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THE PERCEPTIONS OF HIGH SCHOOL PHYSICAL EDUCATORS ON THE
BENEFITS OF BLOCK SCHEDULING IN THE STATE OF UTAH

by

Marilyn Miller

A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Science

Department of Exercise Sciences

Brigham Young University

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ABSTRACT

THE PERCEPTIONS OF HIGH SCHOOL PHYSICAL EDUCATORS ON THE BENEFITS OF BLOCK SCHEDULING IN THE STATE OF UTAH

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Master of Science

The purpose of this research was to examine the extent to which the block schedule is being used in Utah high school physical education, and determine teacher's perceptions of block scheduling in teaching physical education. Block scheduling is a new and more efficient way of organizing the school day. NASPE has found the following positive effects in block scheduling: a better learning environment, more access to stronger curriculum, detailed instruction and demonstrations, and more variety in assessment (NASPE, 2000). Although there were several different forms of the block schedule reported, it appears that a majority of physical educators have discovered an improvement in many aspects of teaching with the use of this schedule.

Colleges and universities with teacher education programs should recognize the shift in scheduling for many schools to the block format and provide classes that will teach future educators how to effectively prepare for an extended block class period.

According to teachers who are currently using it, it appears the block schedule is providing the time to allow students to learn and be active. They would not desire to change back to the traditional form.

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Marilyn Miller

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the thesis of Marilyn Miller in its final form and have found that (1) its format, citations and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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THE PERCEPTIONS OF HIGH SCHOOL PHYSICAL EDUCATORS ON THE
BENEFITS OF BLOCK SCHEDULING IN THE STATE OF UTAH

Marilyn Miller

Abstract

The purpose of this research was to examine the extent to which the block schedule was being used in Utah high school physical education, and determine teacher's perceptions of block scheduling in teaching physical education. Block scheduling is a new and more efficient way of organizing the school day. This system, according to advocates, is designed to accommodate curriculum integration, several modes of instruction within a class period, and cooperation among teachers and students (Khazzaka, 1997, Czaja & McGee, 1995). This schedule has fewer class changes, and has several modes of instruction possibilities within a class period (Khazzaka, 1997). NASPE (2000) released a position statement suggesting the following positive effects of block scheduling: a better learning environment, more access to stronger curriculum, detailed instruction and demonstrations, and more variety in assessment. Although there were several different forms of the block schedule reported, it appears that a majority of physical educators in the state of Utah perceived an improvement in many aspects of teaching with the use of any of these scheduling formats. Findings also indicated that the block schedule is providing more time for students to learn and be active.

Colleges and universities with teacher education programs should be aware of the shift toward block scheduling. As a result of this shift, teacher education programs may need to consider providing instruction that will assist future physical educators in effectively preparing to teach in the block format.

Introduction

The traditional (seven period day) high school structure remained essentially the same for most of the 20th century. In the late 1960s and early 1970s, some experimentation with flexible class periods was being done. In 1959, J. Lloyd Trump proposed eliminating the traditional high school schedule and instituting classes of varying lengths in accordance with the instructional needs of students. Traditional high school scheduling was called into question in 1983 when *A Nation at Risk* reported that American students were academically lagging behind their counterparts in a number of other industrialized nations. Educators began to examine alternatives that might result in higher student achievement.

One survey done in Wisconsin questioned music teachers on the block schedule's effectiveness from a fine arts perspective. Most teachers (69%) in music who are on the block schedule reported that there was a significant decrease in enrollment with a move to the block schedule due to scheduling conflicts. Teachers also stated that the students in this particular subject matter had a difficult time focusing for long periods of time and did not feel that the students learned any more than they did on a traditional time schedule (Meidl, 1997). Some research has been done at Iowa State University concerning the block schedule as well. Researchers there found that some subjects may be better suited for the block schedule than others. Foreign language, mathematics, and Advance Placement courses, for example, may do much better with day-to-day contact and less

material covered than they do with the block schedule (Hackmann, Curtis, & Brown, n.d.).

Many educators came to see the restructuring of schools, including their schedules, as a central way of seeking improvement (“Why Schools Moved,” 2000). The block schedule has been widely implemented and is a growing trend, although still a controversial issue in today’s education. Although several hybrids and modification of block scheduling exist, almost all represent some variation of two basic forms—the alternate-day schedule and the 4/4 semester schedule. The alternate-day or A/B schedule has classes meet for 80-120 minutes. The A/B schedule typically comes in six, seven or eight course formats. The 4/4 schedule has four year-long courses each semester. Most courses meet for 80-100 minutes everyday over a 90-day semester (Rettig & Canady, 1999).

