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Benefits and Barriers of Block Scheduling

Abstract

This action research study explored the benefits and barriers of block scheduling. Fifty-six teachers from private, Christian schools in Michigan and Iowa participated in a confidential survey which measured academic understanding and methods, and school culture and climate within the block schedule versus traditional scheduling. An analysis of the survey data demonstrated consistent statistical evidence of a correlation between block scheduling and deeper levels of academic understanding, student relationships, and a more positive school climate. The results of the open-ended response questions showed that block scheduling, implemented well with professional development and planning time for lessons, is a benefit to educational growth. Block scheduling becomes a barrier if there is not significant time to go through the standards and content, and to create engaging lessons to address attention spans and focus issues.

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Action Research Report Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Education

Benefits and Barriers of Block Scheduling

by

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B.A. Central College, 2012

Action Research Report
Submitted in Partial Fulfillment
of the Requirements for the
Degree of Master of Education

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Abstract

This action research study explored the benefits and barriers of block scheduling. Fifty-six teachers from private, Christian schools in Michigan and Iowa participated in a confidential survey which measured academic understanding and methods, and school culture and climate within the block schedule versus traditional scheduling. An analysis of the survey data demonstrated consistent statistical evidence of a correlation between block scheduling and deeper levels of academic understanding, student relationships, and a more positive school climate. The results of the open-ended response questions showed that block scheduling, implemented well with professional development and planning time for lessons, is a benefit to educational growth. Block scheduling becomes a barrier if there is not significant time to go through the standards and content, and to create engaging lessons to address attention spans and focus issues.

Keywords: block schedule, deeper learning, professional development, planning time

Scheduling is a mechanism to facilitate the school's goals and purposes in the areas of curriculum, instruction, student grouping, and staffing (Hackman & Valentine, 1998).

Developing a strong school schedule is important in all educational contexts because the way the school day is structured plays a role in academic achievement (Olsen, 2020). With longer class periods provided in block scheduling, teachers have the opportunity to use a variety of instructional strategies which impact academic achievement, and the structure of the day plays a role in the amount of flexibility teachers have within the day to use those strategies effectively (Brown, 2001).

The school day is typically structured in two ways: traditional scheduling and block scheduling (Rettig 2017). Within these two scheduling systems, there are different options, and there are benefits and barriers to both. Traditional schedule systems are built with periods of classes ranging from 6-8 periods per day. Block scheduling is a restructuring of the school day into classes much longer than the traditional 50-minute period. Block scheduling is an alternative mode of scheduling and has been in existence since the late 1960's (Olsen, 2020). It became a viable scheduling model in the late 1980's in response to the literature on cognition which supported deeper learning by students who have uninterrupted interactions with their subject matter (Cobb, 1999).

Block scheduling can add to continuity of the lessons being presented. When students attend as many as eight short classes in different subjects every day, instruction becomes fragmented, but the longer class periods can allow students more time to engage in active learning (Rettig, 2017). Teachers in a block schedule benefit from more usable instructional time each day because less time is lost with beginning and ending classes (Canady & Rettig, 1995a).

Both current and past research shows that different scheduling systems, among middle school students, have both benefits and barriers related to academic achievement and the flexibility that subjects hold (Brown, 2001; Hackman & Valentine, 1998; Olsen, 2020). The traditional schedule has been deemed ineffective, and administrators and educators are exploring new scheduling options (Carroll, 1990; Rettig & Canady, 2001). There is a call for more learning time, and it continues to be a common theme to meet the needs of 21st century schools and students as more class time allows for more learning opportunities for students to enhance their skills (Liebttag & Ryerse, 2017).

Purpose of the Study

The purpose of this study was to describe the perceived benefits and barriers of block scheduling, in a middle school setting, and to describe how that scheduling impacts teaching practices.

Research Questions

The questions posed in this research project were:

1. What do teachers perceive to be the benefits of block scheduling as it relates to their teaching practices and student learning?
2. What do teachers perceive to be the barriers of block scheduling as it relates to their teaching practices?
3. Do teachers perceive block scheduling as being more beneficial than traditional scheduling for student learning?

Definition of Terms

For the purpose of this study, the following definitions were used. The definitions are the work of the researcher, unless otherwise noted.

Alternative A/B block schedule: an alternating day or “A/B” day schedule is one in which

students take eight classes that meet every other day, meaning students have four classes a day for a longer period of time.

Block schedule: a commonly used term to describe an alternative scheduling format and is defined as the arrangement of a school's schedule into longer (generally more than 60 minutes) and more flexible time frames (Canady & Rettig, 1995a).

Flexible time: creative use of the time in the school day in an attempt to match the instructional time and format to the learning needs of students (Daniel, 2007).

School climate: the quality, character and culture of school life within a system.

Traditional schedule: a seven-period schedule where each of the seven classes meets daily for the duration of the school year for 45-55 minutes (Cromwell, 2016).

Literature Review

For decades the education world has been grappling with how educators can better use the school day to improve student learning (Gullat, 2006). Several authors have used the terms block scheduling, flexible scheduling, and alternative scheduling interchangeably as different types of scheduling within a school system (Canady & Rettig, 1995a; Hackman & Valentine, 1998). School schedules can play a role in academic achievement and promote greater student understanding (Hackman & Valentine, 1998). The following literature review will explore the benefits and barriers of block scheduling and how it relates to teaching practices.

