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Block Versus Traditional Scheduling in High School: Teacher and Student Attitudes

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by

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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Abstract

The focus of this study was to identify the preferred schedule type (block or traditional)

for students and teachers in high schools. Additionally, the purpose of the study was to

explore why high schools should assess how time is used during the school day. Survey

responses about time management practices of students and teachers at one high school

were reported, and implications for how to construct a schedule based on the survey

responses were explored. Students and teachers with experience in block and traditional

scheduling formats were surveyed for the study. Participants received an online survey

and were asked to respond to statements regarding their attitudes and perceptions of

block and traditional scheduling. Teachers felt that students were more productive and

experienced greater academic growth in block scheduling. Students strongly believed

there were more opportunities for academic growth in block scheduling. Twenty-five

percent of the teachers felt students had greater accommodations for learning styles in a

block schedule. Seventy-two percent of the teachers strongly agreed the school climate

was more positive in a block schedule. Students (22%) also felt there was a more

positive climate in the block schedule environment. The findings of this study provide

school decision makers with evidence of the preferred learning schedule of students and

teachers.

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Chapter One: Introduction

Managing time is critical to the education of 21st-century students (Rettig, 2017). American poet, Ralph Waldo Emerson (1983) once wrote, "This time, like all times, is a very good one, if we but know what to do with it" (p. 243). In the mid-1990s, educational reformers pushed to change what they perceived to be an assembly line, a single period daily schedule for students, by introducing a block schedule (Rettig, 2017). The change to a block schedule and fewer classes per day would seem to reduce stress for both teachers and students (Partnership, 2013). Additionally, when considering schedule types, school districts had to consider resources and personnel (Williamson, 2010). Now, the block schedule is in place in roughly 30% of the nation's high schools (Rettig, 2017, p. 1). However, the question remains; if the push for block scheduling began over 20 years ago, why is the country still divided on the best schedule for student growth and achievement (Rettig, 2017)?

Chapter One includes the background of both block and traditional scheduling in the United States. Additionally, the chapter includes a variety of concepts on time management in one's personal life and in the classroom. Pros and cons of block and traditional scheduling are addressed, and the problem facing school boards and administrators in regard to creating and maximizing the school schedule is presented. The theoretical and conceptual frameworks, statement of the problem, purpose of the study, research questions, and significance of the study are detailed. To better understand the context of the study, Chapter One also includes the definition of key terms, limitations, and assumptions of the study.

Background of the Study

Block scheduling gained popularity in American public schools in the 1990s (Jenkins, Queen, & Algozzine, 2002). Researcher Cawelti (1994) defined the block schedule: "At least part of the daily schedule is organized into larger blocks of time (more than sixty minutes) to allow for flexibility for a diversity of instructional activities" (p. 2). Commonly, a block schedule is an extended classroom period of 85-100 minutes (Jenkins et al., 2002, p. 1). The advantages of a block schedule include greater flexibility in instructional strategies (Williamson, 2010). However, students lose the regularity of daily lessons (Williamson, 2010).

Researchers and reformers began to criticize the traditional school schedule for capping teacher classroom creativity (Jenkins et al., 2002). Additionally, the traditional schedule, reformers argued, had remained virtually unchanged for decades and limited student opportunities (Irmsher, 1996). A 1994 report by the National Education Commission on Time and Learning stated traditional school schedules had a negative impact on school climate and referred to students as "prisoners of time" (as cited in Rettig, 2017, p. 2). Longer class periods became a logical solution to the issue (Jenkins et al., 2002). An extended (block) schedule could give administrators options when considering the planning time needed by teachers to differentiate instruction to fit a variety of student learning styles (Jenkins et al., 2002).

While many schools embraced the block schedule format in the 1990s, numerous schools, often driven by declining financial resources a decade later, returned to the traditional seven-period schedule (Williamson, 2010). Today, it is estimated one in three high schools in America operate on some form of block schedule (Rettig, 2017, p. 2).

Other less popular types of school schedules include alternating, rotating, dropped, and trimester schedules (Williamson, 2010). The focus of the research for this study was on the traditional fixed period and block schedules. There appears to have been no definitive research that one school schedule is superior to others (Jenkins et al., 2002). However, as the administrators and teachers in High School A evaluate their current schedule model, research on student and teacher perceptions of scheduling is valuable.

Theoretical and Conceptual Frameworks

This study was viewed through the lens of time management and guided by the works of Maslow's (1954) hierarchy of needs theory, Covey's (1989) Time Management Matrix, and the Pareto Principle (Hardy, 2010). Time management is a common goal for all, regardless of age, gender, or profession (Strom, Strom, & Sindel-Arrington, 2016). In *The Fellowship of the Ring*, the wizard Gandalf made a similar observation remarking, "All we have to do is decide how to use the time that is given to us" (Tolkien, 2015, p. 50). Time management is a tricky concept (Strom et al., 2016). Those who prioritize their schedule and attempt a level of structured time management feel more control of their lives, develop greater satisfaction, and excel in the workplace (Seligman, 2012). However, those same individuals who cleave to a strict time management schedule might also lose out on time with their children, miss out on activities, and lose track of less timely priorities (Boyd, 2014).

Theories of time management are traced back to Maslow (Tripathi & Moakumla, 2018). No doubt, educators are familiar with Maslow's hierarchy of needs; a hypothetical pyramid, where physiological needs (food, water, shelter, etc.) are at the base of the pyramid (Burton, 2017). At the top of the pyramid is self-actualization

(Burton, 2017). Between these two extremes are the needs of safety, bonding, and self-esteem (Tripathi & Moakumla, 2018). While the theory does not specify a time commitment to reaching the top of the pyramid, time management is critical to ascending the hierarchy of needs (Burton, 2017).

Once there is an understanding of the importance of these needs in life, there can begin to be a set time and schedule to fulfill each need (Tripathi & Moakumla, 2018). For example, making money begins as a basic need to meet the physical needs of the body (Tripathi & Moakumla, 2018). However, over time, a greater portion of time management can be allotted to improving the overall standard of living and reaching towards self-actualization (Burton, 2017).

The time matrix concept was first introduced by Covey (1989) in his best-selling book, *The Seven Habits of Highly Effective People*. The time matrix is a tool for participants to prioritize the events of the coming week (Covey, 1989). The weekly two-by-two matrix is separated into categories such as urgent, not urgent, important, and not important (Covey, 1989). Covey's time matrix is used to push participants to prioritize actions and, more specifically, the use of time (Jackson, 2012).

Vilfredo Pareto was an Italian economist and philosopher who formulated the 80-20 Rule, also known as the "Pareto Principle" (Hardy, 2010, p. 1). Pareto based his principle on his observations that 20% of the population owned 80% of the land in Italy (Hardy, 2010, p. 1). Pareto's research became a business model, where 80% of the productivity came from 20% of the employees (Haberlin, n.d., p. 1). Those employees completed their work within a specific amount of time (Hardy, 2010). Based on this

theory, business and quality management pioneer, Dr. Joseph Juran coined the phrase, "Vital few, trivial many" (as cited in Hardy, 2010, p. 38).

The key element of the Pareto Principle is the 20% matters most (Kruse, 2016). Considering everything a person accomplishes in a day, only 20% of the work produces the net result (Haberlin, n.d., p. 1). Therefore, productive people should seek effective management strategies for the relatively minor portion of the day (Hardy, 2010). There is a limited time, 20%, if applying Pareto's principle, to truly accomplish the top goals and priorities for the day (Hardy, 2010). Regardless of age, time management and structure are critical to professional and educational success (Tripathi & Moakumla, 2018).

Statement of the Problem

Educators at High School A adopted block scheduling in the late 1990s. In 2018-2019, the school board of High School A considered eliminating the block schedule in favor of a return to a traditional schedule; therefore, the focus of this study was to determine how scheduling was perceived by students who had learned and faculty who had taught in both structures. The goal was to discover the commonality of how participants in the block and traditional scheduling perceived similar experiences. Then, the findings could be shared with school administrators considering similar changes.

Educators in high schools across the country are faced with the pressure of providing students what they need to be college and career ready (Werra, 2018). The school schedule can be a strategy for school reform and student preparation, but it can also be merely a different bell schedule (Zepeda, 2006). Throughout the late 1990s and early 2000s, educators adjusted their school schedules for greater flexibility and hopes of increased student achievement (Roberts, 2016). Many educators shunned traditional

scheduling in favor of block scheduling during these years (Roberts, 2016). Arguments can be made whether scheduling leads to increased academic achievement, and many districts have reverted to a traditional schedule (Roberts, 2016). While no clear achievement gains have been made through block scheduling, there is evidence to suggest block scheduling is a preferred method of instruction for both students and teachers (Frocco, 2012). For example, school schedules could impact student perceptions of academic stress, among other factors (Frocco, 2012).

Defenders of block scheduling would point to fewer class periods and interruptions, which allows teachers to spend more time on instruction (Irmsher, 1996). Additionally, teachers have the freedom to use a variety of instructional techniques, including project-based learning (PBL) activities (Partnership, 2013). Scheduling fewer classes reduces the burden on both teacher and student and allows both to narrow the focus of instruction (Rettig, 2017).

However, the focus of instruction is also an argument against the block schedule (Partnership, 2013). Opponents of the block argued students cannot remain focused for significant periods and consequently cannot retain the information taught (Irmsher, 1996). Teacher efficacy within the block is also questioned by those opponents (Zepeda & Mayers, 2006). Finally, the gaps between instructional times can lead to gaps in student learning (Partnership, 2013).

Purpose of the Study

The purpose of this study was to determine the preferred schedule type for students and teachers between block and traditional scheduling methods in secondary school and explore a rationale for why schools should assess how to use time efficiently

in the course of the school day. Findings from a survey about time management practices of students and teachers at one high school were analyzed to reveal how schools constructed a schedule. Both students and teachers with experience in block and traditional scheduling formats were surveyed.

Research questions. The following research questions guided the study:

1. What are the perceptions of teachers regarding block scheduling and traditional scheduling at one high school in Missouri?

2. What are the perceptions of students regarding block scheduling and traditional scheduling at one high school in Missouri?

3. In what ways do teachers accommodate student learning for block scheduling at one high school in Missouri?

4. In what ways do traditional scheduling and block scheduling impact the climate and culture, as perceived by students and teachers at one high school in Missouri?

5. In what ways do students and teachers utilize opportunities provided through traditional and block scheduling, as perceived by students and teachers at one high school in Missouri?

Significance of the Study

Block scheduling is in place in approximately 30% of American schools (Rettig, 2017, p. 1). However, when the National Education Association (NEA) (2019) references block scheduling, four articles from the 1990s are cited. Current research on block scheduling is necessary and valuable for the nearly three out of 10 schools operating under the block schedule (Rettig, 2017).

As the school district reconsiders the block schedule at High School A, there is a lack of research on block vs. traditional scheduling over the last 15 years to consider (Roberts, 2016). In fact, according to Zepeda and Mayers (2006) in *An Analysis of Research on Block Scheduling*, "The research provided little at all that could be definitively said about block scheduling" (p. 163). The lack of current research, coupled with inconclusive studies on the academic effect of scheduling, has led to an attempt to determine perceptions of those students and teachers who have experienced both block and traditional schedules (Partnership, 2013).

What are the perceptions of students and teachers who have participated in both traditional and block scheduling? Are teachers able to accommodate student learning in a block schedule? Does traditional or block scheduling impact the culture and climate of the school? Do teachers and students utilize opportunities provided through schedule variations? These questions were the rationale behind the study.

Definition of Key Terms

For this study, the following terms are defined:

Block schedule. A system of scheduling used in middle or high school education (Partnership, 2013). Typically, the block schedule replaces a more traditional schedule of six or seven 40-50-minute daily periods with longer class periods that meet fewer times each week (Partnership, 2013, p. 1). A typical block schedule class could meet 90 minutes every other day instead of daily (Partnership, 2013, p. 1). There are numerous variations of the block schedule, including 4 X 4, A/B, trimester, and others (Partnership, 2013).

Traditional schedule. Under a traditional school schedule or period schedule, a student takes up to seven classes a day (Weller, n.d., p. 2). Each class will last approximately 45 minutes, and the student takes the same classes for the entire year (Weller, n.d., p. 2).

Limitations and Assumptions

The following limitations were identified in this study:

Sample demographics. For this study, the sample was limited to students and teachers who had a direct impact on scheduling practices at High School A, which is located in a rural area in the Midwest. Approximately 400 students attended High School A at the time of this study.

Instrument. The survey statements were created by the researcher. The following assumptions were accepted:

1. The responses of the participants were offered honestly and willingly.

2. The sample was representative of the general population of educators who held teaching certificates from the Missouri Department of Elementary and Secondary Education (MODESE).

Summary

Secondary schools use a variety of scheduling options to optimize student success (Rettig, 2017). Whether the schedule comes in the form of a traditional seven-period day or a block schedule, the goal is to maximize instructional time for students (Liebtag & Ryerse, 2017). Ultimately, the schedule should reflect the individual school's mission and goals (Zepeda & Mayers, 2006). The overarching question in this study was: Does

block scheduling reflect the mission and goals of High School A, and is block scheduling appropriate for High School A?

In Chapter One, the design of the study was introduced, including background information, the theoretical and conceptual frameworks, and the statement of the problem. The purpose of the study, research questions, and the significance of the study were detailed. The definition of key terms, the limitations, and the assumptions were presented.

Relevant literature is examined to identify gaps that may be present in literature and explore the existing research on the topic (Fraenkel, Wallen, & Hyun, 2019). Chapter Two contains a review of the literature regarding school scheduling, time management, and instructional practice. Also, school climate, academic achievement, and future trends in scheduling are discussed.

Chapter Two: Review of Literature

The school schedule can be a powerful tool to assist administrators in maximizing educational opportunities for students (Williamson, 2010). The right schedule can provide teachers and students the proper amount of time for instruction (Williamson, 2010). The two primary high school scheduling methods are a traditional period schedule and a block (or a modified version) schedule (Williamson, 2010). The type of schedule also determines the number of classes students take and teachers teach within each day (Jenkins et al., 2002). Most of the literature surrounding this topic was published in the 1990s, although in the early 2000s, a few articles were written, reviving the debate (Irmsher, 1996: Shortt & Thayer, 1998: York, 1997). More recently, limited research has been conducted in this area (Beldotti, 2019: Clark, 2018: Gonzalez, 2018).

The basic concept of the high school schedule had remained the same with minor adjustments until the 1990s (Queen, 2000). Traditional scheduling began in the early 20th century with the introduction of the Carnegie Unit (Carnegie Foundation, 2002). According to the Carnegie Foundation (2002):

> The unit was developed in 1906 as a measure of the amount of time a student has studied a subject. For example, a total of 120 hours in one subject—meeting 4 or 5 times a week for 40 to 60 minutes, for 36 to 40 weeks each year—earns the student one "unit" of high school credit. Fourteen units were deemed to constitute the minimum amount of preparation that could be interpreted as "four years of academic or high school preparation." (p. 1)

Typically, 14 units were recognized as the minimum units for completion of high school (Carnegie Foundation, 2002).

A traditional schedule or seven-period day (see Table 1) has advantages, including community familiarity, daily routine, and reduced costs for the school district (Partnership, 2013). However, the traditional seven-period schedule can also reduce the possible student course opportunities, create shorter class periods, limit credit recovery options, and could restrict extracurricular opportunities (Partnership, 2013). Considering a student's attention span, a traditional 45-50 minute class period could allow for more effective teacher planning and instruction (Weller, n.d.).

Table 1

Traditional Seven-Period Model

Period	Monday	Tuesday	Wednesday	Thursday	Friday
1	Government	Government	Government	Government	Government
2	PE	PE	PE	PE	PE
3	Language Arts	Language Arts	Language Arts	Language Arts	Language Arts
4	Spanish	Spanish	Spanish	Spanish	Spanish
5	Biology	Biology	Biology	Biology	Biology
6	Algebra	Algebra	Algebra	Algebra	Algebra
7	Art	Art	Art	Art	Art

While block scheduling provides additional instructional time, it is debatable whether teachers use that time correctly (Rettig, 2017). Teachers who use traditional teaching methods such as lectures and teacher-centric activities can reduce a 90-minute class to 60 minutes or less of true instructional time (Rettig, 2017). The number of class periods,

length of class periods, instructional minutes, passing time, teacher workload, and operating costs are all considerations when choosing the best schedule (Rettig, 2017).