Research by Bukowski and Stinson (2000) suggests that teachers have several concerns about the block schedule, but the program meets their overall approval. Major advantages of this schedule are the potential for teacher collaboration, improved relationships with students, and increased planning time (Bryant & Claxton, 1996; Bukowski & Stinson, 2000). Research found the following positive effects: encouraging varied teaching strategies, innovative educational programs, additional laboratory experiences, teachers working with fewer students per day, additional planning time, higher achievement rates, and larger enrollments in honors and advanced classes (Miller, 2000; “The Roots,” n.d.). A survey by Staunton and Adams (1997) indicated that teachers enjoyed having less up-front lecturing, more one-on-one interaction with students, and a

less hectic schedule. Disadvantages, unfortunately, are that ineffective teachers who choose the block schedule have more challenges planning effectively for a 90-minute block. It takes skill, time, and creativity (Boyce & Markos, 1997; Bukowski & Stinson, 2000; Czaja & McGee, 1995). Miller (2000) states fewer total hours in a course, and the difficulty of adapting some courses to the block schedule. Class length, uneven schedules, course sequencing and makeup work is also a concern (Hurley, 1997).

In 2000, the National Association for Sport and Physical Education (NASPE)—the predominant professional body in physical education—published a statement concerning the effects of block scheduling, indicating that the system has many advantages over traditional schedule approaches for both students and teachers. The traditional schedule consists of six to eight periods a day that meet every day. Block scheduling is a new and more efficient way of organizing the school day. NASPE has reported the following possible positive effects in block scheduling: a better learning environment, more access to stronger curriculum, detailed instruction and demonstrations, and more variety in assessment (NASPE, 2000).

Bryant and Claxton (1996) conducted a study in North Carolina to find out if teachers preferred the block schedule or the traditional schedule. A survey was developed asking questions concerning classroom management, physical activity, and general scheduling in the block schedule and the traditional schedule, which allowed teachers to share their perceptions of each schedule and why one was more beneficial than the other.

Teachers in North Carolina were generally very positive about the block schedule and appeared to prefer this type of scheduling to the traditional seven-day period. Some

of the benefits Bryant and Claxton (1996) found in the course of their study were: a greater opportunity to meet all objectives, a better chance to achieve physical fitness goals, more time to develop sport skills, and less time spent dressing for class. One major drawback of the block schedule that Bryant and Claxton (1996) found in their study is that students who dislike physical education think it is too long to bear, which makes it difficult to motivate students to maintain physical fitness levels.

Bryant and Claxton (1996) suggest that the block schedule can be a tremendous resource to educators in implementing and maintaining a quality physical education program. When the block schedule is not instigated properly, there is a possibility that young people are at a disadvantage by creating more wasted time and inefficient training for their physically active lifestyles. Overall, both students and teachers in physical education benefit from block scheduling and the benefits have been found to outweigh the concerns (Bryant & Claxton, 1996), which satisfied the purpose of the study. The purpose of this study was to (a) determine the extent to which the block schedule was being used in physical education in the state of Utah, and (b) determine teacher's perceptions of block scheduling in teaching physical education. However, other published studies in this area are limited (Bryant & Claxton, 1996). More research on the impact of block scheduling in physical education is warranted to validate these early studies in this area.

Methods

Participants

The participants surveyed were certified high school physical education teachers in the state of Utah. Utah's school districts consist of urban to significantly rural schools. The districts were stratified based on enrollment numbers (1A-5A) with schools and teachers randomly selected from them. The survey was sent without prior knowledge of whether or not the school was using the block schedule. The survey was mailed to 124 high school principals. The principals were asked to have a physical education teacher fill out the survey and return in a two- week period. Consent of the participants in the survey was shown by voluntary participation. One hundred seventeen (94%) of the 124 sent out were returned. Each of the classifications was well represented in the surveys that were returned (see Table 1). The survey indicated that the new scheduling system was called by many different terms, but "block scheduling" was used in the survey. Access to the teachers/schools was made available through the Utah High School Activities Association. IRB approval from Brigham Young University was obtained before mailing the survey.

Instrument

A review of the literature discovered a survey used by Bryant and Claxton (1996) in the state of North Carolina, which examined the use of block scheduling. The instrument was first reviewed in-house to assess its face validity. That having been accomplished, the instrument was pilot tested at a local high school to identify problems in flow, structure, and content of questions. I also did a pilot test with the junior high

school physical education teachers in my district and found it to be reliable. Given the purpose of this study to examine block scheduling in the state of Utah, the instrument developed by Bryant and Claxton (1996) was used. This survey asked questions of physical educators about which students take physical education at their schools, how their blocks are structured, the effect of block scheduling on the time available to reach physical education objectives, the effect of block scheduling on physical education student behaviors, and their perceptions of the effects the block schedule had on themselves as teachers. The survey asked Likert type questions (more, less, no change) and open-ended questions, where the teachers could write in their feelings of the effectiveness of the block schedule.

Procedures

The principals of each of the 124 high schools were sent a survey in the mail, along with a stamped, self-addressed return envelope, to their respective schools and were asked if they would invite a physical education teacher to fill out the survey. Participants were informed by a cover letter that the survey would only take approximately fifteen minutes and the information provided would be valuable in planning future school schedules. The participants were asked to return the survey within a two-week time period. After two weeks, the schools that had not returned the survey were contacted by phone and asked to complete the survey. In case of problems or the need for clarification, the researcher's e-mail address and phone number were provided.

