achievement.	One high school of 1800 students	ANCOVA	No significant difference in reading and language scores. Significant difference in math for students on the traditional schedule was found.

Author/Date	Topic	Purpose	Sample	Methodology	Results
Wilson & Stokes (1999)	Teachers' Perceptions of the Advantages and Measurable Outcomes of the 4 x 4 Block Scheduling Design	To determine the effectiveness of 4x4, the relationship between teacher perception and years of experience, and subject area taught.	Two high schools in 1st year (n=112) and two high schools in 2nd year of block (n=83)	Likert-scale survey Means for the two groups and ANOVA were conducted.	There were no significant relationships between subject areas taught or years of experience with teachers' perceptions of block scheduling. Teachers perceived the use of varied teaching strategies but did not report measurable outcomes for students.

APPENDIX B

BLOCK SCHEDULING SURVEY

February 2002

Dear Colleague:

Educators across the nation have been rethinking the organization of the high school day in relation to time as they begin to face the challenges of a new century. Your school has been identified as one of 222 high schools in Virginia that has taken the step toward reorganization and restructured the school day to utilize a block schedule format. As part of the requirements for the degree of Doctor of Education from Virginia Tech, I am conducting a study of the effects of high school block scheduling on the Virginia Standards of Learning (SOL) assessments. As a principal, your participation in such a study is most important.

The study will attempt to compare the effects of the 7-period alternating day block schedule, the 4 x 4 block schedule, and the traditional single-period schedule on high school academic achievement as measured by the mean scaled score on end-of-course SOL tests. The intent of this study is to provide administrators information to use when determining which schedule is best for their school. Please note that the name of your high school will not appear in the study; the study will only report data in terms of schedule type (traditional, 7 A-B, 4 x 4), school size (0-500 students, 501-999 students, 1000+ students), and school location (urban, suburban, rural).

Your responses are very valuable and needed during this time of increased accountability for principals. **Please complete the enclosed survey of six questions, and return it to me by March 1**. A pre-addressed stamped envelope is enclosed for your convenience in returning the survey. If you have any questions or concerns you would like to address before completing the survey, please feel free to contact me at one of the phone numbers listed below.

At the completion of this dissertation study, Virginia Tech will publish the results on the web (www.vt.edu) under Electronic Thesis and Dissertations. In addition, I will be glad to provide you with the results if you contact me by phone or by email (jrayfiel@vt.edu).

Thank you for your time and assistance in helping me complete this study.

Sincerely,

James D. Rayfield
Doctoral Student
1545 Waterside Drive
Chesapeake, VA 23320
w-757-547-1134
h- 757-420-4172

Steve R. Parson, Ed.D.
Associate Professor
Educational Leadership and Policy Studies
Virginia Tech (0302)
Blacksburg, VA 24061

Survey # _____

BLOCK SCHEDULING SURVEY

Please answer the following questions as they pertain to your high school during the 2000-2001 school year.

1. What type of block schedule did you use during the 2000-2001 school year? (Circle the letter of your answer.)

    a. 7-period alternating day

    b. 4 x 4 block schedule

    c. Modification of one of the above (Please explain.) _____

    _____

2. How long has your school been utilizing this form of block scheduling? (Circle the letter of your answer.)

    a. One year

    b. Two years

    c. Three or more years

3. How would you describe your school's location? (Circle the letter of your answer.)

    a. Urban

    b. Suburban

    c. Rural

4. What was your school's average daily membership for the 2000-2001 school year? (Circle the letter of your answer.)

    a. 0-500

    b. 501-999

    c. More than 999

Please turn the page over for questions 5 and 6.

5. Which of the core subject areas listed below has embraced the block schedule format the best? (Circle the letter of your answer.)

    a. English

    b. History and the Social Science

    c. Mathematics

    d. Science

6. Which of the core subject areas listed below has had the most difficulty embracing the block schedule format? (Circle the letter of your answer.)

    a. English

    b. History and the Social Science

    c. Mathematics

    d. Science

BLOCK SCHEDULING SURVEY

Follow-Up Cover Letter

March 2002

Dear Colleague:

Last month I sent you a survey requesting information regarding your high school and the schedule you use. Your school was identified as one of 222 high schools in Virginia that has reorganized the school day to utilize a block schedule format. If you have already completed the survey, please accept my sincere appreciation. The information you provide is extremely important in preparing accurate data and results of my study on high school block scheduling in Virginia. I hope the information that I provide will be of value to all principals as they make future decisions on how to arrange the school day to maximize learning and student achievement.

If by chance you did not receive the first mailing of the survey, I have enclosed a copy of the original cover letter along with the survey. Please take a moment to complete the survey of 6 questions, and return it to me by April 8. If you have any questions regarding the survey or this study, please feel free to contact me at one of the telephone numbers listed below or by email at jrayfiel@vt.edu. Thank you for your time in helping me complete this study.

Sincerely,

James D. Rayfield
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1545 Waterside Drive
Chesapeake, VA 23320
w-757-547-1134
h-757-420-4172

APPENDIX C

GRADUATION REQUIREMENTS

COMMONWEALTH OF VIRGINIA – STANDARD DIPLOMA

Content Area	Standard Units of Credit*	Verified Units of Credit**
English	4	2
Mathematics	3	1
Laboratory Science	3	1
History and the Social Sciences	3	1
Health and Physical Education	2	
Fine/Practical Arts	1	
Electives	6	
Student Selected Tests		1
Total	**22**	**6**

*A standard unit of credit is earned by completing 140-hours of instruction and passing the course.

**A verified unit of credit is earned by passing a course and its related Standards of Learning test.

Vita
James Denard Rayfield III

Education

Ed. D. in Educational Leadership and Policy Studies
Virginia Polytechnic Institute and State University, 2002
M. Ed. in Education
University of Virginia, 1979
BA in English
James Madison University, 1978

Professional Experience

Director of Secondary Curriculum and Instruction, Chesapeake Public Schools, Chesapeake, Virginia, 8/97 – present.
Supervisor of Secondary English, Chesapeake Public Schools, 8/92 – 7/95.
Assistant Principal, Oscar Smith High School, Chesapeake, Virginia, 7/90 – 7/92.
Assistant Principal, Chesapeake Alternative School, Chesapeake, Virginia, 8/88 – 6/90.
Guidance Director, Oscar Smith High School, Chesapeake, Virginia, 8/87 – 7/88.
Guidance Counselor, Indian River High School, Chesapeake, Virginia, 3/84 – 7/87.
English Teacher, Western Branch High School, Chesapeake, Virginia, 8/79 – 3/84.

Professional Memberships

Association for Supervision and Curriculum Development
American Educational Research Association
Association for Career and Technical Education

Professional Activities and Awards

Recipient, *Virginia Curriculum Leader of the Year*, Virginia Association for Supervision and Curriculum Development, 2000.
Presenter, *The Changing Role of the Principal in Curriculum and Instruction*, Principal Center of Hampton Roads at Old Dominion University, 2002.
Presenter, *Integrating Academic Standards into Career and Technical Education*, Association for Career and Technical Education, 2001.
Presenter, *Integrating Technology in the English Curriculum*, National Council for Teachers of English, 1997.