Proponents of the block schedule have pointed out the deficiencies of the traditional schedule (Irmsher, 1996). Critics of the traditional schedule cited the grueling pace of seven periods in one day (Rettig, 2017). Additionally, under a traditional schedule, students could be in as many as nine different activities throughout an approximately seven-hour school day (Irmsher, 1996). Not to mention, the average teacher is asked to teach at least six courses with multiple preparations (Irmsher, 1996). Carroll (1994) stated, "It [traditional schedule] produces a hectic, impersonal, inefficient instructional environment," in his article *Optimizing Time to Support Learning* (p. 27). The benefits of the block schedule include longer teaching periods, which should lead to a more active learning process and more individual student attention (Weller, n.d.). Regardless of the complexity of the school schedule, it most certainly becomes a factor in student learning (Irmsher, 1996).

While there are both advantages and disadvantages to the block schedule, teacher and student perceptions become crucial to a school's decision-making process (Irmsher, 1996). Teachers have shown a willingness to use an extensive variety of instructional strategies because of the extended time of the block (Benton-Kupper, 1999). Additionally, students perceive the block schedule allows them a deeper understanding of the content taught in the classroom (Benton-Kupper, 1999).

This literature review continues with a discussion of the theoretical and conceptual frameworks. Next, there is an overview of the history, trends, and types of block scheduling, and a comparison of block scheduling to traditional scheduling.

Scheduling innovations such as time management techniques, mixed schedules, and delayed start times are examined. Additionally, components of how traditional high school curriculum fits into a traditional and block schedule are explored. Other topics include high school curriculum in both schedules, teaching strategies for block scheduling, school climate, and academic achievement. The final component of the literature review is an exploration of the future of high school schedules.

Theoretical and Conceptual Frameworks

Maslow's (1954) hierarchy of needs theory, Covey's (1989) Time Management Matrix, and the Pareto Principle (Hardy, 2010) were selected as frameworks for the study to better understand the inherent need for time management for students, teachers, and administrators (Strom et al., 2016). Maslow's (1954) theory provides an overall blueprint for achieving self-actualization by scaling a pyramid that begins with physical needs and continues to climb through security needs, social needs, and ego. When considering a time management strategy (Covey, 1989), basic needs must be considered before self-actualizing activities (such as learning) can occur (Burton, 2017).

The Pareto Principle asserts that 80% of results come from just 20% of the action (Haberlin, n.d., p. 1). Kruse (2016) gave some real-world examples; 20% of patients account for 80% of healthcare spending, 20% of customers account for 80% of total profits, and 80% of social time is spent with 20% of one's friends and family (p. 4). In education, teachers can reflect on how time is spent by using the Pareto Principle (Haberlin, n.d.). Often tasks such as studying assessment results and planning instruction can be the critical 20% that leads to more effective instruction (Haberlin, n.d., p. 2).

Regardless of the occupation or task, it is important to remember the value of time in a day, and to adopt the Pareto Principle can lead to a stronger strategy for time management (Kruse, 2016).

Covey has been a bestselling author and self-help guru since his book, *The 7 Habits of Highly Effective People,* was published (Jackson, 2012). In the book, Covey (1989) suggested creating a weekly two-by-two time matrix on which one side says "urgent" and "not urgent," and the opposite side of the matrix says "important" and "not important" (p. 107). Then, participants write down the events of the week in the proper matrix (Covey, 1989), and the participants respond to the question, "How and where am I spending my time?" (Jackson, 2012, p. 1).

Block Scheduling

A block schedule is a systematic way to organize the high school or middle school daily class schedule (Partnership, 2013). The block replaces the traditional seven (sometimes six) 40-50-minute periods with longer classes that meet fewer times in a week (Irmsher, 1996). For example, schools operating in a block schedule could hold a class for 80-90 minutes and meet every other day (Partnership, 2013). There are a variety of block scheduling systems schools have implemented, including the 4 X 4 block schedule (see Table 2) (Partnership, 2013).

Table 2

4 X 4 Block Schedule

Block	1st Semester	2nd Semester
1	Algebra	Biology
2	Social Studies	Foreign Language
3	Art I	Art II
4	PE	Language Arts

Based on this schedule, students enroll in four 90-minute classes that meet each day, and the year is split into two 90-day semesters (Partnership, 2013).

An A/B, also known as an alternating-day block schedule (see Table 3) is designed so students can enroll in eight 90-minute classes that occur every other day (Irmsher, 1996).

Table 3

Alternating Block Schedule

Day / Block	Monday/A	Tuesday/B	Wednesday/A	Thursday/B	Friday/A
1	Social Studies	Foreign Language	Social Studies	Foreign Language	Social Studies
2	Language Arts	PE	Language Arts	PE	Language Arts
3	Art	Biology	Art	Biology	Art
4	Algebra	Band	Algebra	Band	Algebra

Other variations of a block schedule include the Copernican Plan or trimester schedule (see Table 4), where class meets daily, and students take two (sometimes three) courses at a time throughout three, 60-day trimesters (Partnership, 2013).

Table 4

Copernican Plan (Trimester) Schedule

Block	1st Trimester	2nd Trimester	3rd Trimester
1	Algebra	Social Studies	Art
2	Biology	PE	Language Arts
Break	Break	Break	Break
3	Choir	Choir	Choir

There is also a 75-15-75-15 schedule where students enroll in four 75-minute classes daily and actually finish the course at the end of the semester (Partnership, 2013). The twist to this schedule is each semester is followed by a 15-day learning-enrichment class or remedial program, based on student needs (Partnership, 2013). The Copernican schedule gives students more time for core subjects during the morning and less time for electives in the afternoon (Partnership, 2013).

Additionally, some districts have modified the block schedule with rotating days and a hybrid day that allows students to attend all classes (Bush, 2019). For example, a district could use an A/B schedule Monday through Thursday, then flip to a traditional schedule Friday (Bush, 2019). The modified system is selected to ensure that students have instructional time with students at least three times in a week (Bush, 2019).

When comparing types of block schedules, research supports three generalizations (Rettig, 2017). One, the A/B schedule is easier for school implementation than other variations, with potentially less pushback from school and community stakeholders (Rettig, 2017). In most cases, the 4 X 4 schedule will need to be altered to allow certain courses (math or band, for example) to run the full year (Rettig, 2017). Again, there are numerous variations of the block schedule because schools are not bound to a rigid pattern but can adapt the schedule to their own needs (Trenta & Newman, 2002).

Finally, research has shown simply changing the bell schedule will not assure greater student academic success (Rettig, 2017). Schools changing to a block schedule cannot be successful if the staff and faculty are not prepared for teaching within the schedule (Queen, 2000). As many as one-third of the faculty do not take advantage of the extra time and lose valuable instructional time by not making use of the last 30 minutes of the block (Queen, 2000). Consistent school improvement can only come through shared beliefs and attitudes of teachers and administrators (Zepeda & Mayers, 2006).

Time Management

Schools have a responsibility to effectively use the time given them to maximize student instruction (Rettig, 2017). Research has shown students need real lessons in time management (Strom et al., 2016). When time management habits improve, educational and study habits will improve as well (Strom et al., 2016). Kruse (2015) identified three key time management strategies from 29 straight-A students. These three strategies included limiting social media use, using a calendar, and prioritizing tasks (Kruse, 2015). He discovered that successful students were very conscious of the amount of time in a

day and understood not all assignments or even classes should have the same priority

(Kruse, 2015). Morin (2019) shared:

> The perks of good time management include: reduced anxiety when projects are
> due in school or test dates are approaching, increased responsibility and
> independence, better decision-making skills, more time for family and friends,
> better performance at work and school, and more opportunities to relax and
> unwind. (p. 1)

Students, and specifically teenagers who fail to learn appropriate time management

strategies, are setting themselves up for future struggles (Morin, 2019).

Time management goes well beyond setting a high school class schedule

(Rampton, 2018). *Forbes* outlined 20 key ways leaders can improve time management

for teachers and students including:

1. Create a time audit.

2. Set a time limit to each task.

3. Use a to-do list, but don't abandon tasks.

4. Change your schedule.

5. Instill keystone habits.

6. Leave buffer-time between tasks and meetings.

7. Batch similar tasks together. (as cited in Rampton, 2018, p. 1)

Increasing teenagers' time management habits is a daunting task (Strom et al., 2016), so

teachers may consider the ideas set forth by Rampton (2018) as options for students to

grow in the area of time management.

Surveys of how adolescents use time show, on average, teens spend nine hours daily interacting with social media, television, music, video games, texting, and talking on the phone (Turkle, 2015). Additionally, a majority of teens (71%) admitted to hiding online activities from their parents (Elmore, 2018, p. 1). These are difficult odds and habits to overcome when trying to instill healthy time management techniques, such as study habits (Strom et al., 2016).

In the past, schools have been viewed as institutions where students learn deadlines, productivity, and time management (Aeon, 2020). Findings from current research has indicated that educators can encourage students to have a healthier view of time management (Morin, 2019). Aeon (2020) suggested three school practices for healthier time management:

1. Conduct time-use surveys. Schools can better understand where students' time goes, which is the first step toward tackling time issues.

2. Lower the pressure. Consider reducing homework and increasing recess.

3. Intentionality over productivity. Doing too many things inevitably saps out ability to immerse ourselves fully in whatever we're doing. (Aeon, 2020, p. 28)

While leaders work to create positive time management scenarios for students, teachers also feel the pressure of time management (Morgan & Bates, 2018).

Tooley and Connally (2016) presented a clear connection between a teacher's "time to learn" and teacher knowledge and skills (p. 8). Time is a precious commodity; schools and teachers should be intentional about scheduling (Morgan & Bates, 2018). One option for reviewing time management practices is a time audit (Morgan & Bates,

2018). A time audit is simply keeping track of how the time is spent through the day, reflecting, and making adjustments as needed (Morgan & Bates, 2018).

Another strategy is to leave buffer-time between tasks (Rampton, 2018). The typical human brain can only stay focused on one task for approximately 90 minutes (Rampton, 2018, p. 1). If a teacher can break up the class period and lesson into shorter tasks, students could retain focus and better manage the time provided within the schedule (Rampton, 2018). School leaders should reconsider their overall views on time and productivity in the classroom to encourage students who can become successful adults with strong time management skills (Aeon, 2020).

High School Curriculum in Block Scheduling

For block scheduling of any form to be successful, it must be adaptable to the curriculum (Rettig, 2017). Of all the subjects that could come under scrutiny in the block schedule, math is more problematic, due to a lack of daily instruction (Kramer & Keller, 2008). A math classroom in the block schedule could include all the aspects of a classic lesson plan (Gonzalez, 2018). The first 10 minutes would be the anticipatory set, followed by 15-20 minutes of direct instruction, 30 minutes of application, a 15-20 assessment, and finally, a 10-minute reflection (Gonzalez, 2018, p. 1).

A study was conducted on the effects of 4 X 4 block scheduling in an affluent community high school in the northeast region of the country (Kramer & Keller, 2008). Graduating students who had studied math in a block schedule received higher scores on most measures of mathematics assessments than students who had studied math in a traditional high school schedule (Kramer & Keller, 2008). Allen (2009) concluded that despite academic achievement, teachers still preferred teaching math using a traditional

schedule. Teachers claimed the traditional schedule gave them a better opportunity to consistently teach new curriculum and the shorter time period kept students more actively engaged in the content (Allen, 2009).

In terms of science education, there is a clear potential benefit for science teachers having more time for laboratory experiments and project-based learning (Maltese, Dexter, Tai, & Sadler, 2007). In a block schedule, science teachers can conduct thorough labs without the time constraints of a traditional class period (Sciarrotta, 2019). The block schedule is conducive to having actual science labs that can be used to create project-based learning situations for students (Gonzalez, 2018).

However, like every other subject in a block schedule, there is criticism teachers are not using instructional methods that capitalize on the extra time created through the implementation of the block schedule (Maltese et al., 2007). Other core class teachers could look to varied methods of planning the classroom block (Gonzalez, 2018). Using a workshop method, the class period could begin with a 10-minute lesson and end with a 10-minute reflection time (Gonzalez, 2018, p. 1). In the other hour, students are working on independent or group projects, while the teacher is able to facilitate the learning (Gonzalez, 2018). This method could benefit self-paced math classes, English courses, and social studies classes (Gonzalez, 2018).

While core academic classes deserve administrative attention when discussing block scheduling, what about elective courses such as physical education (Rikard & Banville, 2005)? The National Association for Sport and Physical Education listed potential benefits of a block schedule in physical education, including greater use of technology, more flexibility, variety in methods and content, and time for reflection

(Claxton & Bryant, 1996). The physical education teachers can maximize class time by taking students outside to the fields and courts and allowing the students time for both instruction and play (Sciarrotta, 2019).

Time is one of the critical factors when planning any type of curriculum, regardless of the subject or content area (Benton-Kupper, 1999). The pitfalls of implementing a block schedule in physical education classes are similar to other content areas and can include a lack of professional development, preparation, and experience (Claxton & Bryant, 1996). Rickard and Banville (2005), at George Mason University, surveyed 15 physical education teachers in a southeastern United States school district. Researchers concluded through the responses that teachers perceived less stress, a rise in student attendance, less tardiness, and lower discipline referrals after switching from a traditional schedule to block scheduling (Rikard & Banville, 2005). Additionally, 66% of teachers felt students learned more content in a block schedule (Rikard & Banville, 2005, p. 1).

Beyond the classroom, block scheduling can also impact the special education program (Weller & McLeskey, 2000). Weller and McLeskey (2000) collected interviews and observations from seven general classroom teachers who also worked as co-teachers in inclusive classrooms and seven teachers of students with disabilities. Results of the study showed block scheduling supported inclusion and had an overall positive impact on the high school (Weller & McLeskey, 2000).

In Virginia, Brown (2006) researched special education teachers' attitudes toward block scheduling and its perceived impact on students with disabilities. The researcher of

the doctoral study focused on a large public high school and specifically the social and academic profile of the school (Williams, 2011). Williams (2011) stated:

> At the time of the study, there were 15 special education teachers providing services for 244 students. The researcher analyzed archival school data, which included dropout and suspension statistics from 1996-1997 (traditional schedule) to 1997-2000 (block schedule). The data revealed a slight increase in the number of reported special education students who dropped out of school and a substantial increase in the number of suspensions each year after the implementation of block scheduling. (p. 37)

Specifically, in terms of special education, block scheduling can provide teachers with more time to develop rapport and identify each student's strengths and weaknesses (Veal & Flinders, 2001).

Teaching in Block and Traditional Scheduling

Whether in block or traditional schedules, teachers in the United States spend more time engaged in active teaching than many high-performing countries (Benner & Partelow, 2017). According to Benner & Partelow (2017):

> Teachers in the United States spend 27 hours teaching out of the 45 hours of work per week. Compare this with teachers in Singapore, who teach for only 17 hours per week, or teachers in Finland, who teach for a total of 21 hours per week. (p. 2)

The use of classroom time is obviously an important factor in education, and teachers must be prepared for instructional time allotted in the school day (Rettig, 2017).

Effective block scheduling includes providing a variety of instructional strategies in the classroom designed to increase students' interest, knowledge, and success (Benton-Kupper, 1999). Block scheduling can provide increased possibilities for teaching and learning in the classroom if it is appropriately utilized (Benton-Kupper, 1999). According to the National Education Association, block scheduling can provide students more time to process and reflect, better information retention, and more individualized instruction (Salazar, 2017). Additionally, there are few transitions when using a block schedule creates and, therefore, a more peaceful student learning environment (Beldotti, 2019).

After a school has instituted a block schedule, three areas of classroom instruction should be supported (Veal & Flinders, 2001). First, methods of instruction should be varied (Veal & Flinders, 2001). Varied classroom activities could include a SMART pacing guide (Gonzalez, 2018). SMART is an acronym for specific, measurable, achievable, realistic, and timely (Gonzalez, 2018). Pacing guides, which help a teacher map out standards and targets for the year, will help a teacher use the classroom block more effectively (Gonzalez, 2018). Secondly, there should be time for student reflection (Claxton & Bryant, 1996). Finally, the block should allow time to develop strong teacher-student rapport (Veal & Flinders, 2001).

Additional best practices within a block schedule include avoiding lengthy lectures, switching activities every 15-20 minutes, and over-planning for the period (Gonzalez, 2019, p. 1). A high school history teacher in Greencastle, PA, said, "Block scheduling requires planning for more than you can accomplish and then continually readjusting based on student needs" (Gonzalez, 2018, p. 1). With additional instructional

time, teachers can explore research-proven instructional practices such as cooperative learning, project-based learning, Socratic seminar, inquiry method, and other types of learning simulations (Queen, 2000).