Statistical Analysis

The SPSS statistical analysis program was used and the results found were primarily explanatory. The study used descriptive strategies including percentages and means to determine how many schools used the block schedule and how many of those schools found the schedule was beneficial in physical education. The open-ended questions were analyzed using the constant comparative method (Lincoln & Guba, 1985). These open-ended questions were designed to identify teachers' perceptions of block scheduling.

Results

The SPSS statistical analysis program was used to analyze 36 set response questions in the survey. Of the five classifications of schools in the state of Utah, each was represented in the responses returned (see Table 1). The data was analyzed in sections regarding general scheduling information, activity levels, and classroom management issues.

The first section of questions pertained to types of block schedules and the usage of these schedules. The study found 50% of the schools that returned the survey use block scheduling in one form or another. Most schools on the block schedule reported using the schedule Monday through Friday (see Table 2), four periods per day (see Table 3). The most common time blocks for one period were 90, 85, or 80 minutes (see Table 4). Schools using this schedule have many names for it, but the most frequently used name is the block.

The next section of Likert questions (more, less, no change) pertained to physical educators' perceptions of student activity levels since the implementation of the block schedule. A qualitative analysis was done on the responses to these questions. This study found that 78% of the teachers reported more time spent on individual instruction, 56% reported more time available for skills testing, 65.9% were able to teach more cognitive concepts, 58.5% reported more time to teach ethics and sportsmanship, 73.2% found more time to teach specific sport skills and techniques, 82.9% noticed an improvement of student overall cardiovascular fitness, and 75.6% were able to teach more lifetime fitness concepts (see Table 5).

The last section questioned physical educators about classroom management changes with the implementation of the block schedule. Forty-five percent of participants reported no change in classroom discipline and 45% reported improved classroom discipline. Fifty-five percent reported improved interaction between teachers and 32.5% stated no change in interaction between teachers. Sixty percent conveyed an increase in teacher planning time. Finally, 62.5% stated student/teacher relationships improved with 37.5% reporting the relationships stayed the same (see Table 6).

The qualitative analysis revealed one major theme from the responses to the open-ended questions. This theme was teachers' positive perceptions of the block schedule. Twenty-three of 33 open-ended responses made up the theme of positive perceptions of the block schedule. This theme was evident in teacher comments such as:

I really like teaching in the block schedule compared to traditional schedule.

There is more time to teach activity and have students participate in the activity.

In a traditional 7-day period, I did not have enough time to get students dressed, warmed up, teach a skill and then have them do a skill in an activity, where in the block schedule you have that time. I would hate to change back.

I really enjoy the block schedule. It gives you a chance to do a fitness activity everyday and still have time for your specific sport unit drills etc. The students don't feel they are just changing clothes then changing again. It really increases activity time.

The block schedule allows the teacher to "condition" the student with both muscular and cardiovascular endurance before the sport and game skills take place. I particularly think bigger class time is more efficient for physical education causes.

Discussion

There is an even split of physical educators in the state of Utah who use the block schedule in their classes and those who do not. Those that use the block schedule are generally very positive about the benefits it provides. Although there were several different forms of the block schedule reported, it appears that a majority of physical educators who teach on the block feel there is an improvement in many aspects of teaching with the use of this schedule.

Teachers who were a part of the study in Utah reported that the block schedule allowed them more time to spend one on one time with students giving individual instruction on different skills and techniques (78%). This may allow each student to

develop skills in more depth than in a traditional schedule. When students develop better skills they might be more likely to continue the activity throughout their lives. Teachers also felt they had more time to teach more cognitive concepts (66%), helping students gain a better understanding on why fitness and being physically active is important in their lives.

Most teachers (76%) reported more time to teach lifetime fitness concepts, which is increasingly more important due to the rising levels of obesity in our youth in this country. The American Obesity Association states that about 15.5 percent of adolescents (ages 12-19) and 15.3 percent of children (ages 6-11) are obese. This increase among America's youth has grown over the past two decades. Obese adolescents (ages 12-19) have grown from 5 percent in 1976-1980 to 11 percent in 1988-1994 to 15.5 percent in 1999-2000. Children (ages 6-11) obesity has grown from 7 percent in 1976-1980 to 11 percent in 1988-1994 to 15.3 percent in 1999-2000 ("Childhood Obesity," n.d.). A majority of teachers (83%) also felt they had more time to improve their students' cardiovascular fitness levels. This factor alone may assist physical educators in playing a role in helping to prevent the obesity epidemic from spreading. If students can experience what it is like to be in shape, they may want to stay in shape.