Common Types of Schedules

Traditional Schedule

The six to eight period traditional schedule is being subjected to scrutiny. The traditional schedule typically consists of 6-8 class periods of 40-45 minutes and between class transitions of 3-5 minutes. Many schools still use the traditional scheduling system (Walker, 2016). Students

often find themselves stressed by trying to meet the expectations of six to eight different teachers, their assignments, and their classes daily (Brown, 2001; Carroll, 1990). Traditionally, teachers organize their daily class schedules into six, seven, eight, or sometimes nine, daily periods. Schools that have six periods typically operate classes between 50 and 60 minutes. Schools with seven periods have classes lasting 45 to 52 minutes. Schools with eight periods have 40 to 48 minutes classes, and the few schools with nine periods have classes of 42 minutes or less (Canady & Rettig, 1995b).

Advantages exist for the traditional model of scheduling. Traditional schedules allow for students to maintain continuity with the same teacher and the same course daily, for an entire year (Roberts, 2016). Another advantage in traditional scheduling is that it provides more instructional time per year than block scheduled classes (Maltese, Dexter, Tai, & Sadler, 2007).

Many researchers have openly criticized traditional scheduling structures by suggesting that these schedules encourage an impersonal relationship among students and staff due to the chaotic pace of the day (Canady & Rettig, 1995b; Carroll, 1990; Sizer 1990). The traditional schedule can create challenges for teachers and students alike. For teachers, short class periods of a traditional schedule impact what types of learning environment and what types of best-practice learning strategies can be used. For students, the traditional schedule requires students to transition all day through various classrooms with little transition time (Brown, 2001; Olsen, 2020).

Traditional schedules include limited opportunities to increase graduation requirements (Canady & Rettig, 1995b; Carroll, 1990), limited flexible instructional possibilities (Johnson & Johnson, 1987; Joyce, 1992; Kagan, 1990), increased discipline problems (Canady & Rettig, 1995a), and limited time for flexible teaching and learning (Canady & Rettig, 1995b; National

Education Commission on Time and Learning, 1994).

Block Schedule

Block scheduling, a system for scheduling the middle or high-school day, typically replaces a more traditional schedule of six, seven, or eight daily periods with longer class periods that meet fewer times each day and week. A study from the NASSP, National Association of Secondary School Principals, in 1996 recommended that high schools design learning time to encourage students to become more engaged and part of the learning process. They stressed that schools should emphasize that students learn subject content in depth rather than in greater breadth. Longer blocks of time would increase the teachers' ability to use a variety of teaching strategies and thus increase student engagement and ultimately achievement (Hackmann & Valentine, 1998). In an investigation of teachers' perceptions after implementing block scheduling, teachers reported they could cover concepts more in depth, and this made teaching the students more interesting and challenging (Evans, 2002).

The most common of block schedules is the 4X4 semester block. This block varies by semester which means that students would have the same four classes each day for a semester and then switch to a new set of four classes for the second semester (Falk, 2009). In the 4x4 block, students have two core classes and two electives. With the 4x4 block, teachers plan a 90-min period in which students are engaged in deep learning.

Another form of block scheduling is the "Alternative A/B" schedule. In this format, students have 6-8 classes, but these classes are offered on alternate days with 3-4 on one day and 3-4 on the next. This type of scheduling has impacts on middle school students that can be both positive and negative (Hackman, 2002 & Falk, 2009). The advantages of an alternating block is that it promotes an environment where students can focus on fewer content areas and can engage

in fewer subjects per day (Olsen, 2020). The alternative block is sometimes criticized because teachers spend more time reviewing at the beginning of class rather than jumping into new information due to not seeing the students daily (Falk, 2009).

The third option for block scheduling is the flexible interdisciplinary block which combines classes. For example, language arts and social studies are taught in one block of time or math and science in another. The flexible interdisciplinary block is suggested as the most appropriate model for middle school students (Brown, 2001). Interdisciplinary teaching helps students understand the connections between and among subjects (Canady & Rettig, 1995a). In one study, schools used more teaming activities, common planning time, small teams, and advisory periods. This showed higher levels of student achievement and self-esteem. In a study by Brown (2001), interviews conducted with ten middle school teachers using block scheduling revealed that teachers used a more diverse group of instructional methods under the arrangement, better enabling them to meet their students' varied learning preferences and styles. Teachers also reported that the block schedule led them to teach subjects in much greater depth. In addition, teachers using the block schedule designed classroom activities that encouraged students to use critical and creative thinking and to work collaboratively with their peers (Daniel, 2007).

The flexible interdisciplinary block allows students to create connections with their peers and teachers through thoughtfully planned out lessons and hands-on interactions during periods that would typically be lectures (Olsen, 2020). In the interdisciplinary schedule, teams of teachers are provided with large blocks of time that they may arrange into any configuration each day based on the type of interdisciplinary planning and learning, in which students are engaged (Brown, 2001). This scheduling system allows for students to appropriately transition from a

single classroom setting to a multiple period classroom setting, and this allows students to have the opportunity to have stability and transition time (Olsen, 2020).

Benefits and Barriers of Block Scheduling

Benefits

There are many benefits to block scheduling as it relates to teaching practices. Block scheduling, at the middle school level, will potentially increase inquiry opportunities, hands-on instruction, and time spent on in-depth study and understanding in the classroom. (Kaya & Aksu, 2000). Students in a block schedule have increased opportunities to reflect and review, and teachers can assess students' learning by questioning in a way that requires higher order thinking and problem-solving skills (Canady & Rettig, 1997). The extended class time allows teachers to become facilitators and gives them the time to bring students together at the end and have them reflect on the learning of the day. This is a feature that is often left out of lessons due to the lack of class time. (Peterson et al., 2000).