Teachers also have the benefit of longer planning periods (Kelly, 2019). A longer planning time, in many cases, 80-90 minutes, gives teachers time needed to grade, communicate with parents, and collaborate with teachers (Kelly, 2019, p. 1). However, the added planning time can also cause personnel issues within a district as described by Superintendent, W. Hall (personal communication, January 15, 2020):

> The existence of the block at secondary schools, in this case, specifically the high school, creates inequity within the school district. For instance, most elementary school teachers receive 250 minutes of plan time per week, if that. Teachers at a high school on the block in the same district, should they receive a 90-minute planning period every day, receive 450 minutes of plan time per week! This is a fact that is not lost on elementary teachers in the district and creates animosity when it comes time for setting salary compensation for the upcoming contract year.

A block schedule also offers students a chance to earn more and varied credits to provide a more balanced education and a stronger high school transcript (Beldotti, 2019).

A New Jersey high school principal perceived block scheduling led to increased graduation rates and SAT scores (Saffren, 2019). The principal of Bordentown High School, Rob Walder, stated, "We didn't even consider moving back to a traditional schedule, we think the advantages of a block schedule outweigh the advantages of a traditional schedule" (as cited in Saffren, 2019, p. 1). Of course, any change of schedule

must be supported through professional development and teacher preparation (Claxton & Bryant, 1996).

According to Brugal (2019), traditional scheduling is supported by current educators. Administrators and teachers cite frequency and curriculum organization as key reasons to continue in a traditional schedule (Rezacheck, 2019). An advanced-placement psychology teacher reported when she met with her classes daily, test scores were higher (Brugal, 2019). Other districts point to instruction that is designed for 45-50 minutes, pushed into block classrooms set for 90 minutes, is a stumbling block for educators (Rezacheck, 2019, p. 1). A Martin County High School teacher felt that traditional scheduling was better for students based on a higher level of consistency and support for all students (Brugal, 2019). In a 2000 study (at the time, the largest-ever study on instructional strategies used in block and traditionally scheduled classrooms), Jenkins (2000) was unable to find significant differences in the majority of subject areas among the varying instructional strategies used in the classroom.

In traditional scheduling, teachers see students daily (Kelly, 2019). Daily instruction allows a teacher to consistently build on the previous day's instruction (Kelly, 2019). A traditional schedule is thought to be more appropriate when teaching certain subjects, such as math (Rezacheck, 2019). However, due to the stress of daily interactions when trying to cover a large portion of the curriculum, other subjects, such as history, are more difficult to teach in a traditional schedule (Kelly, 2019).

Mondie (2009) researched reflections from new and veteran teachers. The teachers' perceptions were derived from their responses to the prompt, "Write your

candid feelings about teaching on a block schedule" (Mondie, 2009, p. 9). The majority

of teachers responded:

1. Student attention drifted in block scheduling.

2. Teachers lacked training specific to block scheduling.

3. There was a heightened stress with additional time to manage.

4. Students do not always have the necessary self-motivated study skills to

   manage time appropriately. (Mondie, 2009, p. 9)

Mondie (2009) recommended stronger support from the administration to specific

professional development strategies and offering ongoing support and education for

novice teachers.

Whether block or traditional schedule is the choice, school leadership and

especially building principals need to play an active role (Flocco, 2012). Principals or

other appointed leaders must provide continuing professional development throughout

the year that covers relevant topics of time management, instructional strategies,

collective teacher efficacy, positive culture, and curriculum development (Pierce, 2019).

Principals must also develop and lead teachers in developing methods to encourage

teachers to work together and become accountable for incorporating best practices into

their daily classroom instruction (Pierce, 2019).

School Climate

While the term "school climate" is used often, there is a lack of an accepted

definition of the term (Wang & Degol, 2016). The typically accepted definition of school

climate from Wang and Degol (2016) is: "The shared beliefs, values, and attitudes that

shape interactions between students and adults and set the parameters of acceptable

behaviors and norms for the school" (p. 316). According to Walker (2016), the research points to a stronger school climate when a block schedule is used to manage the time in a day.

The feeling and attitude that grows from the school climate becomes the overall culture of the school (Wang & Degol, 2016). A positive and welcoming school climate can help a student receive the support needed to find success (DeWitt, 2017). In fact, Tableman (2004) wrote, "School climate reflects the physical and psychological aspects of the school that are more susceptible to change and that provide the preconditions necessary for teaching and learning to take place" (p. 2). The idea of a positive school climate can be easily grasped, although what does it actually look like in a classroom (Darling & Temkin, 2017)? An observer walking through a school with a positive school climate would likely see students who are engaged in the learning process (Darling & Temkin, 2017). The school buildings are physically sound, attractive, and safety is a high priority (Darling & Temkin, 2017). Supports are readily available for all student needs, both academic and social (Darling & Temkin, 2017).

Teenager sleep patterns have been a topic for discussion as a possible avenue to improve school climate by adjusting the school schedule (Pinsker, 2018). Pinsker (2018) explained, "The average start time for public high schools, 7:59 am, requires teens to get up earlier than is ideal for their biological clocks, meaning many teens disrupt their natural sleep patterns every school day" (p. 1). According to Pinsker (2018), there is a relatively simple solution that would provide for less student stress and a better school climate; start and end the school day later. If a district connected the high school schedule with natural teenage sleep patterns, classes would start no earlier than 8:30 a.m.

and end at 5:00 p.m. (Pinsker, 2018, p. 1). Among other organizations, the American

Medical Association (2016) supports a later school start time.

Creating a positive school climate means keeping staff satisfied (Darling &

Temkin, 2017). The best working environments are built on shared trust within the

school or organization (Bush, 2017). Equity and fairness are also critical to a positive

climate for school staff (Bush, 2017). Bush (2017) surveyed 229,000 employees and

found those employees who feel they have an exceptional employer are, "four times more

likely to say they give extra to get the job done" (p. 1). School leaders seeking a positive

school climate and culture must give consideration to teacher satisfaction (Wang &

Degol, 2016).

Research has shown a decrease in anxiety levels for both students and teachers in

the block schedule (Veal & Flinders, 2001). High school students operating in a schedule

with longer class periods experience less stress than those in traditional, shorter schedules

(Flocco, 2012). Studies have shown the block schedule as beneficial in slowing down the

pace of a student's life, reducing stress, and making teachers more readily available.

(Flocco, 2012).

The number of classes in a given day in the block schedule should provide

students with less stress and create an overall more positive school environment (Clark,

2018). The block schedule allows students more time to process information and practice

skills necessary for mastery (Clark, 2018). Additionally, from a teacher's perspective,

the implementation of a block schedule increases opportunities for teachers to positively

engage students (Salazar, 2017). In Flocco's (2012) school in New Jersey, 93% of

students said their teachers were more accessible since block scheduling began as compared to 70% the year before block scheduling was implemented (p. 68).

Schools attempting to improve school climate could consider a change in the schedule to create less stress for students and teachers (Walker, 2016). The block schedule is an attempt to slow down the hectic pace of high school, lessen the frequency of homework, and create more time for project-based learning experiences for students (Walker, 2016). Students, especially those busy with jobs, athletics, and other activities often have less homework in the block schedule, which leads to reduced anxiety (Clark, 2018). When climate has improved, school leaders have seen improvement in student academic motivation, achievement, and behavioral issues (Loukas, 2007).

In Farmington, Minnesota, teachers cited block scheduling as key to reducing student stress (Walker, 2016). In Chicago, National Board Certified Teacher, Salazar (2017), said he could not go back to teaching in a 50-minute class period because his students now have fewer absences and more engagement. A positive school climate is key to meeting student needs (DeWitt, 2017). As DeWitt (2017) said, "In the end, school climate is about empowering all of our students, not just the ones that make us look good. School climate is about welcoming all students at the door along with their diverse needs" (p. 2).

Academic Achievement

Since recent literature regarding block and traditional scheduling was scarce regarding academic achievement (Irmsher, 1996; Shortt & Thayer, 1998; York 1997), a historical perspective of the research and opinions of those in the field is offered. Block scheduling was not designed to have a direct impact on student achievement (Queen,

2000). However, while academic achievement was not the primary goal, the achievement comparison was tested through the years (Queen, 2000). While studies showed reduced stress for students and an overall healthier school climate, findings on the effects of scheduling on academic achievement were less conclusive (Lawrence & McPherson, 2000).

Buckman et al. (1995) recorded a bump in grade point averages due to block scheduling changes in Florida. A late 1990s study in Texas comparing 10th-grade scores in reading, writing, and math between high schools using block and traditional scheduling, showed no significant academic difference between the two (York, 1997). Day et al. (1996) reported teachers were able to improve instructional time at a Tennessee high school when they used more instructional strategies and fewer lectures. Researchers also compared math achievement scores from multiple schools with similar demographics in both block and traditional schedules (Schroth & Dixon, 1996). They found slightly higher performance on national achievement tests from students in schools with a block schedule (Schroth & Dixon, 1996).

Lawrence and McPherson (2000) explored the academic achievement gap between those students in a traditional school schedule and students enrolled in a block schedule. The sample consisted of two high schools in southeastern North Carolina, and findings were based on student achievement on state End-of-Course (EOC) exams (Lawrence & McPherson, 2000). The researchers' results indicated students on a traditional schedule scored higher on the American History, Algebra, Language Arts, and Biology exams compared to students in classrooms operating on a block schedule (Lawrence & McPherson, 2000).

When utilizing block scheduling to maximize student achievement, school administrators should consider the varied learning needs of the student body (Marchant & Paulson, 2001). Nichols (2005) compared the grade point average (GPA) of students before and after block scheduling was implemented. He analyzed the influence block scheduling had on language arts scores and discovered a slight increase in overall GPA following the introduction of block scheduling (Nichols, 2005). Although there was a slight increase, the change was not statistically significant (Nichols, 2005). Nichols (2005) also discovered that students in block scheduling had the ability to enroll in a greater number of classes, due to the available time in their schedule under the block system. Increased course options are frequently cited as one of the greatest positives of the block schedule (Rettig, 2017). The block schedule typically allows an opportunity for students to take one additional course per year than is usually provided in a traditional schedule (Rettig, 2017).

Another study was conducted to examine the impact of high school scheduling on post-secondary science preparation (Dexter, Tai, & Sadler, 2006). The analysis of the data revealed no major differences existed in scheduling plans (Dexter et al., 2006). Teachers used the same amount and variety of instructional practices in block and traditional scheduling (Dexter et al., 2006). It is difficult to find strong evidence for scheduling changes affecting academic performance (Zepeda & Mayers, 2006).

Research findings continue to be ambiguous on the effect scheduling can have on a students' academic success (Roberts, 2016). Individual schools need to assess their students' needs and teacher support systems to maximize classroom time (Marchant & Paulson, 2001). Faculty development is critical to student success in the block schedule

(Marchant & Paulson, 2001). Teachers need to be able to properly use the longer classroom time available to them in the block schedule through innovative strategies that have proven to be an effective means of instruction (Marchant & Paulson, 2001). Ultimately, the school schedule alone does not seem to alter student academic achievement significantly (Roberts, 2016).

Future High School Scheduling

Regardless of the schedule adopted by the school district, certain principles can always guide school scheduling implementation (Hanover Research, 2014). Dr. Ashanti Bryant Foster stated, "A master schedule must be built with the same level of care and attention as a new home where a family will spend the next 20 years growing together" (as cited in Werra, 2018, p. 1). Clear communication with school stakeholders is an essential foundation for scheduling practices, and decision-makers should work to build consensus within the district (Hanover Research, 2014).

Financial concerns should also be noted when considering future scheduling decisions (Hanover Research, 2014). Mr. W. Hall (personal communication, January 15, 2020) stated:

> The number of sections that teachers are required to teach on the block schedule largely determines how cost-effective the schedule is to the school district. For instance, I have been associated with an A/B block schedule whereby teachers taught five sections, received a 90-minute planning period per day and were responsible for supervising a separate block called a "seminar" where no direct instruction took place. As a result, out of eight blocks over a two-day period, teachers had three blocks where no direct instruction took place. When we

transitioned to seven periods with 52-minute class periods, each teacher was

required to teach six classes. This drastically lowered class sizes allowing the

school district to consolidate classes and downsize staff through attrition. This

saved the district over $300,000 in operational costs that was then invested in

teacher and support staff salaries.

Schools shifted away from block scheduling when financial resources declined in the

early 2000s (Williamson, 2010).

After stakeholders are informed, school leaders should plan to visit schools with

similar schedules, schedule appropriate discussion meetings, obtain consensus and

approval, provide staff development, and design evaluation strategies for the program

(Hanover Research, 2014). Scheduling will only be an effective means of school reform

if administrators and teachers can change their beliefs in how teaching and learning can

occur (Zepeda & Mayers, 2001). An example of a change in administrator and teacher

beliefs is the rise of virtual learning platforms, which are quickly changing the

educational landscape and how schools create a schedule that best fits the needs of the

student body (Werra, 2018).

In personal communication with two current superintendents, both were asked

their thoughts on the past, present, and future of high school scheduling. Dr. D. Hutsell

(personal communication, January 14, 2020) had experience in both traditional and block

scheduling and believed, academically, that it does not make any difference in student

achievement; the critical variable is the teacher in the classroom. Dr. Hutsell stated:

Academically, student engagement is the overall difference [maker] on how time

is used to improve teaching and learning. Block scheduling gives you time to

deeply investigate educational issues with fewer disruptions and class changes.

We all know that is great for biology labs, Ag, shop, etc., but it is more

complicated for math concepts. Block scheduling is a concept that is very

effective if utilized the way it is designed. Most teachers are not trained in the

teaching concepts of transition from one concept to another within the same time

period. Traditional scheduling is what most teachers were taught in (*sic)* and

what most schools are utilizing. (personal communication, January 14, 2020).

Dr. Hutsell continued to emphasize educators' comfort level with traditional scheduling

(personal communication, January 14, 2020).

Mr. W. Hall (personal communication, January 15, 2020), another current

superintendent has experience with both traditional and block scheduling. He sees value

in both types of scheduling, but believes the traditional approach is best for teachers and

students (personal communication, January 15, 2020). Mr. Hall explained:

I have noted a number of concerns about utilizing a block schedule at the high

school level. Not mentioned are common arguments against the block to include

lack of daily repetition and that the extended period places a premium on student

attendance, and quite frankly, staff attendance. Missing two class periods on the

block is comparable to missing 3 ½ periods on the seven-period day.

Be that as it may, I believe the block schedule can be successful if it is used

appropriately and instruction is adjusted to fit the block. My experience has been

that as well-intentioned as teachers are to make sure they adjust their teaching to

implement multiple transitions in a 90-minute block, this is very rarely maintained

over the years. With the number of schools on the block schedule decreasing,

most student teachers are trained on a 52-minute instructional period. When they

are hired to teach on the 90-minute period, they have not received the training

necessary to be successful. As a result, many struggle.   School districts who have

the block schedule do not make ongoing training for teaching a 90-minute period

a priority.   As such, teachers tend to fall back to what is easiest for them.

Finally, under no circumstances should a block schedule be implemented for

younger students, such as elementary or middle school students.   Daily repetition

is a necessity for younger students. The bottom line is that any schedule is only

as effective as the teachers who teach within it and how the instruction is

delivered.   If the decision is made to keep the block, then greater accountability

along with training is necessary to maintain quality instruction for students. It

takes well-trained and informed teachers in the classroom and well-informed

administrators circulating throughout the school, to make a difference. (personal

communication, January 15, 2020)

The future of high school scheduling goes beyond bells and tardiness; it depends on

teachers acquiring new strategies and best practices (Hanover Research, 2014).

The current school scheduling trend is to set aside both traditional and block

scheduling in favor of custom styles that fit the strengths of the district (Werra, 2018).

New, custom schedules are pioneering new techniques such as arena, flex mod, and

rotational scheduling (Werra, 2018). Additionally, in an effort to maximize time and

resources, some high schools have begun implementing a later start time (Figlio, 2017).

The future high school schedule continues to develop as teachers continue to look

for productive time within the school schedule (Benner & Partelow, 2017). The Center

for American Progress provided examples of what schools are doing across America to create a stronger school schedule (Benner & Partelow, 2017). The schedules specifically were designed to give teachers more time for collaboration and planning, create more flexibility within the instruction to cater to individual student needs, and provide more student-centered learning through small groups (Benner & Partelow, 2017).

Examples of future scheduling innovations can be found across the United States (Benner & Partelow, 2017). At the elementary school level, an example comes from Guilmette Elementary School in Lawrence, Massachusetts (De La Rosa, 2019). This school added over 200 hours of instructional time and aligned teachers' planning time for collaboration (De La Rosa, 2019, p. 2). On Monday through Thursday, a traditional school schedule is in place (Benner & Partelow, 2017). However, on Fridays administrators at Guilmette Elementary bring in community partners, and students are led through enrichment activities in fields such as fine art, STEM, and culinary arts (De La Rosa, 2019). While the students are involved in enrichment, teachers use the time for professional development and collaboration (Benner & Partelow, 2017). Since the implementation of the new schedule, there has been improvements in test scores and outperformed other area schools (Benner & Partelow, 2017).