Claxton and Bryant (1996) report similar findings with teachers reporting more time for individual instruction (80%), more time to teach cognitive concepts (71%), more time to teach lifetime fitness concepts (76%), and had more time to improve students' cardiovascular fitness (73%). Teachers from this study further support the findings of Bukowski and Stinson (2000) and Claxton and Bryant (1996) who reported that teachers

noticed an improvement in classroom discipline. Some might suggest that time does not improve discipline in the classroom—teachers improve discipline. Interaction between teachers may have improved because teachers have time to share teaching strategies and combine curriculums. Student-teacher relationships are improved in the block schedule because teachers have more time to get to know students and can then plan activities that best fit the personalities of different classes. Nearly all of the participating teachers from studies by Bukowski and Stinson (2000) and Claxton and Bryant (1996) along with those in this study reported increased planning time, which may lead to improving the quality of lesson plans. Overall, this study strongly supported the findings of Bukowski and Stinson (2000) and Claxton and Bryant (1996) in reporting physical educator's preference to teach their subject matter in the block schedule format.

NASPE (2000) published a position statement concerning the effects of block scheduling and its advantages for both students and teachers. In this position statement NASPE suggests that the block schedule should allow for a more flowing day, additional instructional time, improved attendance, more time for students to be physically active, better networking between teachers, and reduced discipline problems. This study provides evidence that supports the position statement by NASPE (2000) that the block schedule does provide additional instructional time as long as teachers use the time constructively instead of making it wasted time. Better networking between teachers and reduced discipline problems (because of fewer class changes and teachers knowing their students and how to deal with them better) are some of the overall advantages that entire schools may benefit from as a result of block scheduling. However, this study did not

examine whether or not the block schedule improved student attendance. The results of this study do support the notion that teachers teaching in the block schedule may provide more time for students to be physically active but are they more active? It was beyond the realm of this study to determine whether students are more or less active in the block schedule format when compared to students in a more traditional format.

Conclusion

From the results of this study, it is recommended that physical educators or administrators responsible for physical education who have a responsibility and /or influence on scheduling formats in their schools or districts should strongly consider implementing the block schedule. Colleges and universities with teacher education programs should recognize the shift in scheduling for many schools to the block format and provide instruction that will assist future physical educators in how to effectively prepare for teaching in the block schedule format.

According to teachers who are currently using the block schedule, it appears it is providing the time to allow students to learn and be active. A follow-up study examining the amount of physical activity time in a 2-week time period in a traditional vs. block schedule program would be warranted. Future research also should consider the impact of block scheduling from students' perspectives. A qualitative study using open-ended survey questions or interviews with students about their perceptions of the block vs. traditional schedule may also provide meaningful insights.

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Table 1

School Classification

Classification	Frequency	Valid Percent
1A	32	27.4
2A	19	16.2
3A	22	18.8
4A	23	19.7
5A	21	17.9
Total	117	100.0

Note. 117 of the 124 returned

Table 2

Days Per Week the Block Schedule is Used

No. of Days	Frequency	Valid Percent
1	1	2.4
2	1	2.4
3	1	2.4
4	1	2.4
5	38	90.5
Total	42	100.0

Note. 42 out of the 58 block schedule surveys that were returned were completed.

Table 3

Number of Periods a Day in Block Schedule

No. of Periods	Frequency	Valid Percent
4	40	95.2
5	2	4.8
Total	42	100.0

Note. 42 of the 58 schools completed this section

Table 4

Length of Periods

Minutes per Period	Frequency	Valid Percent
66	1	2.4
75	2	4.8
80	7	16.7
81	1	2.4
83	1	2.4
84	3	7.1
85	9	21.4
86	3	7.1
87	1	2.4
90	13	31.0
96	1	2.4
Total	42	100.0

Note. 42 of the 58 schools completed this section

Table 5

Teachers' Perceptions of Time Available in the Block Schedule

Topics	More Time N / %	Less Time N / %	No Change N / %	Total N / %
Individual Instruction	32 (78.0)	0	9 (22.0)	41 (100.0)
Skills Testing	23 (56.1)	3 (7.3)	15 (36.6)	41 (100.0)
Cognitive Concepts	27 (65.9)	0	14 (34.1)	41 (100.0)
Sportsmanship	24 (58.5)	0	17 (41.4)	41 (100.0)
Teach Specific Skills	30 (73.2)	0	11 (26.8)	41 (100.0)
Teach Health Safety	22 (53.7)	2 (4.9)	17 (41.4)	41 (100.0)
Improve Cardiovascular Fitness	34 (82.9)	0	7 (17.1)	41 (100.0)
Teach Lifetime Fitness Concepts	31 (75.6)	1 (2.4)	9 (21.9)	41 (100.0)

Note. 41 of the 58 schools completed this section

Table 6

Teachers' Perceptions of Classroom Management in the Block Schedule

Topics	Improved N / %	Deteriorated N / %	No Change N / %	Total N / %
Classroom Discipline	18 (45.0)	4 (10.0)	18 (45.0)	40 (100.0)
Interaction with Teachers	22 (55.0)	5 (12.5)	13 (32.5)	40 (100.0)
Teacher Planning Time	24 (60.0)	6 (15.0)	10 (25.0)	40 (100.0)
Teacher/Student Relations	25 (62.5)	0	15 (37.5)	40 (100.0)