Another benefit of block scheduling is the positive impact on classroom climate. Research studies show that when changing from a traditional schedule to a block schedule, the emotional climate of the classroom seems to improve, for both students and teachers (Spellman & Oliver, 2001). The Huntington Beach study by Staunton (1997) reported that teachers and students were more relaxed on block days, partly due to the extra time given in each class and during breaks. In terms of school management, a reduction in disruptions, interruptions, and delays were all witnessed; however, the issues of decreasing classroom interruptions and less wasted time under the block scheduling were not strongly supported (Staunton, 1997). Queen and Gaskey, (1997) reported that the schools utilizing a block schedule stated the following:

1. Reduction in absenteeism

2. Lower incidents of violence
3. Decline in the number of discipline problems
4. Varied instructional methods

When block scheduling is used teachers also spend less time preparing the students for class and less time doing the administrative tasks. There is a decrease in required workload for the student and teacher, allowing the student more time to learn and the teacher more prep time, grading time, and more one-on-one interaction per student (Dorwin, 2009).

A final benefit of block scheduling is that students and teachers have more time to focus on one thing at a time and go deeper into the learning. The block schedule provides opportunities of more meaningful learning experiences with less stress on the students and those who need more individualized help (Dorwin, 2009; Kaya & Aksu, 2016; Roberts, 2016). Overall, the expanded class time typically results in a larger number of students having more positive attitudes about their relationships with teachers and their academic journey (Hackman & Valentine, 1998).

While block scheduling clearly provides multiple benefits for middle school learners, it also benefits their teachers. Teachers can implement a variety of instructional approaches (Gullat, 2006) which allow students to problem solve, reflect and collaborate with their peers and is critical to their cognitive development (Williams, 2011). In addition to improving their classroom instruction, block scheduling also allows teachers to improve their assessment practices. These improved assessment practices promote greater student understanding and allow teachers to be facilitators who encourage students to be self-reflectors (Brown, 2001). The extended class time allows teachers and students to gather at the end of the class period and reflect on the learning of the day. Block scheduling invites depth in learning, inquiry-based and student-based learning (Brown, 2001; Hackman & Valentine, 1998; Markham, 2008). In a study

by Benton-Kupper (1999) which engaged in a qualitative data collection process including classroom observations, collection of documents, and interviews, two themes emerged: an increase in a variety of instructional strategies and depth of content taught.

Block scheduling further benefits teachers by providing enough opportunity for common planning time, which allows teachers to dive into a variety of teaching strategies other than lecture. Additionally, teachers have fewer courses and work with fewer students during any semester (Dorwin, 2009). In a study by Queen, Algozzine, and Eaddy (1998), researchers evaluated the implementation of block scheduling at three high schools in Lincoln County, North Carolina and found that teachers were reporting spending 70% of their instructional time engaging students interactively. They used less than 15% of their time managing discipline problems (Williams 2011).

Barriers

There are barriers or challenges that come with changing a scheduling system from a traditional schedule to a block schedule. The traditional schedules provide consistency, not only in the length of the classes taken each day, but in that students are enrolled in the same classes all year. A traditional schedule allows courses to be taken in consecutive order each school year. A student may finish Spanish I in one school year and enroll in Spanish II for the very next school year. This looks different in a block schedule format where a student may take Spanish I in the fall semester of one school year and not have Spanish II until the spring semester of another school year (Roberts, 2016).

Another potential barrier to switching from traditional scheduling to block scheduling is the challenge of teachers needing to change their teaching methods. This may not seem like a barrier, but a teacher set in a certain pattern of teaching, or a particular teaching style may find it uncomfortable to change. Certain commonly used teaching methods like lectures cannot be

utilized in the same way in a block schedule to engage students for the full block. To be equipped to teach well in the block schedule, teachers need additional professional development to understand how to teach in a block schedule (Gullatt, 2006). Without a variety of teaching strategies, block scheduling will be ineffective (Markham, 2008).

Finally, a potential barrier of block scheduling for students is accounting for short attention spans of students leading to concentration difficulty (Kaya & Aksu, 2016). Escambia School District in Brewton, Alabama returned to the traditional schedule after spending six years within the block schedule. One of the issues that the school experienced with block scheduling included teachers not being able to teach for 93 minutes, which resulted in assigning more busy work. Another issue was that students were losing focus during the block due to their short attention spans (Kenney, 2003).

Factors To Be Considered for Block Schedule Training

Among the factors to be considered for successful implementation of block scheduling, appropriate comprehensive professional development is needed to aid teachers in developing teaching practice that matches the challenges of longer class periods. Hackmann and Valentine (1998) most clearly stated the six scheduling factors for middle school as:

1. The schedule should support interdisciplinary team organization.
2. The schedule should support an appropriate curriculum.
3. The schedule should support quality instruction in the disciplines through the expanded and flexible uses of time.
4. The schedule should promote student development and supportive relationships.
5. The schedule should promote quality teacher collaboration.
6. The schedule should promote teacher empowerment.

Thus, professional development is needed so that middle school teachers are prepared to

facilitate this type of learning environment. Team planning among teachers is an important step to ensure that block scheduling works for middle school students (Olsen, 2020). These results mirror the research conducted by both Raines (2010) and Allen (2009), who found that teachers required more time planning on a block schedule, required a higher degree of professional development and required skills to account for students who struggled with the extra class time. (Allen, 2009).

In looking at the factors related to teaching collaboration and using interdisciplinary teams, there are different ways to implement the block. Some examples include: The Classic, The Workshop, The Lab, The Performance, and The Variety Pack. The classic has an anticipatory set, direct instruction, application, and assessment. The Workshop has the majority of time spent working on their own projects with a mini lesson to start. This also allows for a lot of conference time with teachers and students. The Lab has one big focus activity that takes up most of the class period. There will be some sort of introduction, and the end of class has a reflection time or wrap up activity. At least an hour is set aside to the activity which is designed to be engaging. The Performance could be student speeches, film festivals, gallery projects or skits. Finally, The Variety Pack gives students a fast-paced mixture of activities, some that may review previous learned content, some introduce new content and some drill and practice. These can be handled in a rotation model or student led centers (Gonzales, 2021).