Middle schools are also attempting to improve the school schedule (Benner & Partelow, 2017). Achievement First Greenfield Middle School in New Haven, Connecticut, is trying a more self-directed approach to the school schedule (Taylor, 2018). The Greenfield design is described as follows:

> . . . [the design] emphasizes what the network calls 'student-directed,' or online, learning; three-times-a-year special classes called expeditions, meant to allow

students to explore their interests and discover possible careers; a social-

emotional curriculum focused on developing students' sense of identity and

community; and a beefed-up role for parents and other caregivers and mentors.

(Taylor, 2018, p. 2)

Each teacher leads one instructional area (Benner & Partelow, 2017). The instructors

typically work in tandem with one teacher using traditional teaching methods in a

classroom setting, while the other teacher acts in a supporting role for students working

independently on laptops (Taylor, 2018). Test scores have been inconclusive on the

academic effectiveness of the system (Taylor, 2018).

Generation School, a high school in Brooklyn, New York, is attempting to free up

more time for instruction as well as collaboration and planning time for teachers (Benner

& Partelow, 2017). Generation School promotes an extended school year (200 days)

including two months of project-based learning through local internships (Academics,

n.d., p. 1). Classes in the school are broken into three settings; foundation (basic skills),

studio (creative design), and intensive (higher level) courses (Academics, n.d.).

Additionally, each student has an individualized, flexible schedule that is tailored to his

or her specific needs (Benner & Partelow, 2017). The students in the school have shown

gains in both achievement and graduation rates (Benner & Partelow, 2017). In 2016,

100% of the school's graduates were accepted into college (Benner & Partelow, 2017, p.

11).

Administrators across the country have worked to develop a model high school

schedule (Benner & Partelow, 2017). However, there are obstacles to changing

something as defining as a school schedule (Lieberman, 2020). Lieberman (2020) outlined six barriers to restructuring school schedules, including;

1. Staff and support staff. Though teacher objections are an obstacle, the conditions in which most teachers work are inherently hostile to innovation.

2. Concerns and objections from parents. Change in the timing of the school day could force parents to alter their work schedules.

3. Athletics and extracurriculars. Pushing those activities later in the day, for instance, can leave students with less time than they'd otherwise have to complete homework and get adequate rest.

4. Cost of change. Many school districts lack the budget and resources to devote to planning a complex operation.

5. Transportation. If school starts at a different time from before, it's no simple matter to rearrange the bus schedules accordingly.

6. Policy mandates. The codified rules at the district, local, and even state levels can stand in the way of rethinking schedules. (p. 17)

The success of a new school schedule is dependent on school demographics, professional development for staff, teacher collaboration, and thoughtful planning, organization, implementation, and evaluation of the scheduling model (Pierce, 2019). Advisory groups and intervention time are and will continue to be key factors in creating schedules that support individualized public education that works for every student (Liebtag & Ryerse, 2017).

Summary

High school administrators across the country have debated the merits of schedule types for decades (Hanover Research, 2014). School decision-makers face many scheduling options, including A/B, 4 X 4, traditional block, or the 6-8 period day (Liebtag & Ryerse, 2017). Administrators and school boards can also choose to go and invent an entirely new schedule (Werra, 2018).

In this chapter, the theoretical and conceptual frameworks were presented. Maslow's (1954) hierarchy of needs theory, Covey's (1989) Time Management Matrix, and the Pareto Principle (Hardy, 2010) were discussed in relation to block and traditional scheduling models. Researchers' opinions on strategies to help students and teachers improve time management skills were examined.

Next, block scheduling types and examples were presented. Alternating block, trimester, and 4 X 4 variations were explored (Partnership, 2013). Comparisons of block scheduling models were discussed, and modifications were considered.

Time management issues were presented in the chapter. General time management strategies (Klein, 2019), student time audits (Turkle, 2015), and time management strategies specifically for students and teachers (Rampton, 2018) were discussed. There is a connection between time management strategies and school scheduling models (Morgan & Bates, 2018).

The chapter continued with a more specific review of high school curriculum in block scheduling. Subject areas such as math (Allen, 2009; Gonzalez, 2018), science (Maltese et al., 2007), electives (Sciarrotta, 2019), and special education (Weller &

McLeskey, 2000) were discussed. Researchers' strategies on curriculum implementation within the block schedule were explored.

Strategies for teaching in block and traditional scheduling were presented. Instructional strategies (Salazar, 2017), best practices (Gonzalez, 2018), and benefits (Kelly, 2019) were outlined for the block schedule. Next, traditional schedule strategies were explored, such as consistency (Brugal, 2019), daily interactions (Kelly, 2019), and strategies for student success (Mondie, 2009).

School climate was defined (Wang & Degol, 2016). Then, researchers' opinions on sleep schedules (Pinsker, 2018), positive staff environment (Bush, 2017), and daily schedule pace (Walker, 2016) were linked to the discussion of schedule types. The connection was made between block scheduling and school climate (Salazar, 2017).

Next, the role of school scheduling in academic achievement was presented. Due to a scarcity of recent literature regarding academic achievement (Irmsher, 1996; Shortt & Thayer, 1998; York, 1997), a historical perspective was offered. Historical research and opinions on the topics of grade point average and testing (Buckman et al., 1995; Day et al., 1996; Schroth & Dixon, 1996), End-of-Course exams (Lawrence & McPherson, 2000), language arts scores (Nichols, 2005), and post-secondary preparation (Dexter, Tai, & Sadler, 2006) were discussed. Modern contributors agree with the historical research that the school schedule has not had a significant impact on overall student achievement (Roberts, 2016).

Finally, in this chapter, the future surrounding high school scheduling was presented. Communication with stakeholders (Hanover, 2014), custom and hybrid schedules (Werra, 2018), and scheduling innovations (Benner & Partelow, 2017; De La

Rosa, 2019; Taylor, 2018) were discussed. Also, present in the chapter were current superintendents' opinions in regard to the future of high school scheduling.

In Chapter Three, the problem and purpose, research design, and population are provided. The sample, instrumentation, data collection, and data analysis are discussed. Finally, ethical considerations are given.

Chapter Three: Methodology

Estimates are that one out of three schools in the United States operates under a block schedule (Rettig, 2017). Meaning the other two out of three are operating a traditional period schedule (Rettig, 2017). School districts then must determine which option is in the best interest of the teachers and students in the district (Williamson, 2010).

For this study, the research was focused on the traditional fixed period and block schedules. There appears to be no definitive research that one school schedule is superior to others (Williamson, 2010). However, as school leaders at High School A evaluated their current schedule model and considered alternatives, research on student and teacher perceptions of scheduling was valuable. Chapter Three contains the problem, research questions, population and sample, instrumentation, data collection and data analysis procedures, and ethical considerations of the research study.

Problem and Purpose Overview

While schools continue to debate changes in daily schedules, there appear to be limited gains or losses in achievement (Williamson, 2010). If both traditional and block schedules are academically equal, then districts may benefit from a schedule preferred by students and faculty. This study was conducted to determine how scheduling was perceived by both students and faculty who had learned and taught in block and traditional scheduling formats.

Research Design

The methodology for the study was quantitative and included the application of descriptive statistics to analyze data acquired through online surveys. Fraenkel et al.

(2019) stated, "The term *data* refers to the kinds of information researchers obtain on the subjects of their research" (p. 111). The data collected for this study were analyzed to reveal the frequency of trends and themes regarding teachers' and students' perceptions of block and traditional scheduling in a high school setting.

To explore the issue in depth and fully answer the research questions, a quantitative research design was selected and utilized for this study. Creswell (2015) defined quantitative research as identifying a problem "based on trends in the field or on the need to explain why something occurs" and seeking "to establish the overall tendency of responses from the individuals and to note how this tendency varies among people" (p. 13). This process allowed for the issue to be explored by understanding the factors and variables which may have influenced the outcome (Creswell, 2015). The survey was constructed using a Likert-type scale to determine the participants' attitudes toward scheduling types.

According to Fraenkel et al. (2019), when a survey is used as the method of data collection and calculations include percentages of responses on the survey, the research is considered quantitative. Fraenkel et al. (2019) reported, "The major purpose of surveys is to describe the characteristics of a population . . . how the members of a population distribute themselves on one or more variables" (p. 358). The variables studied were distributed throughout statements on the two surveys and were measured using combined scales to assess the participants' degree of agreement (Creswell, 2015; Fraenkel et al., 2019).

Population and Sample

The population for the study consisted of approximately 100 high school students and 71 teachers from High School A. From the population, a sample of 50 students and 46 teachers were used for the study. Students and teachers for the sample were chosen by using convenience sampling. According to Fraenkel et al. (2019), convenience sampling is warranted when "it is extremely difficult (sometimes even impossible) to select either a random or a systematic nonrandom sample" (p. 99). Fraenkel et al. (2019) went on to explain a convenience sample refers to "a group of individuals who (conveniently) are available for study" (p. 99). The sample was comprised of teachers and student who had previous experience in both block and traditional scheduling. The research population were teachers and students who had previous experience in both block and traditional scheduling.

Instrumentation

A survey was selected as the instrument to gather data for the study. Through surveys, researchers can collect "the opinions of a large group of people about a particular topic or issue" (Fraenkel et al., 2019, p. 358). Two online surveys (see Appendices A and B), which were developed by the researcher, consisted of interval/rating/ continuous scales similar to a Likert scale (Creswell, 2015). This scale was endorsed by Fraenkel et al. (2019) "as a commonly used attitude scale in educational research" (p. 124).

Ten survey statements were developed for teachers, and 10 survey statements were developed for students based upon the research questions for the study and the review of literature in Chapter Two. When exploring the conceptual framework for time management, there was a lack of current research on the topic of school scheduling

(Irmsher, 1996; Shortt & Thayer, 1998; York, 1997). Specifically, there was a gap in student and teacher attitudes toward scheduling (Benton-Kupper, 1999). The survey statements were developed to provide current research on the topic. The survey was distributed using an online survey tool, Qualtrics.

Data Collection

To collect authentic, quantitative data on attitude, survey responses are the primary means of data collection (Creswell & Creswell, 2018). Upon approval from the Lindenwood University Institutional Review Board (IRB), emails were sent to 100 students and 71 teachers in the High School A school district who had experienced both traditional and block scheduling. The emails contained a letter of introduction and recruitment, letters of informed consent for the students and teachers, and a link to the web address for the surveys. The survey was distributed using an online survey tool, *Qualtrics*. The web address was open for a period of two weeks for participants to respond.

Data Analysis

Responses from students and teachers to the statements on each of the two surveys were compiled utilizing *Qualtrics*. The data from the surveys were reported with frequencies, means, and standard deviations (Creswell & Creswell, 2018). Responses were presented with bar graphs (Fraenkel et al., 2019).

Percentages of responses were calculated by dividing the number of responses in a certain category by the total number of participants. Fraenkel et al. (2019) reported responses from descriptive surveys are "tabulated and reported, usually in the form of frequencies or percentages of those who answer in a particular way to each of the

questions" (p. 13). Frequencies of responses revealed trends and attitudes regarding teachers' and students' perceptions of block scheduling as opposed to traditional scheduling.

Ethical Considerations

Ethical consideration is a crucial factor in research design and process (Creswell & Creswell, 2018). Ethics were described by Fraenkel et al. (2019) as the researcher asking, "If it is 'right' to conduct a particular study or carry out certain procedures" (p. 61). One of the most important decisions a researcher makes is "to ensure that participants in a research study are protected from physical or psychological harm, discomfort, or danger that may arise due to research procedures" (Fraenkel et al., 2019, p. 63).

Upon approval of the IRB, steps were taken to protect the identities of those who chose to participate in the study. Although email addresses of participants were utilized to send emails with the link to the surveys, the participants were not asked to provide personally identifiable information. Participants were provided the Informed Consent Form for the study through an email sent by the researcher. The Informed Consent Form contained information about the purpose of the study, including protections, confidentiality, and anonymity for the participants of the study (Fraenkel et al., 2019). The Informed Consent Form also notified participants their responses would be kept confidential, would be destroyed after three years from the completion of the study, and stipulated their identities would not be revealed in any publication or presentation which could result from this study (Creswell & Creswell, 2018).

The hard copy of the email addresses will be kept confidential and held in a secure location.   Any electronic storage of information will be password-protected. Three years after the completion of the study, email addresses and any documents pertaining to the identity of High School A will be destroyed.

Summary

Chapter Three contained the problem and purpose of the study involving block scheduling and student and teacher attitudes toward scheduling practices. The research questions and reasons behind the quantitative research design were discussed. A description of the instrument and the processes for data collection and analysis were presented. Ethical considerations and reassurances for the participants were explained.

An analysis of the data collected through the surveys is presented in Chapter Four. The frequencies and percentages of responses from teachers and students to the statements on the survey are presented in figures. Trends and attitudes revealed from the responses to the survey about block scheduling, and traditional scheduling are discussed.

Chapter Four: Analysis of Data

This study was designed to explore the perceptions and attitudes of teachers and students in regard to high school scheduling. In this chapter is a discussion of the data that were obtained from the surveys given to teachers and students regarding their attitudes toward block and traditional scheduling. As outlined by Creswell and Creswell (2018), "Researchers make interpretations of the statistical results, or they interpret the themes or patterns that emerge from the data" (p. 16).

A survey was selected as the instrument to gather data for the study since through surveys, researchers can collect "the opinions of a large group of people about a particular topic or issue" (Fraenkel et al., 2019, p. 358). Next, two online surveys were developed by the researcher consisting of interval/rating/continuous scales, a Likert-type scale (Creswell, 2015). This combination of scales was endorsed by Creswell (2015), who stated, "In educational research, quantitative investigators often use a combination of categorical and continuous scales" (p. 166). Ten survey statements were developed for teachers, and 10 survey statements were developed for students. The survey statements were developed based upon the research questions for the study and the literature reviewed from the works of Irmsher et al. (1996), Maslow (1954), and Covey (1989) aided in the development of survey statements.

Problem and Purpose Overview

The problem explored in this study was to address an overarching question: What is the preferred scheduling method of teachers and students, block or traditional? Specifically, the purpose of this study was to discover trends or themes connecting student and teacher perceptions of scheduling with overall satisfaction in school.

Teachers and students were also asked to reflect on how school climate was impacted through scheduling practices. Finally, teachers and students reported how learning opportunities were implemented in different scheduling formats.

Two surveys, each with 20 statements, were created to answer the research questions for the study. Participants in the study were systematically selected to include students and faculty who had experience in both block and traditional high school scheduling. The surveys were sent to 100 high school students and 71 teachers in one school district. Responses from the surveys provided quantitative data that were reviewed and analyzed utilizing descriptive statistics.

In this chapter, the demographic information from the two groups of participants is presented. Next, each research question is posed, and corresponding data from the survey responses are provided to answer the question. Finally, a summary of the chapter is provided.

Demographic Analysis of Survey Respondents

Teacher survey demographics. Seventy-one teachers, with experience in both traditional and block scheduling, were invited to participate in the survey for this study. Of the 71 teachers invited, 46 teachers participated, for a response rate of 64.7%.

Student survey demographics. One hundred high school students, with experience in both traditional and block scheduling, were invited to participate in the survey for this study. Of the 66 students with parental consent, 50 participated, for a response rate of 75.8%.

Research Question One

What are the perceptions of teachers regarding block scheduling and traditional

scheduling at one high school in Missouri?

Respondents selected answers from an array of choices ranging from *strongly*

agree, somewhat agree, neither agree nor disagree, somewhat disagree, or *strongly*

disagree on the statements regarding student productivity and academic growth in

traditional and block scheduling. The data collected from participants' responses to the

perception of student productivity were analyzed and reported in percentages.