Note. 40 of the 58 schools completed this section

Appendix A
Prospectus

Chapter 1

Introduction

A growing trend, although still a controversial issue in today's education, is the block schedule. The block schedule has three to four periods a day that meet every other day for 80 to 120 minutes a class period. Research by Bukowski and Stinson (2000) suggests that teachers have several concerns about the block schedule, but the program meets their overall approval. Major advantages of this schedule are the potential for teacher collaboration, improved relationships with students, and increased planning time (Bryant & Claxton, 1996). Disadvantages, unfortunately, are that ineffective teachers who choose the block schedule have more challenges planning effectively for a 90-minute block, because it takes skill, time, and creativity (Boyce & Markos, 1997; Czaja & McGee, 1995).

In 2000, the National Association for Sport and Physical Education (NASPE)—the predominant professional body in physical education—published a statement saying the research concerning the effects of block scheduling indicates that the system has many advantages over traditional schedule approaches for both students and teachers. The traditional schedule consists of six to eight periods a day that meet every day. Block scheduling is a new and more efficient way of organizing the school day. NASPE has found the following positive effects in block scheduling: a better learning environment, more access to stronger curriculum, detailed instruction and demonstrations, and more variety in assessment (NASPE, 2000).

Bryant and Claxton (1996) have identified some of the benefits of block scheduling in physical education. These benefits include greater opportunity to meet all objectives, a better chance to achieve physical fitness goals, more time to develop sport skills, and less time spent dressing for class. One major drawback of this schedule in physical education is that it does not permit students to attend physical education class daily, or students who hate physical education think it too long to bear, which makes it difficult to maintain physical fitness levels (Bryant & Claxton, 1996).

If followed, the block schedule can be a tremendous resource to educators in implementing and maintaining a quality physical education program. When the block schedule is not instigated properly, there is a possibility that young people are at a disadvantage by creating more wasted time and inefficient training for their physically active lifestyles.

Statement of Problem

The purpose of this study is to (1) examine the extent to which the block schedule is being used in Utah high school physical education, and (2) determine teachers' perceptions on the benefits of block scheduling in teaching physical education.

Null Hypothesis

There will be no significant ($p < .05$) difference between secondary physical education teachers' perceptions of block scheduling compared to the traditional 45-minute daily physical education schedule.

Alternative Hypothesis

There will be a significant difference between secondary physical education teachers' perceptions of block scheduling compared to the traditional 45-minute daily physical education schedule.

Operational Definitions

Block schedules come in many different forms, but they all have a common goal, which is to allow the student to spend more time on fewer subjects. The time blocks range from 80 to 120 minutes. They may last throughout the entire academic year, or leave a small part of the year for the traditional six- or seven-period day. In some block schedule formats, all blocks are the same length. In others, some blocks may be longer than others. There are several names for this type of scheduling. Some of the most common terms are: 4 x 4 Block, A-B Days, and Extended Block. Although there are a variety of names for the block schedule, they generally have the format of four periods a day meeting every other day.

Limitations

The main limitation of this study is the nature of the instrument, a self-reported survey.

Delimitations

This study is delimited to certified high school physical education teachers in the state of Utah.

Assumptions

It is assumed that participants in this study will answer the survey questions in a truthful manner.

Significance of Study

It appears physical educators using the extended schedule are unanimously positive about the new schedule (Bryant & Claxton, 1996); however, published studies in this area are limited (Bryant & Claxton, 1996). Overall, both students and teachers in physical education benefit from block scheduling and the benefits have been found to outweigh the concerns (Bryant & Claxton, 1996). However, more research on the impact of block scheduling in physical education is warranted to validate these early studies in this area. The goal of this study is to (1) determine the extent to which the block schedule is being used in physical education in the state of Utah, and (2) determine if this type of scheduling is creating a positive learning environment for teachers and students.

Teachers will be surveyed to convey whether or not this schedule is creating more positive learning in their opinion of the classes currently being taught. If it is determined that the block schedule is an effective teaching structure, then this study could become a tool for districts in emphasizing a shift towards this schedule.

Chapter 2

Review of Literature

This literature review will look at the structure of the block scheduling, samples and variations of block schedules, teachers' and students' viewpoints of the advantages and disadvantages of block scheduling, effects of the block schedule on physical education, and published research findings on the block schedule in physical education.

Block Scheduling

Block scheduling may be the wave of the future. Whether you call it block scheduling, the 4 x 4 plan, or the intensive curriculum, many high schools and some middle schools are trying out other options to the traditional six- or seven-period day. Block schedules range in form, but they have common goals, which allow the student to spend more time on fewer subjects. The extended time blocks range from 80 to 120 minutes. They may last throughout the entire academic year or they may leave a small part of the year for the traditional six-or seven-period day. All blocks may be the same length or some blocks may be longer than others (Claxton & Bryant, 1996).