Conclusion

The effects of block scheduling versus traditional period scheduling on the academic achievement of middle school students is still a subject with much to be explored (Olsen, 2020). An important factor for successful change in schools is the perceptions for people who must live with the change and work within the new structure. Changes in teachers' instructional behaviors are critical and have the power to improve student learning, academic success, and overall teacher effectiveness (Brown, 2001).

Empowering teachers may accelerate the restructuring process needed in our schools and lead to positive and lasting changes in the classroom (DiRocco, 1998). The block schedule promotes teacher empowerment and collaboration in planning (Hackman & Valentine, 1998). This model allows teachers to be flexible and creative in their curricular design and implementation (Brown, 2001). Teachers truly do care about the academic achievement of their students and the benefits of block scheduling outweigh the barriers. Evidence exists that by implementing a block schedule, teachers improve instruction in ways that promote greater student understanding and begin to address the cognitive and social needs of young adolescents (Brown, 2001).

Methods

Participants

Middle school and high school teachers from four schools who have implemented block scheduling were invited to participate in the study. Of the potential 98 teachers, 56 participated. Twenty-four of the teachers who participated in the study were males (42.9%) and 32 were female (57.1%). The teaching experience of participants ranged from five months to 18 years within the block schedule. Of the 56 participants, 33 teach in a modified block (58.9%), ten teach in a 6 Period A/B Block (17.9%), eight teach in a 7 Period A/B Block (14.3%), five teach in an 8 Period A/B Block (8.9%), and no teachers teach in the 4x4 Block.

Materials

Teachers' perceptions of benefits and barriers of block scheduling were collected by the survey (See Appendix A). The survey included key demographic details, a series of Likert scale questions based on the effectiveness of teacher instruction and student learning within a block schedule and open-ended questions for teachers to describe the benefits and barriers of block scheduling as well as faith formation with deeper learning within their school.

Procedure

To conduct the study, a survey related to the benefits and barriers of block scheduling was developed and was administered via Google Form and sent by email to school administrators and middle and high school teachers who currently use a block schedule. The responses were monitored, and participants were given a week to respond. If respondents did not respond to the initial survey, a reminder was sent. After the survey responses were received, the responses were reviewed. A collection of their open-ended responses was also taken through the Google Form and collected in Google Sheets. All open-ended responses were then coded by content analysis to identify relevant themes of academic understanding and teaching methods as well as school culture and climate.

Results

The purpose of this study was to describe the perceived benefits and barriers block scheduling in a middle school setting and how it impacts teaching practices. These three questions framed the study.

1. What do teachers perceive to be the benefits of block scheduling as it relates to their teaching practices and student learning?
2. What do teachers perceive to be the barriers of block scheduling as it relates to their teaching practices?
3. Do teachers perceive block scheduling as being more beneficial than traditional scheduling for student learning?

Quantitative Results

This study's survey, (see Appendix A), included an overarching general question and two additional sets of questions examining: Academic Understanding and Methods, and School Culture and Climate. Tables 1-3 summarize the mean results for each of the datasets.

Table 1

Mean and Standard Deviation Response per Likert- Scale Question Block Scheduling vs Traditional Scheduling.

Block versus Traditional Likert Scale from 1 (Strongly Disagree) to 5 (strongly agree)	Mean	SD
Block scheduling is more beneficial than traditional scheduling.	3.63	0.98

In addressing the overarching question, teachers reported a mean of 3.63 out of 5.00 that block scheduling is more beneficial than traditional scheduling (see Table 1). In the Likert Scale responses from the survey, 26.8% of the participants voted in the “neutral” category, 58.9% of the participants agreed or strongly agreed that block scheduling was more beneficial than traditional, and 14.3% disagreed or strongly disagreed with that statement. With the higher mean and standard deviation of 0.98, the variation between the responses were relatively high (See Table 1).

Table 2

Mean and Standard Deviation Response per Likert- Scale Questions for Academic Understanding and Methods.

Academic Understanding and Methods Likert Scale from 1 (Strongly Disagree) to 5 (strongly agree)	Mean	SD
Students understand the material better because of the increased time.	3.43	0.95
Block scheduling leads to greater student academic success.	3.50	0.89
Block scheduling increases non-lecture teaching strategies in our classrooms.	3.96	0.89
I am able to increase student comprehension by using a variety of teaching methods.	3.91	0.77
Block scheduling provides more academic options for our students.	3.71	0.99

Teachers reported that students' comprehension was increased by using a variety of teaching methods at 3.91 out of 5.00 and this statement had the lowest standard deviation of 0.77 which implies that the responses had a lower variation and were closer together. In this response to the survey, 78.5% of teachers agreed or strongly agreed with this statement. In other words, from an academic understanding point of view, the idea of teachers using a variety of teaching strategies within the block schedule is something teachers highly agree upon for a block period to be successful. Teachers reported that block scheduling increased their non-lecture teaching strategies at 3.96 out of 5.00 (see Table 2). This ties to the statement non-lecture teaching strategies as well. Both statements received the highest mean scores and the lowest standard deviation scores which implied many participants agreed with the survey statements. The areas that teachers reported higher on the Likert scale all related to using different teaching methods and strategies within the classroom. The understanding in the classroom came from the use of strategies, not necessarily because of more time within the classroom.