Student productivity in block scheduling. Teachers with experience in both

block and traditional high school scheduling were asked to respond to the statement: In

block scheduling, students are productive. The percentage of teachers responding with

strongly agree was 56.52%, *somewhat agree* was 32.61%, *neither agree nor disagree*

was 4.35%, *somewhat disagree* was 4.35%, *strongly disagree* was 2.17% (see Figure 1).
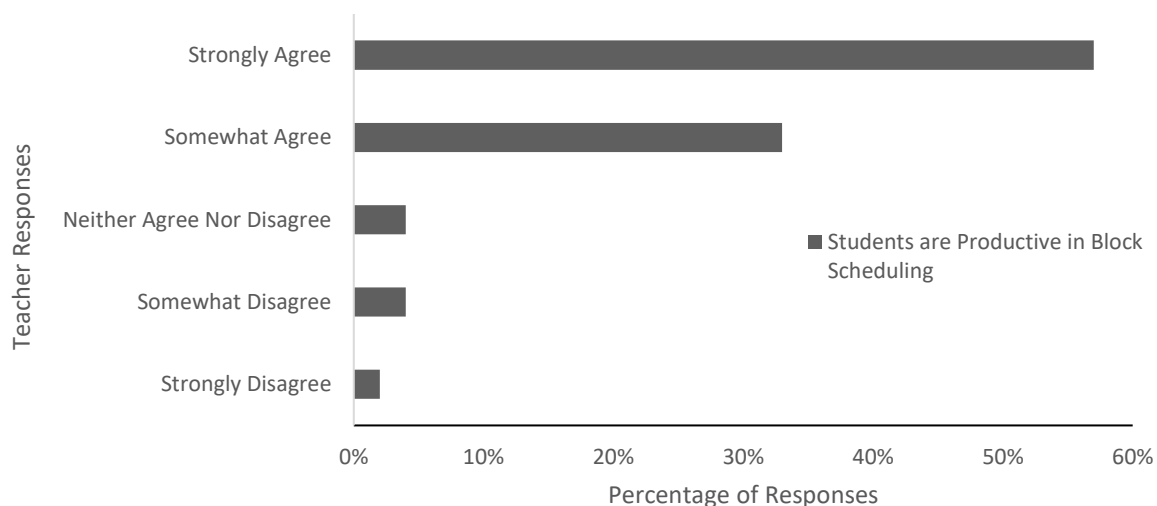

Figure 1. Teacher responses regarding student productivity in block scheduling.

Student productivity in traditional scheduling. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, students are productive. The percentage of teachers responding with *strongly agree* was 32.61%, *somewhat agree* was 50%, *neither agree nor disagree* was 6.52%, *somewhat disagree* was 8.7%, and *strongly disagree* 2.17% (see Figure 2).
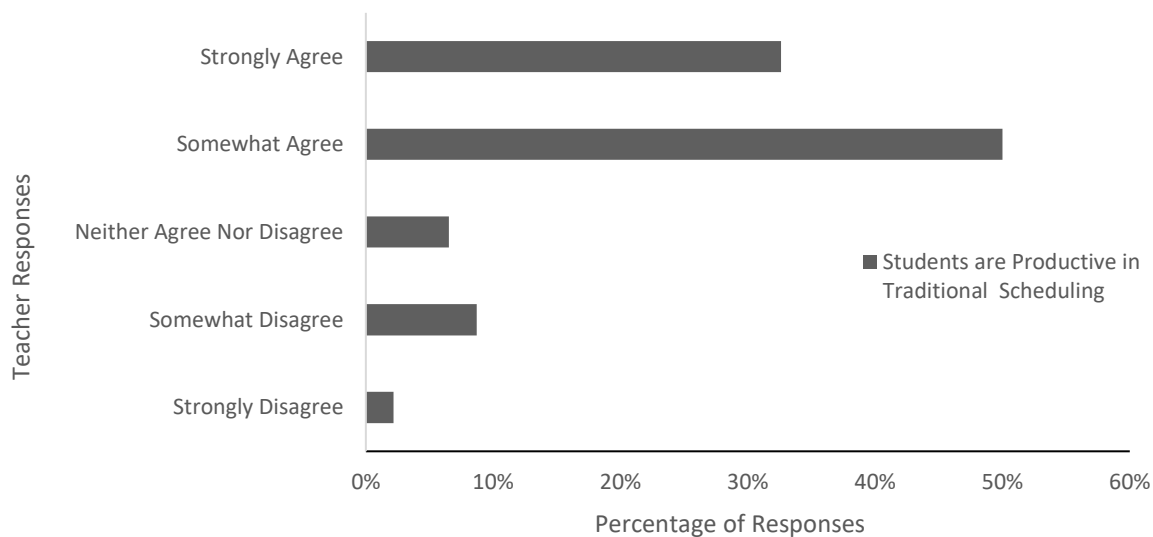

Figure 2. Teacher responses regarding student productivity in traditional scheduling.

Block scheduling promotes academic growth. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: Block scheduling promotes academic growth. The percentage of teachers responding with *strongly agree* was 63.04%, *somewhat agree* was 19.57%, *neither agree nor disagree* was 10.87%, *somewhat disagree* was 4.35%, and *strongly disagree* was 2.17% (see Figure 3).
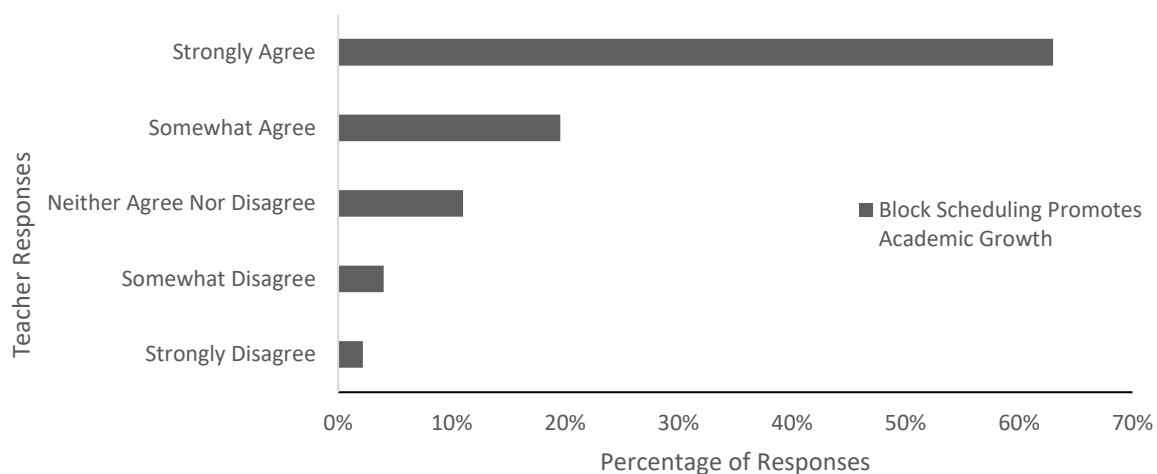
Figure 3. Teacher responses regarding block scheduling and academic growth.

Traditional scheduling promotes academic growth. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: traditional scheduling promotes academic growth. The percentage of teachers responding with *strongly agree was* 8.7%, *somewhat agree* was 43.48%, *neither agree nor disagree* was 34.78%, *somewhat disagree* was 6.52%, and *strongly disagree* was 6.52% (see Figure 4).
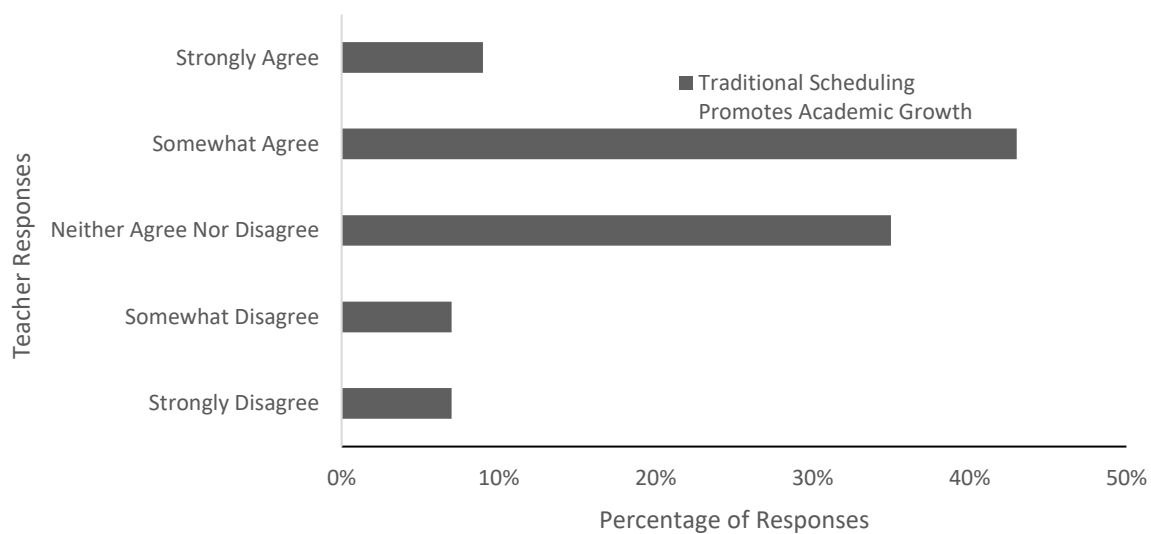

Figure 4. Teacher responses regarding traditional scheduling and academic growth.

Research Question Two

What are the perceptions of students regarding block scheduling and traditional scheduling at one high school in Missouri?

Respondents selected the extent they agreed, ranging from *strongly agree*, *somewhat agree*, *neither agree nor disagree*, *somewhat disagree*, or *strongly disagree* on the statements regarding student academic growth. The data collected from participants' responses to the perception of student productivity were analyzed and reported in percentages.

Block scheduling promotes academic growth. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: Block scheduling promotes academic growth. The percentage of students responding with *strongly agree* was 38.78%, *somewhat agree* was 40.82%, *neither agree nor disagree* was 18.37%, *somewhat disagree* was 0%, and *strongly disagree* was 2.04% (see Figure 5).
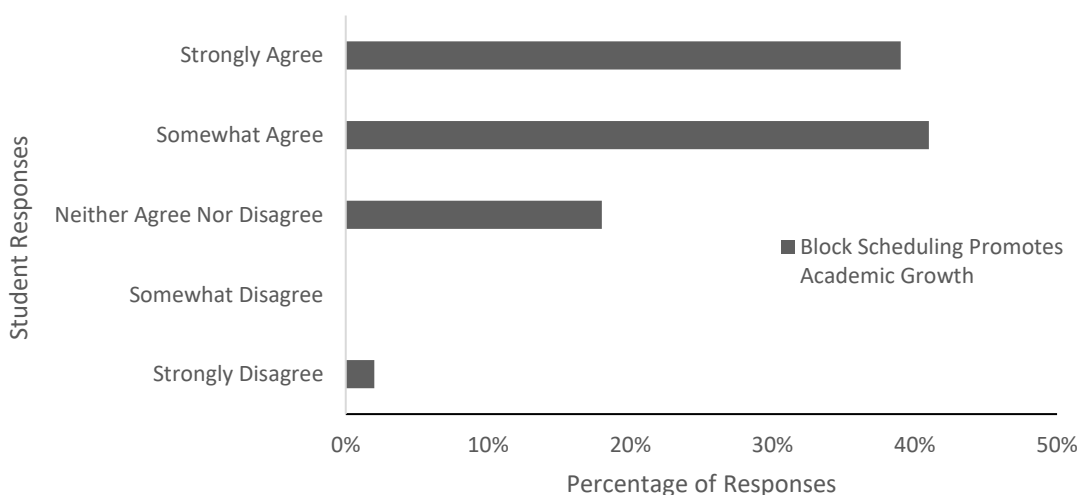

Figure 5. Student responses regarding block scheduling and academic growth.

Traditional scheduling promotes academic growth. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: Traditional scheduling promotes academic growth. The percentage of students responding with *strongly agree* was 10.64%, *somewhat agree* was 29.79%, *neither agree nor disagree* was 29.79%, *somewhat disagree* was 14.89%, and *strongly disagree* was 14.89% (see Figure 6).

Figure 6. Student responses regarding traditional scheduling and academic growth.

Research Question Three

In what ways do teachers accommodate student learning for block scheduling at one high school in Missouri?

Respondents selected the extent they agreed, ranging from *strongly agree*, *somewhat agree*, *neither agree nor disagree*, *somewhat disagree*, or *strongly disagree* on the statement that in traditional and block scheduling, students are productive. The data collected from participants' responses to the perception of student learning accommodations were analyzed and reported in percentages.

Teachers are able to accommodate for different learning styles of student learning in a block schedule. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, teachers are able to accommodate different learning styles. The percentage of teachers responding with *strongly agree* was 73.91%, *somewhat agree* was 17.39%, *neither agree nor disagree* was 4.35%, *somewhat disagree* was 2.17%, and *strongly disagree* was 2.17% (see Figure 7).
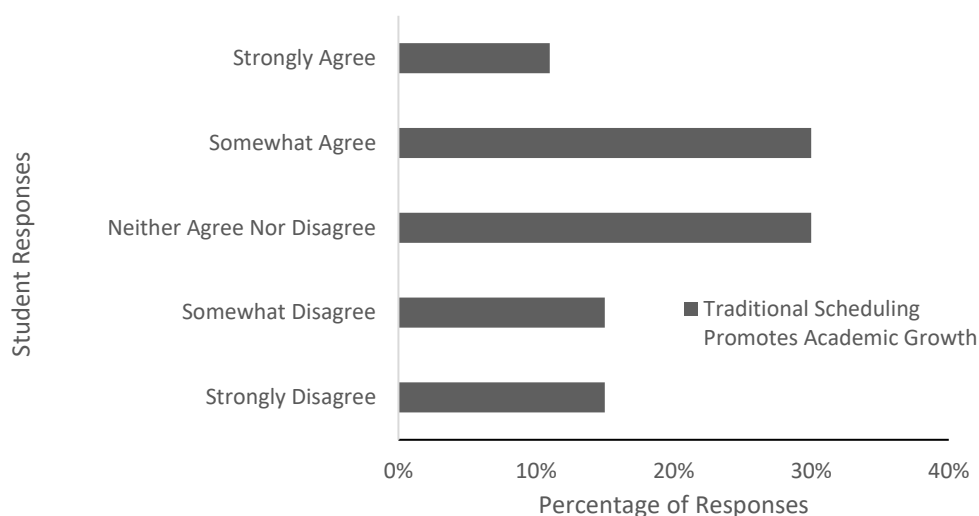

Figure 7. Teacher responses regarding teacher accommodations in a block schedule.

Teachers are able to accommodate for different learning styles of student learning in a traditional schedule. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, teachers are able to accommodate different learning styles. The percentage of teachers responding with *strongly agree was* 6.38%, *somewhat agree* was 42.55%, *neither agree nor disagree* was 6.38%, *somewhat disagree* was 36.17%, and *strongly disagree* was 8.51% (see Figure 8).
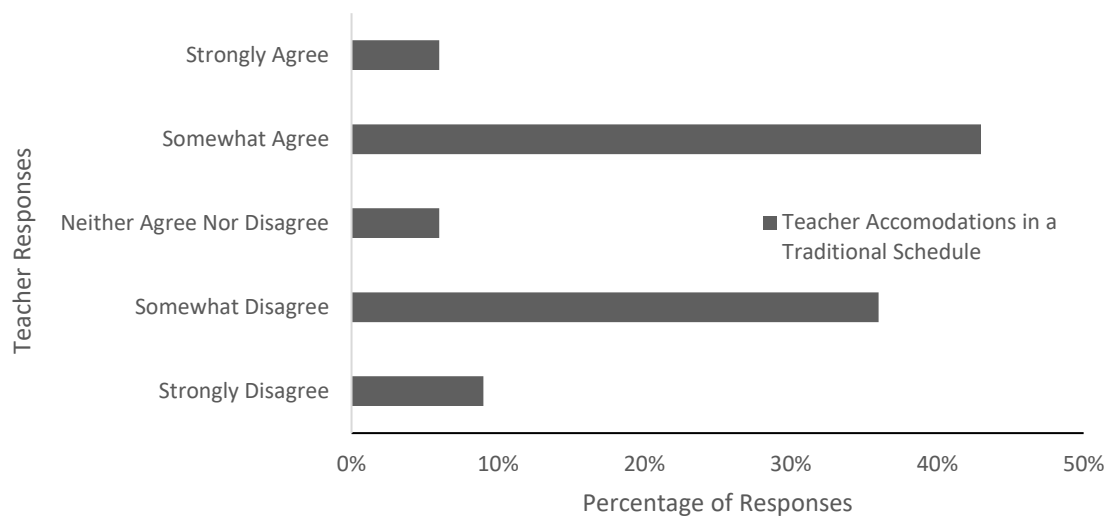
Figure 8. Teacher responses regarding teacher accommodations in a traditional schedule.