Claxton and Bryant (1996) state that in its simplest form the block schedule divides the school day into four 90-minute blocks with a 50-minute lunch activity block. In this form, each student takes the same four courses every day for an entire semester and then changes to four new courses the next semester. In a variation of this schedule, courses are taught on alternate days. A student might take English, physical education, history, and art on Monday, Wednesday, and Friday and math, foreign language, science, and health on Tuesday and Thursday.

An example of such a schedule is that of Mansfield High School in the Mansfield, Texas District, where the block schedule is defined as follows:

- The educational program offered in a school day consists of four 90-minute blocks. Classes meet daily.
- Extended passing periods for the whole school are built into the daily structure:
 - 10-minute passing period between blocks 1 and 2;
 - 10-minute passing period between blocks 2 and 3; and
 - 50- minute all-school lunch break between blocks 3 and 4.
- Students earn what has traditionally been a full year's credit in 18 weeks and what has been a semester's credit in nine weeks.
- Traditionally, a student has had the chance to take six classes a year. Under the block schedule, the student has eight opportunities.
- Freshmen and sophomores must take all four blocks each term.
- Juniors and seniors must take at least three blocks each term.
- Teachers will teach three of the four blocks and have one block for planning (Czaja & McGee, 1995).

The purpose of block scheduling is to offer a new and more efficient way of organizing the school day. By increasing the length of the traditional class period by up to 100 percent, the amount of time wasted in the hallway, taking attendance, and handling classroom business is turned into additional instruction time. As of January 2000, almost 20 percent of the schools in the United States were using some form of block scheduling (Bukowski & Stinson, 2000).

Advantages and Disadvantages of Block Scheduling

Teachers have reported the following advantages of the block schedule through the research studies by Claxton and Bryant (1996), Boyce and Markos (1997), Bukowski and Stinson (2000), and National Association for Sport and Physical Education (NASPE, 2000):

- It allows enough time in a single class period to address all the objectives of the lesson plan.
- More time for individualized instruction and more time to teach.
- Noticeable improvement in student achievement levels.
- Administrators notice a reduction in teacher absenteeism.
- It allows educators to use a variety of instructional methods that require longer periods of time to implement, such as a problem-solving teaching approach.
- They have fewer classes and preparations per semester.
- It cuts down on student discipline problems during the change of class due to fewer changes.
- Classes have more time for hands-on activities.
- Longer planning periods.
- The quality and quantity of student-teacher interactions and relationships are increased.
- Less teaching-related stress reported.
- Less set-up time needed.

Boyce and Markos (1997), Czaja and McGee (1995), and NASPE (2000) reported the following disadvantages for teachers:

- Amount of time a teacher must spend in lesson preparation for a ninety-minute block.
- Often, time is wasted if not effectively planned.
- Professional leave and sick days are hard to fill.
- Unskilled substitutes find difficulty with classroom management and instructional focus.
- With longer planning periods, some teachers will not use the time effectively.
- With limited laboratory facilities, scheduling conflicts are often challenging.
- Ineffective teachers have more problems.

Studies of Claxton and Bryant (1996), Czaja and McGee (1995), Bukowski and Stinson (2000), and NASPE (2000) have reported students' advantages as follows:

- Preparation for just three or four classes a day rather than five to seven.
- Fewer teachers are seen each term.
- Fewer classes and fewer transitions in a day leave the student feeling "less beat."
- It permits students to complete four to eight more classes while in high school.
- Gifted students may do better in an accelerated class.
- Failed courses can be repeated in the same year.
- Less course-related anxiety appears.
- More time is allotted for off-site work experiences related to school-to-work programs.

- Due to student awareness of greater amount of material to be covered in one school day, attendance increases.
- More opportunities for class discussion.
- Scores and grades are improved.

Research by Czaja and McGee (1995), Bryant and Claxton (1996), Bukowski and Stinson (2000), and NASPE (2000) reported the following student disadvantages:

- Slow learners have a shortened number of days between concept introduction and demonstration of concept mastery.
- Student absences are more costly due to the amount of material covered in one school day.
- Memory recall of important subject matter is affected because instruction is not given continuously throughout the year.
- Transfer students are at an increased disadvantage.
- Special education students have a hard time with a 90-minute attention span.
- A poor grade is harder to recover when the end of the course is only a few weeks away.

Effects of the Block Schedule on Physical Education

NASPE has suggested some advantages of an extended period for physical education. Some of these advantages are more time to meet cognitive objectives, more time to achieve physical fitness goals, more time to develop sports skills, and more time to address issues such as fair play and ethical sport behavior. Other advantages of the

block schedule include improved student behavior, decreased absenteeism, and increased student motivation (Bryant & Claxton, 1996).

The extended class period reduces the amount of time needed for dressing and moving to and from physical education facilities. Because of this, the quality of instruction is greatly increased because the instructor is no longer rushed. When students do not have to change facilities as often, more physical activity can be performed resulting in students that are in better shape (Bryant & Claxton, 1996).