The lowest category amongst the teachers related to content understanding. Teachers reported at 3.43 out of 5.00 that students understand the material better because of increased time, but this also had one of the highest standard deviations ($SD = 0.95$) meaning that there was more variation within the responses of the participants (See Table 2). Close to half of the participants (48.2%) selected a neutral response on the survey related to this statement. The other area with the lowest mean and high standard deviation was related to the statement that block scheduling leads to greater academic success. Teachers reported at 3.50 out of 5.00 and had a standard deviation of 0.89 meaning there was higher variation in their answers. Thirty-two percent of the teachers responded with a "neutral" response allowing for that low mean and high variation within their responses.

As illustrated in Table 2, greater academic understanding comes from the non-lecture teaching strategies used, and using a variety of strategies within the block. The greater academic understanding does not come from the extended time in the classroom, but in how the classroom time is set up.

Table 3

Mean and Standard Deviation response per Likert- Scale questions for School Culture and Climate.

School Culture and Climate Likert Scale from 1 (Strongly Disagree) to 5 (strongly agree)	Mean	SD
Block scheduling encourages an increased positive student-teacher relationship.	3.75	0.92
Block scheduling allows for more faith formation opportunities and deeper learning with the students.	3.80	0.77
Seeing fewer students in a block schedule creates a less stressful day.	3.88	1.05
Reduced passing times has contributed to a more positive school climate.	3.39	0.93
Block scheduling reduces disciplinary problems at our school.	2.86	0.92

Based on the data gathered, teachers indicated that seeing fewer students in a block creates a less stressful day, it encourages positive student- teacher relationships and more faith formation and deeper learning opportunities with students; the mean of all three statements reporting this was 3.81 out of 5.00. The statement that block scheduling allows for more faith formation opportunities and deeper learning had a mean of 3.80 and the lowest standard deviation of 0.77. There was a low variation in the spread of that data. There were 69.6% of the participants that agreed or strongly agreed with this idea. Teachers reported with a mean of 3.88 out of 5.00 that seeing fewer students in a block schedule creates a less stressful day. Only 14.3% of the teachers disagreed with that statement and 73.2% of teachers agreed that the stress levels of the

day were lower due to the block schedule. The variation in responses was the highest on this statement with a standard deviation of 1.05. Further, the teachers reported at 2.86 out of 5.00 and with a standard deviation of 0.92 that block scheduling reduces disciplinary problems (see Table 3). This was the lowest category amongst all statements answered as 28.6% of the teachers disagreed or strongly disagreed with this statement. Based on this data, block scheduling does not necessarily reduce the disciplinary problems that happen within the school day.

Qualitative Results

Data from the 56 respondents were subjected to analysis. In the first reading, key themes were identified. During the second reading, a more detailed selective coding of specific sub-themes followed by using content analysis to identify themes. A record was kept during the second reading and relevant categories were identified.

Two key themes were identified during the coding process by content analysis for the benefits of block scheduling. The first theme for benefits is depth of knowledge and understanding. The second theme was school culture which looked at climate and relationships. Three key themes were identified for barriers of block scheduling. The first theme was focus and attention spans, the second theme was content coverage and the final theme identified was time.

Benefit Themes

Depth of Knowledge and Understanding

Several participants described depth of knowledge and understanding as a benefit to block scheduling. Forty-six of the 56 participants emphasized this. Participant 3 described it this way:

There are greater opportunities for small group teaching, differentiation, remediation/enrichment within the class time. Additionally, more time can be given to helping students while they work and provide immediate feedback. As a science teacher,

block scheduling was immensely helpful in conducting labs. (Personal Communication, January 25, 2022)

Many of the participants shared an appreciation for the flexibility that the block allows.

Participant 34 noted, “I love having longer classes where I can get deeper into the material, design more interactive and detailed assignments, and give students more time to work in school to reduce their homework load” (Personal Communication, January 27, 2022). Within this same category, 13 responses noted the relationship between deeper learning and faith formation. Participant 25 shared that, “Longer periods allow me to deepen my content and allow for students to work and therefore understand the content better, and we can slow down the pace of learning and address students’ questions more deeply during class time” (Personal Communication, January 26, 2022).

Out of the 46 responses, 14 responses noted the ability to use a variety of teaching strategies, allowing for more reflection, and having the time to differentiate for students as well as provide enrichment strategies. Participant 14 explained that there is more time to reteach and meet with students individually, have small group remediation, or go over make-up material (Personal Communication, January 25, 2022).

School Culture

The second dominant theme in teacher perceptions of benefits was the positive impact block scheduling has on school climate. Participants noted that there was less stress and a more relaxed environment. One participant said, “There is so much less stress throughout the week! When our school used to have an 8-period day, it was so chaotic and seemed pointless. The full block is the way to go” (Participant 34, Personal Communication, January 27, 2022). While another said, “The learning environment is so relaxed where students can ask questions and deepen learning through projects and extra time with teachers” (Participant 25, Personal

Communication, February 2, 2022). Several participants noted that the block allowed a slower pace and block days felt less frantic. Participant 45 stated:

As a program director for our Immersion program, the block scheduling has made community involvement, taking college courses, project-based classes and internship opportunities much easier. I have also seen a decrease in student stress, having fewer classes a day means fewer assignments or homework on a given day. (Personal Communication, January 28, 2022).

Five participants also noted the block schedule allowed for fewer transitions throughout the day which created a calmer atmosphere in the school. Participant 56 said, “fewer transitions for our middle school students has lessened their anxiety and load and having longer transition periods between classes has also helped” (Personal Communication, February 3, 2022). There was more time to engage in projects, a less frantic pace of the day, and more individual time with students.

Another benefit related to block scheduling noted by respondents was the ability to create deeper relationships with students and the opportunity to dig deeper into content, faith and student relationships. Eleven of the respondents (19.6%) commented on faith formation and building relationships with students. One of the participants commented that “there is more time to develop relationships; for example, there is time at the start of class for informal conversations which allow teachers to get to know students on a personal level. The pace of the class isn’t rushed which allows for these rich conversations” (Participant 29, Personal Communication, January 30, 2022).