Homework is necessary in block scheduling. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, homework is necessary. The percentage of teachers responding with *strongly agree* was 4.35%, *somewhat agree* was 17.39%, *neither agree nor disagree* was 28.26%, *somewhat disagree* was 34.78%, and *strongly disagree* was 15.22% (see Figure 9).
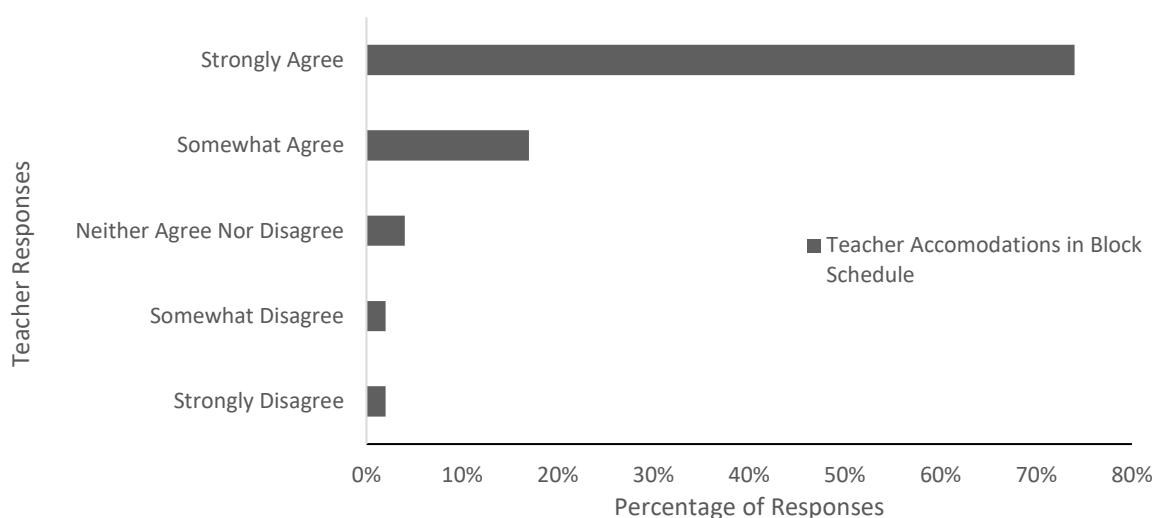
Figure 9. Teacher responses regarding homework in block scheduling.

Homework is necessary in traditional scheduling. Teachers with experience in

both block and traditional high school scheduling were asked to respond to the statement:

In traditional scheduling, homework is necessary. The percentage of teachers

responding with *strongly agree* was 23.91%, *somewhat agree* was 43.48%, *neither agree*

nor disagree was 15.22%, *somewhat disagree* was 15.22%, and *strongly disagree* was

2.17% (see Figure 10).

Figure 10. Teacher responses regarding homework in traditional scheduling.

Teachers use a variety of instructional strategies when teaching in a block schedule.   Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling: Teachers use a variety of instructional strategies when teaching.   The percentage of students responding with *strongly agree* was 34%, *somewhat agree* was 42%, *neither agree nor disagree* was 12%, *somewhat disagree* was 12%, and *strongly disagree* was 0% (see Figure 11).
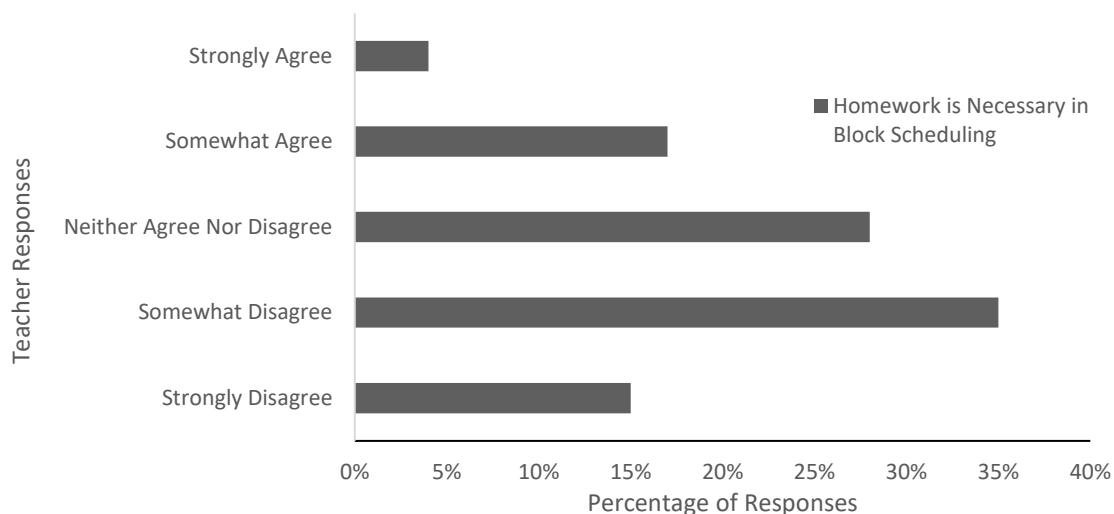

Figure 11. Student responses regarding instructional strategies used by teachers in block scheduling.

Teachers use a variety of instructional strategies when teaching in a traditional schedule.   Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, teachers use a variety of instructional strategies when teaching.   The percentage of students responding with *strongly agree* was 15.38%, *somewhat agree* was 28.85%, *neither agree nor disagree* was 32.69%, *somewhat disagree* was 17.31%, and *strongly disagree* was 5.77% (see Figure 12).
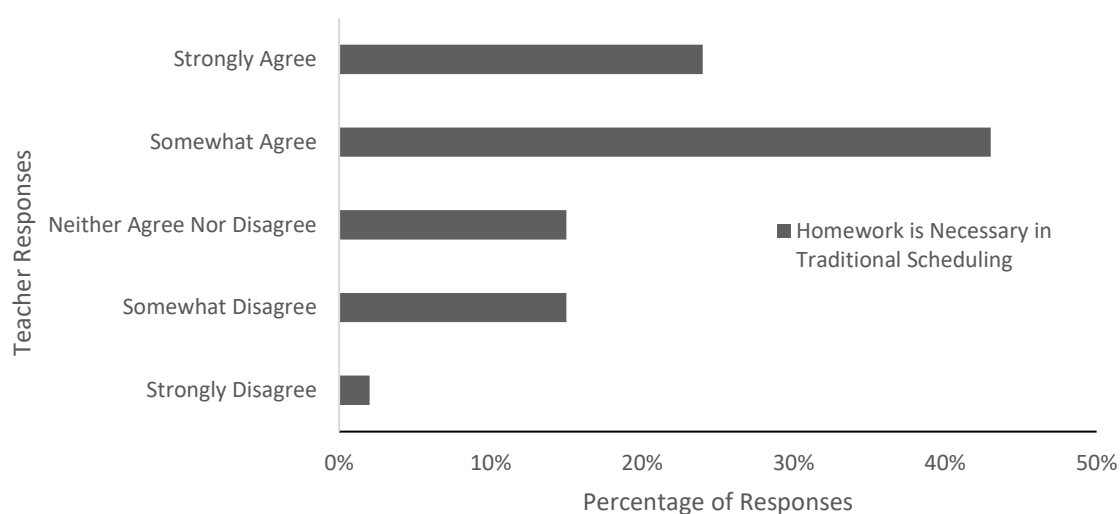
Figure 12. Student responses regarding instructional strategies used by teachers in traditional scheduling.

Homework is necessary in block scheduling. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, homework is necessary. The percentage of students responding with *strongly agree* was 4%, *somewhat agree* was 16%, *neither agree nor disagree* was 30%, *somewhat disagree* was 26%, and *strongly disagree* was 24% (see Figure 13).
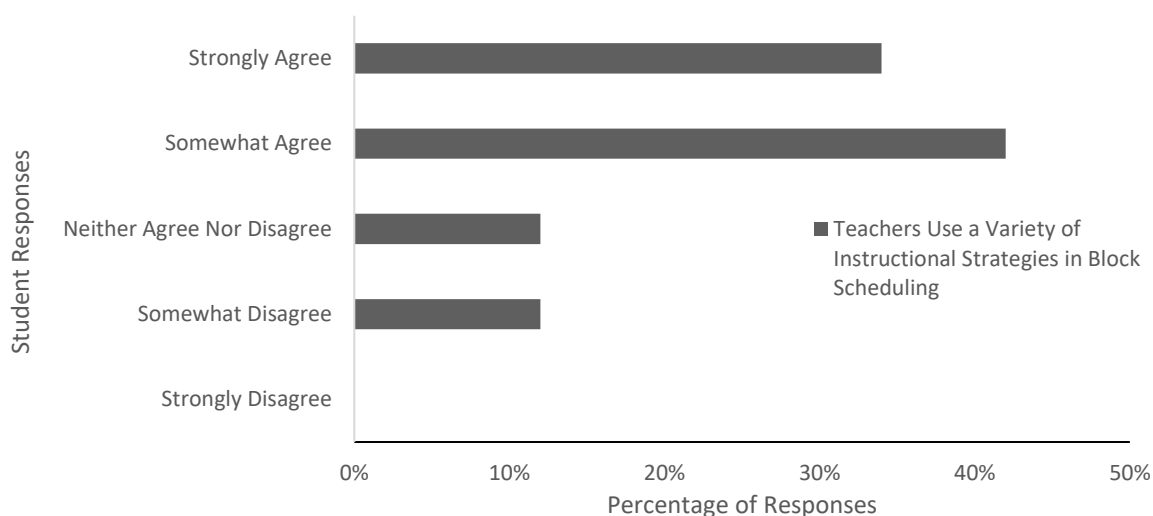

Figure 13. Student responses regarding homework in block scheduling.

Homework is necessary in traditional scheduling. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, homework is necessary. The percentage of students responding with *strongly agree* was 15.69%, *somewhat agree* was 25.49%, *neither agree nor disagree* was 25.53%, *somewhat disagree* was 11.76%, and *strongly disagree* was 23.53% (see Figure 14).

Figure 14. Student responses regarding homework in traditional scheduling.

Research Question Four

In what ways do traditional scheduling and block scheduling impact the climate and culture, as perceived by students and teachers at one high school in Missouri?

Respondents selected the extent they agreed, ranging from *strongly agree*, *somewhat agree*, *neither agree nor disagree*, *somewhat disagree*, or *strongly disagree* on statements regarding the impact of scheduling on climate and culture. The data collected from participants' responses to the perception of student productivity were analyzed and reported in percentages.

The school climate is positive in a block schedule. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, the school climate is positive. The percentage of teachers responding with *strongly agree* was 71.74%, *somewhat agree* was 13.04%, *neither agree nor disagree* was 10.87%, *somewhat disagree* was 2.17%, and *strongly disagree* was 2.17% (see Figure 15).
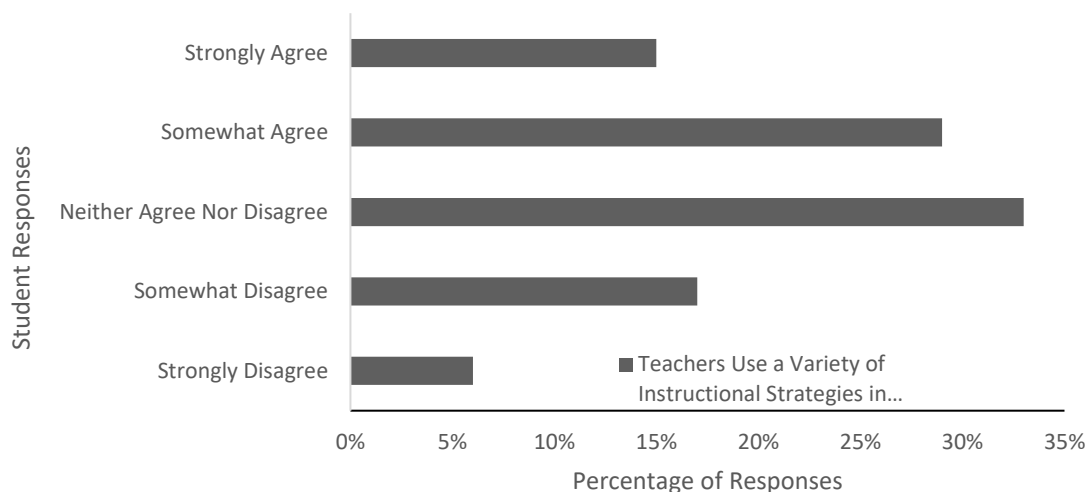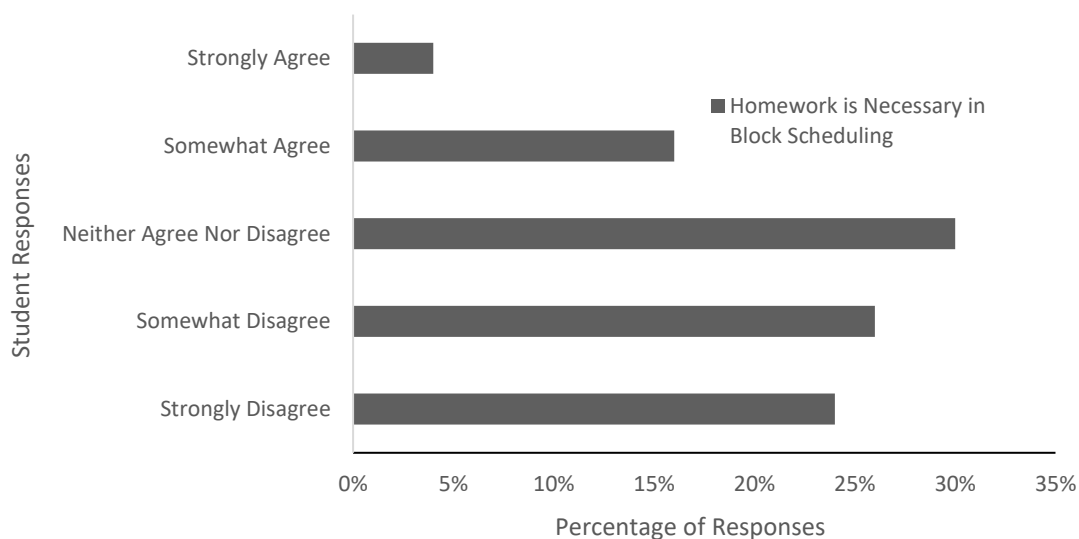

Figure 15. Teacher responses regarding school climate in a block schedule.

The school climate is positive in a traditional schedule. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, the school climate is positive. The percentage of teachers responding with *strongly agree* was 15.22%, *somewhat agree* was 34.78%, *neither agree nor disagree* was 36.96%, *somewhat disagree* was 10.87%, and *strongly disagree* was 2.17% (see Figure 16).
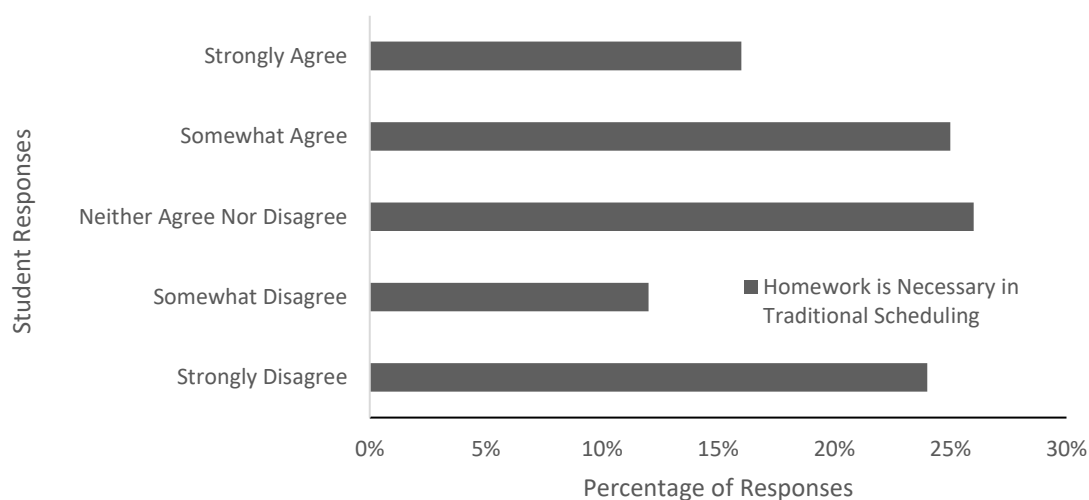
Figure 16. Teacher responses regarding school climate in a traditional schedule.

Students are stressed in a block schedule. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, students are stressed. The percentage of teachers responding with *strongly agree* was 0%, *somewhat agree* was 10.87%, *neither agree nor disagree* was 26.09%, *somewhat disagree* was 41.3%, and *strongly disagree* was 21.74% (see Figure 17).

Figure 17. Teacher responses regarding student stress in block scheduling.

Students are stressed in a traditional schedule. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, students are stressed. The percentage of teachers responding with *strongly agree* was 15.22%, *somewhat agree* was 45.65%, *neither agree nor disagree* was 30.43%, *somewhat disagree* was 4.35%, and *strongly disagree* was 4.35% (see Figure 18).

Figure 18. Teacher responses regarding student stress in traditional scheduling.