Block scheduling increases the importance of instruction in the cognitive domain. More time is available to teach rules and strategies of sports and games, but also time should be spent teaching scientific foundations of physical fitness like the importance of frequent physical activity. Previously, physical education teachers have had to choose between doing only cardiovascular fitness or introducing other objectives into the curriculum. A block schedule provides enough time for a meaningful workout while still allowing time to meet other objectives (Claxton & Bryant, 1996).

Goals in the affective domain have often been neglected in physical education, even though moral and ethical behavior is desired by citizens of the community. Many educators have assumed that students will learn fair play just by playing games. However, research contradicts this assumption. Often times, students develop cooperative skills through physical education, but educators lack the time to meet moral objectives. The block schedule provides that needed time to accomplish these goals.

While sport skill development is a central focus in physical education, students do not have enough time to develop skills in traditional scheduling. With the extended

period, teachers are able to assess skill development in several different forms (Claxton & Bryant, 1996).

Although the block schedule has many benefits for physical education, there is a drawback. In most situations, block scheduling will not permit students to attend physical education class daily. This kind of scheduling may limit students' chances of maintaining physical fitness levels. This drawback seems to be overcome because block scheduling does help the teachers make the most effective use of time while students are in physical education class (Claxton & Bryant, 1996).

Research Findings

Bryant and Claxton (1996) sent surveys randomly to 100 high schools in North Carolina and found that the block schedule was being used by 55 of the 85 respondents. All schools using the block schedule reported using the schedule five days a week, four periods a day. Fifty-one of the 55 schools use ninety-minute class periods. Two schools reported class periods of 100 minutes, one held block classes for 92 minutes, and one for 95 minutes. The amount of additional time a block schedule provides for physical education depends on the number of semesters and the number of days per week that students are in class. Most students taking physical education in a school using the block schedule are in a physical education class five days a week. When teachers were surveyed, they reported that they had more time to spend on multiple physical education objectives and teaching strategies used to meet those objectives (Bryant & Claxton, 1996).

In response to changes in student behavior of those involved in the block schedule, teachers reported a moderate decrease in student absenteeism, a significant improvement in classroom management and cardiovascular fitness, and a strong decrease in student apathy. Teachers also reported that student motivation toward physical education activities as a whole, substantially increased (Bryant & Claxton, 1996).

The research suggests that longer periods provide the potential for teachers to collaborate with one another on projects, improve relationships with students, and increased planning time. In this same study, administrators reported a mild decrease in teacher absenteeism, a decrease in teacher burnout, and improvements in student-teacher relationships (Bryant & Claxton, 1996).

Each school that responded to the survey and was involved in the block schedule responded favorably. The most common benefit disclosed was the value of the additional amount of time made available for teaching. Other positive responses referred to elective physical education courses that have become available in affiliation with the new schedule. Several teachers reported that discipline, attitudes, sportsmanship, and attendance have all improved due to the students' desire to be in the elective physical education courses (Bryant & Claxton, 1996).

Teachers who incorporate a strong fitness component in their physical education classes conveyed that their students were in much better shape after the implementation of the block schedule (Bryant & Claxton, 1996). One principal is quoted as saying the following:

The block schedule format has allowed us to really utilize our outside resources, especially in our individual sports classes. The students also now get a good workout and we don't spend all our time dressing and undressing. Our faculty has really enjoyed the block scheduling. In fact, I think they would hang me if we tried to return to the six-period-day (Bryant & Claxton, 1996, p. 208).

Summary

Research has suggested that even though teachers have many concerns about the block scheduling, the program meets with their overall approval. They feel that both students and teachers benefit from block scheduling and that the benefits outweigh the concerns (Bukowski & Stinson, 2000). Block scheduling is quickly becoming the alternative of choice to the traditional schedule. After reading the results of these studies, it is clear there is a strong need for additional research into the effects of block scheduling on students, teachers, and curriculum in the physical education field.

From the limited research found, physical educators using the extended schedule are unanimously positive about the new schedule. They cite such benefits as more time to spend on physical education objectives, enhanced student learning, improved student behavior, decreased absenteeism, increased student motivation, increased student fitness, and more teacher planning time and collaboration (Bryant & Claxton, 1996). However, more research on the impact of block scheduling in physical education is warranted to validate these early studies in this area.

Chapter 3

Methods

The purpose of this study is to examine the extent to which the block schedule is being used in Utah high school physical education, and determine teacher's perceptions of block scheduling in teaching physical education.

Participants

The participants to be surveyed will be certified high school physical education teachers in the state of Utah. Utah's districts consist of urban to significantly rural schools. These districts will be stratified based on enrollment numbers with schools and teachers randomly selected from them. The survey will be sent without prior knowledge of whether or not the school is using the block schedule. The survey will indicate that the new scheduling system is called by many different terms, but that "block scheduling" will be used in the survey. Access to the teachers/schools has been made available through the Utah High School Activities Association.