Barrier Themes

Focus and Attention Spans

One of the biggest barriers that teachers commented on, in this study, was focus and attention span. Out of the 56 teachers, 19 of them (33.9%) stated that there are definitely

struggles with attention span and focus struggles in students. Participant 8 described it like this:

For the younger students, it is just too much time in one room, and they go a bit crazy.

Teachers have to work extra hard to over prepare for lots of movement and transitions to keep their attention. On a block day, it can feel exhausting by the end; it requires way more work planning and engaging the kids than a normal day. (Personal Communication, January 25, 2022)

One participant stated that, “Students' attention spans are short, so the art of transitions needs to be mastered” (Participant 53, Personal Communication, February 2, 2022). Teachers recommended that breaks be built in otherwise students have trouble focusing the entire time resulting in less content coverage over the course of the year, and that leads into the second barrier of less content being covered over the course of a year. This barrier was especially relevant with the younger ages of middle school students. Even with brain breaks, transitions and many different activities, the block schedule is a long period of time for students.

Content Coverage

Another barrier of block scheduling that teachers noted 28.5% of the time, was related to content coverage. When planning for a block, a lot of the planning time is dedicated to keeping the attention of the students, planning engaging activities and timed breaks. Some content areas have a lot of standards (math and English/language arts), and teachers found it hard to teach all of the content. Participant 20 is a math teacher and shared the following:

I see students less often. Student retention has been an issue. Student attention in math class is difficult to sustain over 85 minutes, especially with younger students (9th/10th graders). Therefore, we take a brain break somewhere between 45-55 minutes into every class period. It can be challenging to cover the same amount of material over the course of a year with block scheduling. Some lessons are more challenging to combine. In general, teachers want to go back to two block days a week rather than four to improve

student learning. (Personal Communication, January 25, 2022).

Several teachers expressed this concern about content coverage and how much content students could process within a block period. Participant 26 noted:

With fewer touchpoints during the week, unplanned interruptions (snow days), schedule changes, and necessary built-in breaks within the block period, teachers have to learn how to chunk standard, cut out content that isn't necessarily needed and master transitions to have the most effective use of time. (Personal Communication, January 27, 2022).

Time

One of the biggest differences with block scheduling from traditional scheduling was there are fewer touchpoints with students and fewer touchpoints with teachers. With block scheduling, significantly more time is needed to get to know students as well as to set up classroom norms. The relationships end up being deeper relationships, but seeing students less frequently creates a challenge of getting to know students quickly.

Of the 18 responses related to time, 36.8% of teachers shared that breaks and transitions needed to be effective when moving from one activity to another. One teacher said, "I see teachers use the block ineffectively, and I have had days where I use it ineffectively, as well. Typically, this occurs with not using many transitions, effective brain breaks, and being cognizant of student attention spans" (Participant 38, Personal Communication, January 28, 2022). Teachers need to switch up the teaching style as students' brains tend to "overheat" more quickly. Another teacher said, "Students become tired and disengaged staying in the same content area for too long without effective transitions and breaks built in" (Participant 17, Personal Communication, January 25, 2022). When teachers have a variety of activities planned within a block period, students remain engaged.

Student absences, within a block, can also be challenging to get made up, and 26.3% of teachers commented on that. Participant 31 shared, "If a student misses a block day, they have

missed two days of class essentially” (Personal Communication, January 26, 2022). It becomes a challenge when there are only two to three touchpoints with students each week.

Discussion

Summary and Analysis of Findings

In this study, teachers were asked to share their perceptions of the benefits and barriers of block scheduling versus traditional scheduling, and two themes came out of the benefits section: depth of knowledge and understanding, and school culture (climate and relationships). Three themes came from the barriers: focus and attention spans, content coverage, and time.

In looking at the benefits and barriers of block scheduling, this research study was broken down into two categories: academic understanding and teaching methods and culture. In general, 58.9% of the respondents agreed that block scheduling was more beneficial than traditional scheduling, 23.2% were neutral, and 17.9% disagreed (See Table 1). The first research question examined in this study was: what do teachers perceive to be the benefits of block scheduling as it relates to their teaching practices and student learning? Perceptions collected through the survey revealed teachers felt that, if the block was managed well, students are more productive in a block schedule (See Table 2). In addition, they have enough time to get into the process of learning and reflect within the same day. The extended class time allowed teachers to become facilitators and gave them the time to bring students together at the end and have them reflect on the learning of the day. Additionally, teachers believed more student accommodations, differentiation, remediation and enrichment opportunities are offered in block scheduling. Half of the teachers responding felt that the block had a direct effect on student achievement and their academic success (See Table 2).

The second research question examined was: what do teachers perceive to be the barriers of block scheduling as it relates to their teaching practices? The only statistic that did not have an overwhelming majority of teachers agreeing was that block scheduling reduces disciplinary

problems at our school. Only 14.3% of teachers agreed that it helped reduce disciplinary problems, but 33.9% disagreed. This left 51.8% of teachers with a neutral stance on whether block scheduling reduces disciplinary problems (See Table 3). This finding contrasts to the study by Dow and George (1998) in which 63% of educators in a Florida School study reported a reduction in discipline referrals.

Despite these barriers related to block scheduling, teachers said over and over that the block feels more settled, and that they have come to value quality over quantity and being able to teach the whole student (social-emotional, mental, spiritual, physical, in addition to academic) within the same class period. Good teaching is good teaching no matter what the schedule is.