The school climate is positive in a block schedule. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, the school climate is positive. The percentage of students responding with *strongly agree* was 39.22%, *somewhat agree* was 29.41%, *neither agree nor disagree* was 19.61%, *somewhat disagree* was 11.76%, and *strongly disagree* was 0% (see Figure 19).
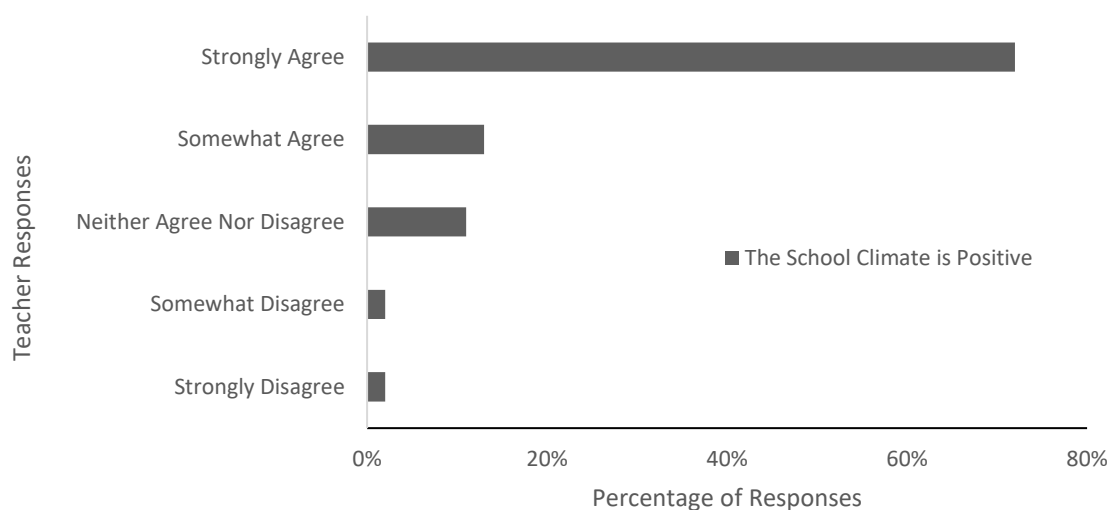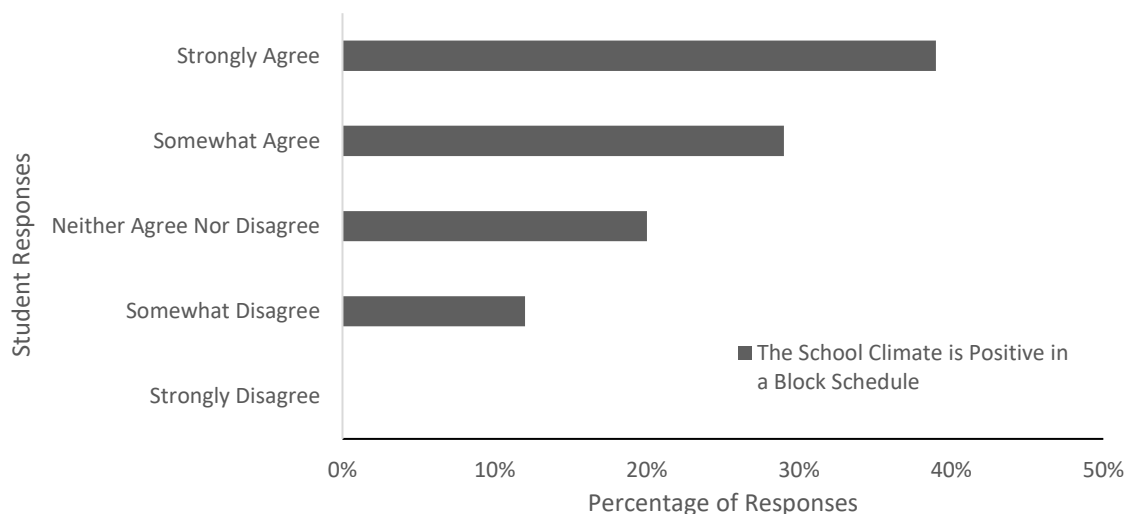
Figure 19. Student responses regarding school climate in block scheduling.

The school climate is positive in a traditional schedule. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, the school climate is positive. The percentage of students responding with *strongly agree* was 18%, *somewhat agree* was 28%, *neither agree nor disagree* was 28%, *somewhat disagree* was 18%, and *strongly disagree* was 8% (see Figure 20).
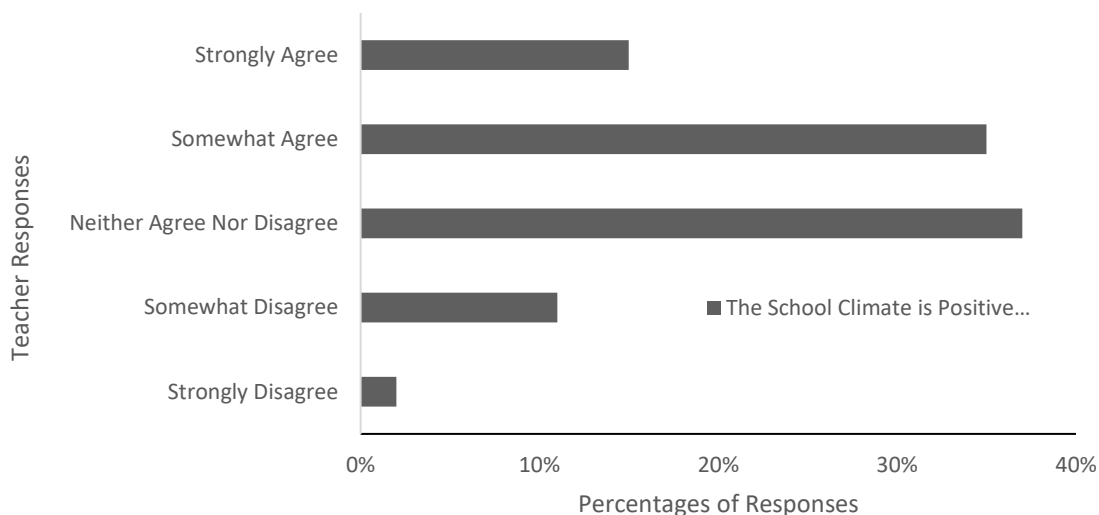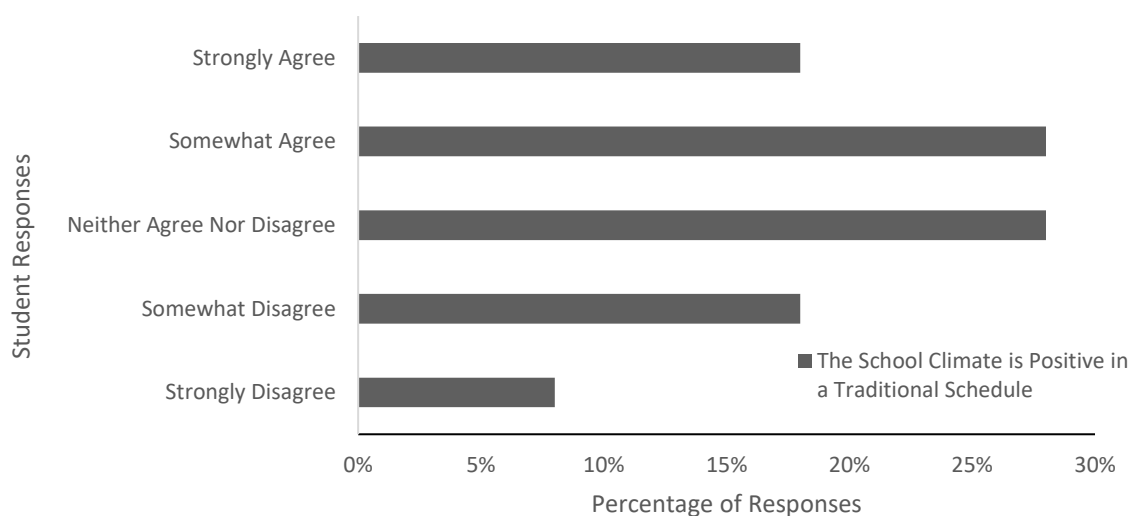

Figure 20. Student responses regarding school climate in traditional scheduling.

Students are stressed in a block schedule. Students with experience in both

block and traditional high school scheduling were asked to respond to the statement: In

block scheduling, students are stressed. The percentage of students responding with

strongly agree was 24%, *somewhat agree* was 28%, *neither agree nor disagree* was 16%,

somewhat disagree was 18%, and *strongly disagree* was 14% (see Figure 21).
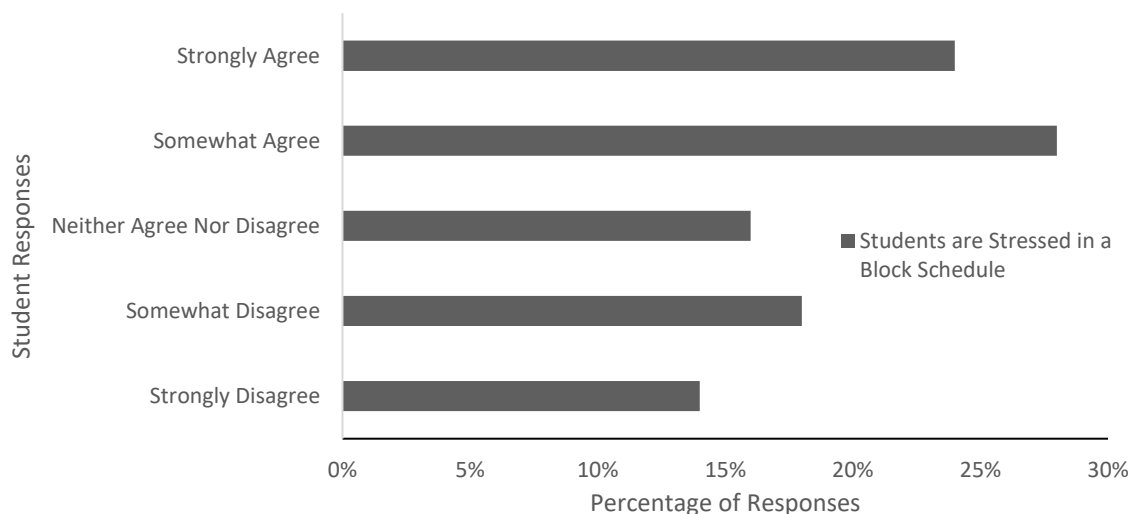
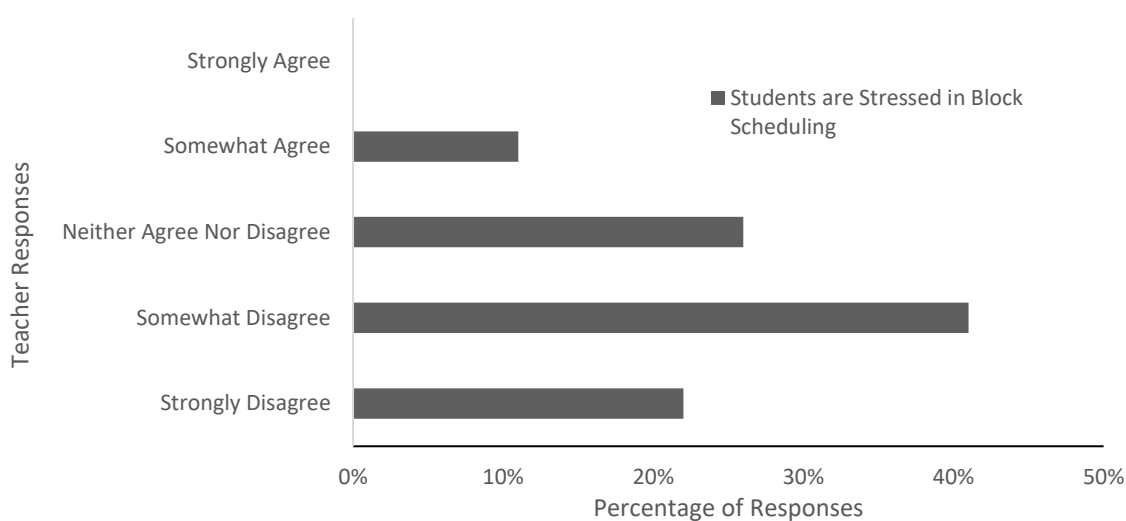*Figure 21.* Student responses regarding stress in a block schedule.

Students are stressed in a traditional schedule. Students with experience in

both block and traditional high school scheduling were asked to respond to the statement:

In traditional scheduling, students are stressed. The percentage of students responding

with *strongly agree* was 55.1%, *somewhat agree* was 18.37%, *neither agree nor disagree*

was 12.24%, *somewhat disagree* was 6.12%, and *strongly disagree* was 8.16% (see
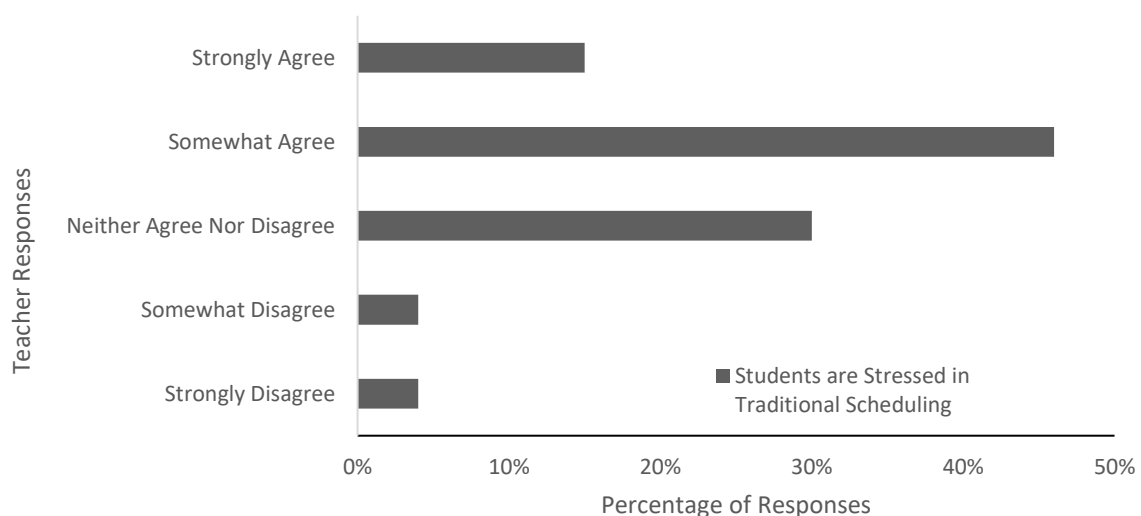
Figure 22).

Figure 22. Student responses regarding stress in a traditional schedule.

Research Question Five

In what ways do students and teachers utilize opportunities provided through traditional and block scheduling, as perceived by students and teachers at one high school in Missouri?

Respondents selected the extent they agreed ranging from *strongly agree*, *somewhat agree*, *neither agree nor disagree*, *somewhat disagree*, or *strongly disagree* on the statement: In traditional and block scheduling, students and teachers utilize opportunities. The data collected from participants' responses to the perception of utilization of opportunities were analyzed and reported in percentages.

Teachers use classroom time effectively. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, teachers use classroom time effectively. The percentage of teachers responding with *strongly agree was* 50%, *somewhat agree* was 30.43%, *neither agree nor disagree* was 10.87%, *somewhat disagree* was 4.35%, and *strongly disagree* was 4.35% (see Figure 23).

Figure 23. Teacher responses regarding effective use of classroom time in a block schedule.