Instrument

A review of the literature discovered a survey used by Bryant and Claxton (1996) in the state of North Carolina. The purposes of this research and the research done by Bryant and Claxton are parallel. As a result, this same survey will be conducted here in the state of Utah. This survey (see Appendix A-1) asks questions of physical educators about which students take physical education at their schools, how their blocks are structured, effect of block scheduling on the time available to reach physical education

objectives, the effect of the block schedule on physical education student behaviors, and their perceptions of the effects of the block schedule on themselves as teachers.

Procedures

The physical educators will be sent a survey in the mail, along with a stamped/addressed return envelope, to their respective schools and asked if they are willing to participate in this study. Participants will be informed by cover letter that the survey should only take approximately fifteen minutes and the information they provide could be very valuable in planning future school schedules. A time line for completion of the survey will be agreed upon, so that a follow-up letter can be sent, along with follow-up phone calls, to those not responding by the deadline. In case of problems or need for clarifications, the researcher's e-mail address and phone number will be provided.

Statistical Analysis

The statistics to be used will primarily be explanatory. This study will use descriptive strategies using percentages and averages to determine how many schools are using the block schedule and how many of those schools find the schedule beneficial in physical education. The qualitative questions of this study will be analyzed using an inductive content analysis (Lincoln and Guba, 1985) describing both the schools' use of the block schedule and the teachers' perceptions of its effectiveness.

References

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Appendix A-1

Survey Used

Block Schedule Survey Instrument

School size (Please circle one of the following): 1A 2A 3A 4A 5A

Many high schools in Utah are changing their class schedules to provide fewer but longer class periods each day. These are called by different names (Block Scheduling, 4 by 4, etc.). For the purpose of this survey, Block Scheduling will be used to describe any scheduling changes which result in fewer and longer class periods in a day, than in the past.

1. Is your school currently utilizing block scheduling? ____yes ____no
If the answer is no go to question # 2. If yes go to question # 4.
2. Are you planning on implementing a block schedule? ____yes ____no
If the answer is yes go to question # 3. If no, you are finished with this survey.
Please return it to the researcher in the envelope provided.
3. When will implementation take place? ____month ____year
4. Your school currently schedules ____ periods each day.
5. The length of the periods is ____ minutes.
6. How many days per week do you use block scheduling? 1 2 3 4
5
7. On which days is block scheduling used? (circle all that apply) M T W TH F
8. Complete the following chart for the days you are on the block.
 period no. 1 ____ minutes in length
 period no. 2 ____ minutes in length
 period no. 3 ____ minutes in length
 period no. 4 ____ minutes in length
 period no. 5 ____ minutes in length
9. Please explain how you handle lunch or activity periods during the school day. Please also note periods that may be designated for specific courses or other unique aspects of your block schedule. A copy of your model in your reply will be greatly appreciated.

10. What do you call your scheduling modification?

- Block
 4 by 4
 Other _____
 It has no name

The following responses refer to your school's Physical Education program. If you are currently utilizing a block scheduling in physical education, please continue responding to the following questions.

11. How many semesters in a school year does a freshman (___1) (___ 2), or upper classman (___ 1) (___2), participate in a Physical Education block?

12. How many days a week does a typical student taking Physical Education participate in a

Physical Education block course?
 1 2 3 4 5

13. How many minutes per class period is a Physical Education block class scheduled to meet? _____

Since implementation of block scheduling, has the Physical Educator spent more or less time in the following activities?

	More	Less	No Change
14. giving individual instruction.....	_____	_____	_____
15. giving skill tests.....	_____	_____	_____
16. teaching cognitive concepts.....	_____	_____	_____
17. conveying ethics/sportsmanship.....	_____	_____	_____
18. teaching specific skills/techniques.....	_____	_____	_____
19. monitoring game/competitive settings..	_____	_____	_____
20. teaching health and safety issues.....	_____	_____	_____
21. improving cardiovascular fitness.....	_____	_____	_____
22. teaching lifetime fitness concepts.....	_____	_____	_____

23. use of off campus facilities..... _____

Since the implementation of block scheduling into the Physical Education curriculum, I have noted that (Please circle one)

24. teacher absenteeism has Increased Decreased Not changed

25. student absenteeism has Increased Decreased Not changed

26. classroom discipline has Improved Deteriorated Not changed

27. student behavior has Improved Deteriorated Not changed

28. interaction between teachers has Increased Decreased Not changed

29. number of students per day has Increased Decreased Not changed

30. student cardiovascular fitness has Improved Deteriorated Not changed

31. teacher "burnout" has Increased Decreased Not changed

32. time for teacher planning has Increased Decreased Not changed

33. student apathy has Increased Decreased Not changed

34. student/teacher relationships have Improved Deteriorated Not changed

35. Please use the back of this survey to provide any additional comments on the effect of the block scheduling on the Physical Education program at your school.