The final research question examined was: do teachers perceive block scheduling as being more beneficial than traditional scheduling for student learning? Close to 40% of the teachers did feel that block scheduling reduced passing times has contributed to a more positive school climate. An overwhelming 66.1% said that the block created a less stressful day which improved the climate of the classroom (See Table 3). The teachers believed the school climate was more positive in block scheduling. Teachers sensed students are more stressed in a traditional schedule just due to the frantic pace of the day. This finding parallels the findings of Roberts (2016) who noted that the block schedule provides opportunities of more meaningful learning experiences with less stress on the students.

The research literature stated that the block schedule promotes academic achievement, increases in creative approaches to instruction and overall improves the school climate (Kaya & Aksu, 2000). Most teachers in the study agreed that block scheduling improves school climate and the quality of the school day for both students and teachers. Teachers believed (78.5%) that there must be a variety of teaching strategies used within the block to do it effectively (See Table 2). Teachers in this study also noted that students have more time to complete assignments and receive more teacher feedback and attention in block scheduling.

Most of the teachers (64.3%) stated that block scheduling encourages an increased positive student-teacher relationship and block scheduling allows for more faith formation opportunities and deeper learning with the students (See Table 3).

Limitations and Recommendations for Future Research

One of the limitations of this research study was the relatively small sample size of schools who participated. Although there were fifty-six respondents, the sample size of schools was relatively small and all schools were private schools. Future research on the benefits and barriers of block scheduling could include a wider and more diverse sample of both private and public schools. This would also allow for a bigger mix of gender, teacher experience and both middle and high school teachers. This study focused specifically on the benefits and barriers of block scheduling. Further research could focus on ways to overcome barriers of the constraints of attention span, content coverage and time.

The best way to implement a new scheduling system like block scheduling is to have buy in from the teachers and parents. When looking at how teachers are implementing block scheduling in their classrooms, it is important to think about exactly what kind of training they have undergone to facilitate this type of learning environment. Thus, further research could look at team planning among teachers as an important step in implementing a block schedule (Olsen, 2020).

Based on this research study, one recommendation is to allow teachers to be active in the decision-making of the kinds of professional development that will allow them to successfully implement block scheduling. Having a longer class period will require teachers to plan differently during the block period. Successful implementation of the block schedule means that teachers need the right support to create engaging lesson plans. Teachers can oftentimes be handed a schedule without any consideration of how to properly implement it and with little professional learning to help guide them.

References

- Allen, N. (2009). *Perceptions of students and teachers on block scheduling versus traditional scheduling in high school mathematics classes*. (Doctoral dissertation). Available from ProQuest Dissertations & Theses database. (UMI No. 1466683)
- Benton-Kupper, J. (1999). Teaching in the block: Perceptions from within. *The High School Journal*, 83(1), 26.
- Brown, D. (2001). Middle level teachers' perceptions of the impact of block scheduling on instruction and learning. *Research in Middle Level Education Annual*, 24(1), 1-13, DOI:10.1080/19494476.2001.11658149
- Canady, R. L., & Rettig, M. D. (1995a). The power of innovative scheduling. *Educational Leadership*, 53(3), 4-10.
- Canady, R. L., & Rettig, M. D. (1995b). *Block scheduling: A catalyst for change in high schools*. Princeton, NJ: Eye on Education.
- Canady, R. & Rettig, M. (1997). All around the block schedule. *Education Digest*, 62(6), 30-43.
- Canady, R. & Rettig, M. (2003). Block scheduling missteps, successes and variables. *School Administrator*, 60(9), 26-31.
- Carroll, J. M. (1990). The Copernican plan: Restructuring the American high school. *Phi Delta Kappan*, 71(5), 358-365.
- Cromwell, S. (2016). Block scheduling: A solution or problem. Retrieved from: http://www.educationworld.com/a_admin/admin/admin029.shtml

- Daniel, L. (2007). Research summary: Flexible scheduling. Retrieved November 11, 2021, from <http://www.nmsa.org/Research/ResearchSummaries/FlexibleScheduling/tabid/1140/Default.aspx>
- DiRocco, M. D. (1998). How an alternating-day schedule empowers teachers. *Educational Leadership*, 56(4), 82. Retrieved from <https://www.ascd.org/el/articles/how-an-alternating-day-schedule-empowers-teachers>
- Dorwin, N. L. (2009). Teacher's opinions and attitudes toward block scheduling (thesis). *American Psychological Association*, 5th edition.
- Dow, J. L., & George, P. S. (1998). Block scheduling in Florida high schools: where are we now? *NASSP Bulletin*, 82(601), 92-100.
- Evans, D. (2002). *Taking sides: Clashing views on controversial issues in secondary education*. Guilford, CT: McGraw-Hill/Dushkin.
- Gonzales, J. (2021). *Making the most of a 90-minute class*. Cult of Pedagogy. Retrieved November 5, 2021, from <https://www.cultofpedagogy.com/block-scheduling/>.
- Gullatt, D. (2006). Block scheduling: The effects on curriculum and student productivity. *NASSP Bulletin*, 90(3), 250-266. Retrieved from Education Research Complete database.
- Hackmann, D. G., & Valentine, J. W. (1998). Designing an effective middle level schedule. *Middle School Journal*, 29, 3-13.
- Johnson, D. W., & Johnson, R. T. (1987). *Learning together and alone: Cooperative, competitive, and individualistic (2nd ed.)*. Englewood Cliffs, NJ: Prentice Hall.
- Joyce, B. (1992). *Models of teaching*. Boston: Allyn & Bacon.
- Kagan, S. (1990). *Cooperative learning: Resources for teachers*. San Juan, CA: Resources for Teachers, Inc.

- Kaya, S., & Aksu, M. (2016). The advantages and disadvantages of block scheduling as perceived by middle school students. *Journal of Educational and Instructional Studies in the World*, 6(1), 50–58.
- Kenney, L. (2003). Back from the block--or not? Some schools abandon their block scheduling, though others swear by its impact. *School Administrator*, 60(21).
- Liebttag, E., & Ryerse, M. (2017). *Scheduling for learning, not convenience*. Retrieved from <https://www.gettingsmart.com/2017/02/16/scheduled-design-thinking-as-pedagogy-for-students-and-educators/>
- Maltese, A., Dexter, K., Tai, R., & Sadler, P. (2007). Breaking from tradition: Unfulfilled promises of block scheduling in science. *Science Educator*, 16, 1–7.
<http://www.nsela.org/publications/publications4.html>
- Markham, G. L. (2008). The effectiveness of block schedule in middle school. *Perspectives in Learning*, 9 (1). Retrieved from <http://csuepress.columbusstate.edu/pil/vol9/iss1/6>
- National Education Commission on Time and Learning. (1994). *Prisoners of time: Report of the National Education Commission on Time and Learning*. Washington, DC: U.S. Government Printing Office.
- Olsen, K. (2020). *Effect of block scheduling vs traditional period scheduling on the academic achievement of middle school students*. Capstone Projects and Master's Theses. 869.
http://digitalcommons.csumb.edu/caps_thes_all/869
- Peterson, D., Schmidt, C., Flottmeyer, E., & Weincke, S. (2000). *Block scheduling: Successful strategies for middle schools*. St. Louis, MO: 27th Annual National Middle School Association Conference. (ERIC Document Reproduction Service No. ED 448862).

- Queen, J., Algozzine, B., & Eaddy, M. (1998). Implementing 4 x 4 block scheduling: Pitfalls, promises, and provisos. *The High School Journal*, 81(2), 107–114.
- Queen, J. & Gaskey, K. (1997). Steps to improving school climate in block scheduling. *Phi Delta Kappan*, 79(2), 158–161.
- Raines, J. (2010). *Exploring differences in teacher attitudes and instructional strategies between traditional and block schedule high schools: A comparison of two large schools*. (Doctoral Dissertation). Available from ProQuest Digital Dissertations and Theses. (UMI No. 3397428)
- Roberts, K. C. (2016). *Relationship of block scheduling to student achievement and learning activities*”. All Theses and Dissertations. 86. <http://dune.une.edu/theses/86>
- Sizer, T. R. (1990). *Horace's school: Redesigning the American high school*. Boston: Houghton Mifflin.
- Spellman, J. E., & Oliver, J. S. (2001). *The relationship between attitude toward science with enrollment in a 4x4 block schedule*. Costa Mesa, CA: Proceedings of the Annual Meeting U.S. of the Association for the Education of Teachers in Science. (ERIC Document Reproduction Service No. ED 472914).
- Staunton, J. (1997). A study of teacher beliefs on the efficacy of block scheduling. *NASSP Bulletin*, 81(593), 73.
- U.S. Department of Education, National Center for Education Statistics (2004). *Schools and Staffing Survey*, Public School Data File, 2003–04. Retrieved March 11, 2022 from https://nces.ed.gov/surveys/sass/tables/state_2004_07.asp

Walker, T. (2016). Are block schedules the stress-buster students need? / *NEA*. National

Education Association. Retrieved November 11, 2021, from

<https://www.nea.org/advocating-for-change/new-from-nea/are-block-schedules-stress-buster-students-need>

Williams, C. (2011, November). *The impact of block scheduling on student achievement, attendance, and discipline at the high school level*. Retrieved April 25, 2022, from

<https://files.eric.ed.gov/fulltext/ED528899.pdf>

Appendix A

Benefits and Barriers of Block Scheduling Survey

Thank you for taking the time to take the Benefits and Barriers of Block Scheduling Survey for my Action Research Project through Dordt University. This survey is so that I can learn more about the benefits and barriers that come with block scheduling. Middle School and High School staff in Iowa, Michigan, and South Dakota will take the same survey.

All of your answers will remain confidential and anonymous. Please do your best to answer truthfully and please answer all of the following questions. Thank you for your cooperation and participation!

School:

Name:

Gender:

Years of teaching experience:

Years of teaching experience in a block schedule:

What type of block scheduling is implemented in your school?

4x4 Block

8 Period A/B
Block

6 Period A/B
Block

7 Period A/B
Block

Modified Block

Definitions of Block types below:

4 classes one semester / 4
classes the next

A/B" day schedule is when students take 6-8 classes that meet every other
day, meaning students have four classes a day for a longer period of time.

Some Traditional
days/Some Block
schedule days

Instructions: Below are statements looking at block scheduling compared to traditional scheduling within a school system. Please indicate the extent to which you agree or disagree with each statement.

Block scheduling provides more academic options for our students.

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

Block scheduling leads to greater academic success.

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

Block scheduling reduces disciplinary problems at our school.

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

Block scheduling increases non-lecture teaching strategies in our classrooms.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Block scheduling encourages an increased positive student-teacher relationship.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Seeing fewer students in a block schedule creates a less stressful day.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Reduced passing times has contributed to a more positive school climate.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Students understand the material better because of the increased time.

Strongly Disagree Disagree Undecided Agree Strongly Agree

I am able to increase student comprehension by using a variety of teaching methods.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Block scheduling allows for more faith formation opportunities and deeper learning with the students.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Block scheduling is more beneficial than traditional scheduling.

Strongly Disagree Disagree Undecided Agree Strongly Agree

Open Ended Questions: Please type your answer to the following open-ended questions in the space provided.

Describe what benefits you have experienced with a block schedule?

Describe what barriers you have experienced with a block schedule?