Teachers use classroom time effectively. Teachers with experience in both

block and traditional high school scheduling were asked to respond to the statement: In

traditional scheduling, teachers use classroom time effectively. The percentage of

teachers responding with *strongly agree* was 41.3%, *somewhat agree* was 34.78%,

neither agree nor disagree was 13.04%, *somewhat disagree* was 10.87%, and *strongly*

disagree was 0% (see Figure 24).
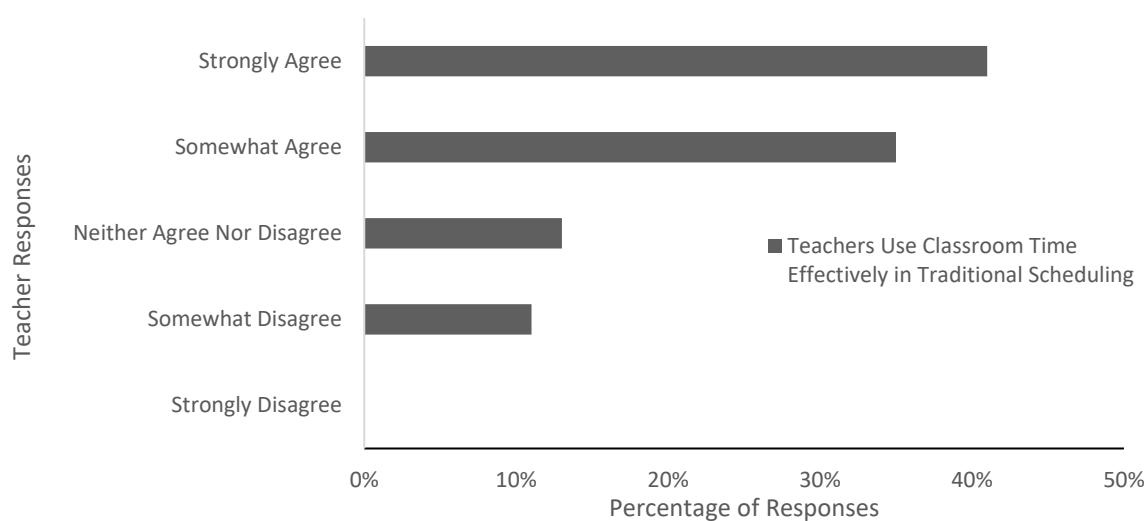
Figure 24. Teacher responses regarding effective use of classroom time in a traditional schedule.

Teachers use prep time effectively. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, teachers use prep time effectively. The percentage of teachers responding with *strongly agree* was 63.04%, *somewhat agree* was 19.57%, *neither agree nor disagree* was 8.7%, *somewhat disagree* was 6.52%, and *strongly disagree* was 2.17% (see Figure 25).
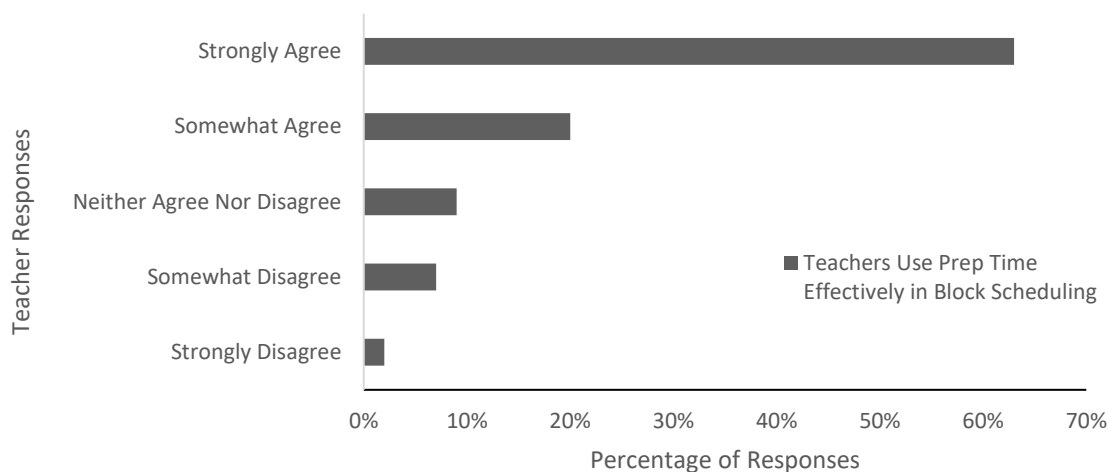

Figure 25. Teacher responses regarding effective use of prep time in a block schedule.

Teachers use prep time effectively. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, teachers use prep time effectively. The percentage of teachers responding with *strongly agree* was 36.96%, *somewhat agree* was 36.96%, *neither agree nor disagree* was 6.52%, *somewhat disagree* was 13.04%, and *strongly disagree* was 6.52% (see Figure 26).
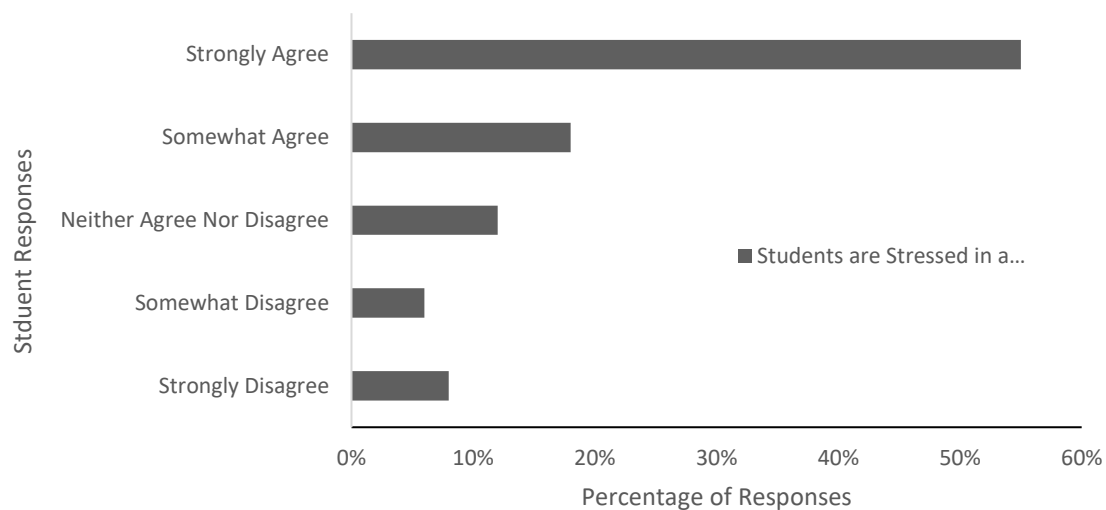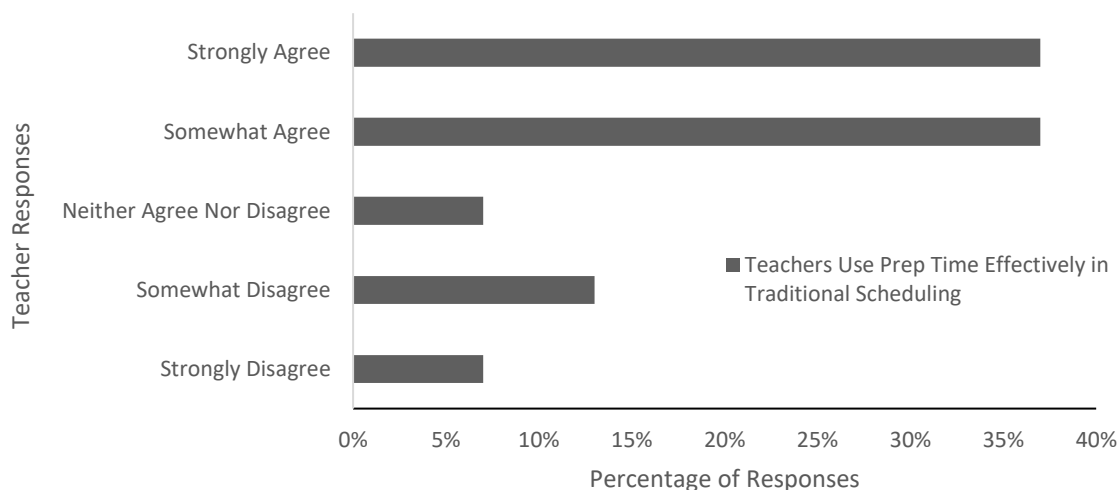
Figure 26. Teacher responses regarding effective use of prep time in a traditional schedule.

Students have time management opportunities. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, students have time management opportunities. The percentage of teachers responding with *strongly agree* was 76.09%, *somewhat agree* was 10.87%, *neither agree nor disagree* was 8.7%, *somewhat disagree* was 2.17%, and strongly disagree was 2.17% (see Figure 27).
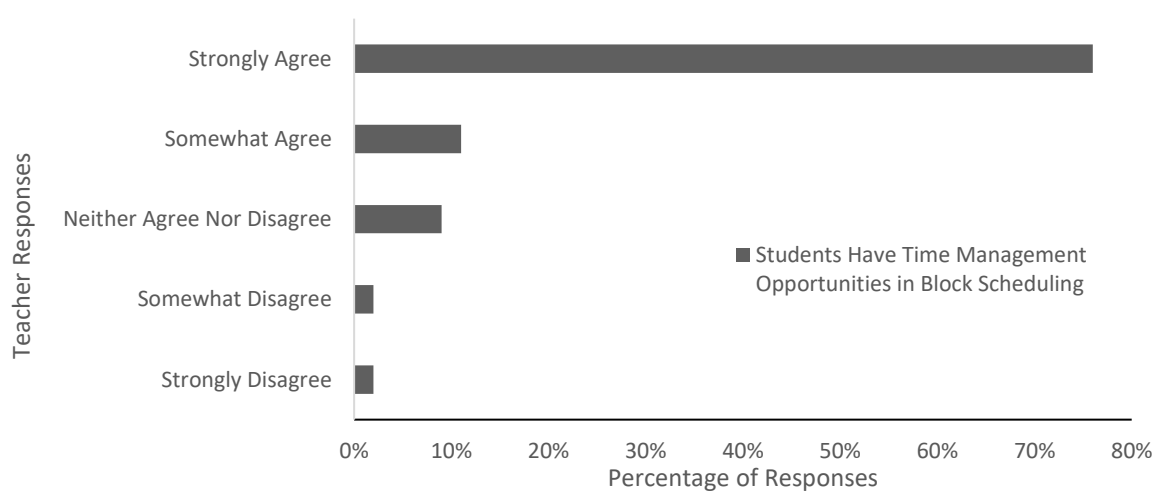
Figure 27. Teacher responses regarding time management opportunities for students in block scheduling.

Students have time management opportunities. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, students have time management opportunities. The percentage of teachers responding with *strongly agree* was 13.33%, *somewhat agree* was 35.56%, *neither agree nor disagree* was 8.89%, *somewhat disagree* was 26.67%, and *strongly disagree* was 15.56% (see Figure 28).
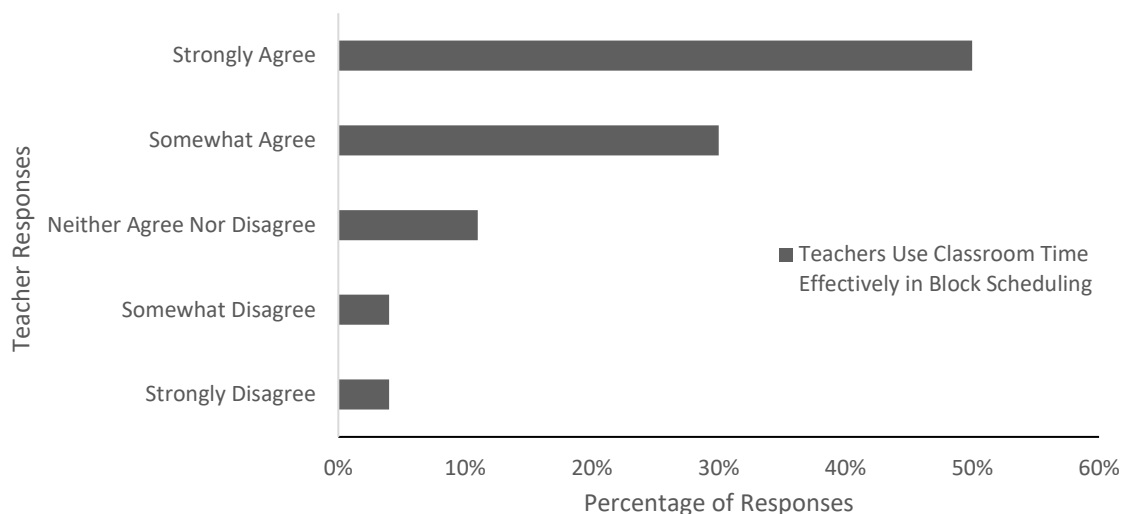

Figure 28. Teacher responses regarding time management opportunities for students in traditional scheduling.

Block scheduling allows time for teacher collaboration. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: Block scheduling allows for teacher collaboration. The percentage of teachers responding with *strongly agree* was 69.57%, *somewhat agree* was 10.87%, *neither agree nor disagree* was 15.22%, *somewhat disagree* was 2.17%, and *strongly disagree* was 2.17% (see Figure 29).
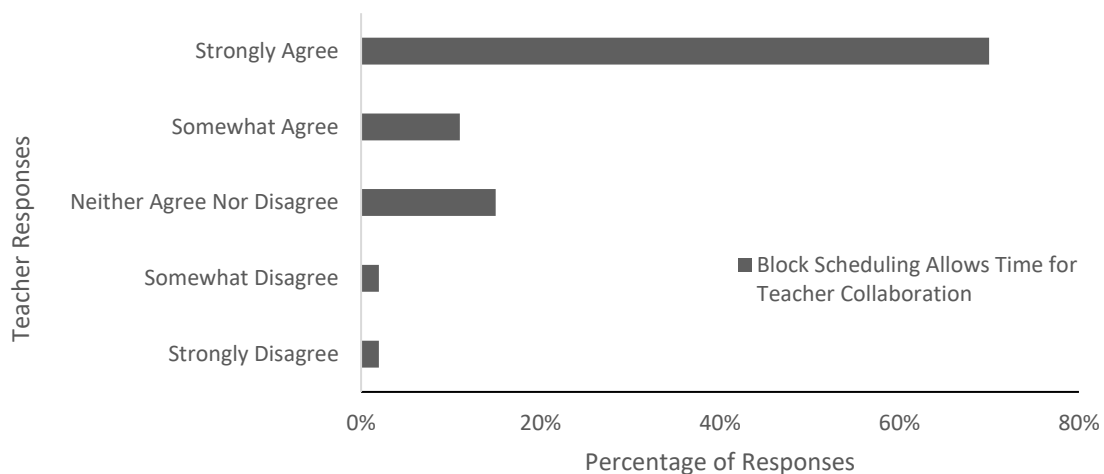
Figure 29. Teacher responses to time for teacher collaboration in block scheduling.

Traditional scheduling allows time for teacher collaboration. Teachers with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, teachers have time for collaboration. The percentage of teachers responding with *strongly agree* was 6.52%, *somewhat agree* was 15.22%, *neither agree nor disagree* was 8.7%, *somewhat disagree* was 36.96%, and *strongly disagree* was 32.61% (see Figure 30).
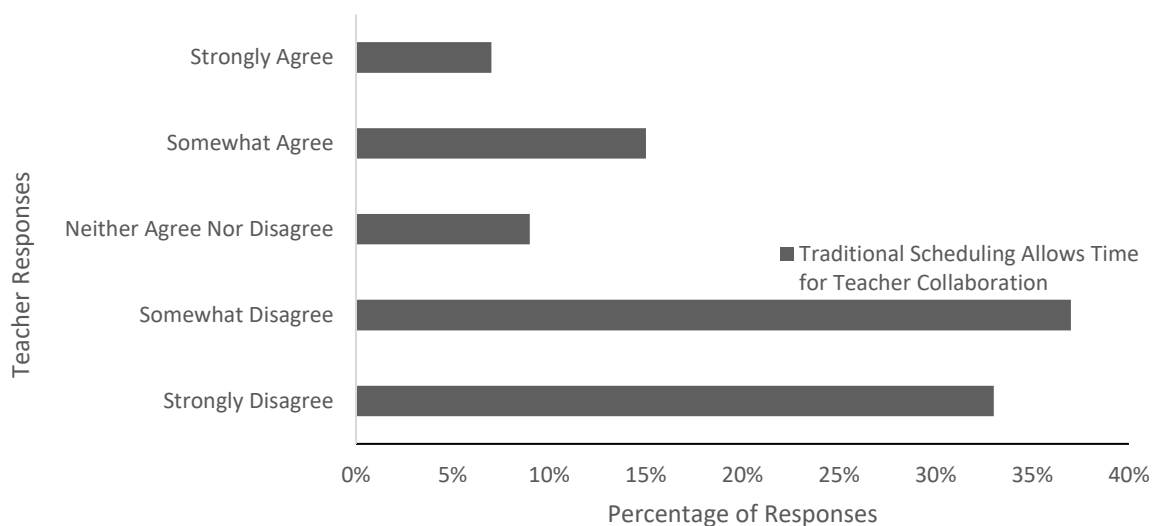
Figure 30. Teacher responses to time for teacher collaboration in traditional scheduling.

Students have time to complete assignments in class in a block schedule.

Students with experience in both block and traditional high school scheduling were asked

to respond to the statement: In block scheduling, students have time to complete

assignments in class. The percentage of students responding with *strongly agree* was

49.09%, *somewhat agree* was 32.73%, *neither agree nor disagree* was 9.09%, *somewhat*

*disagree* was 5.45%, and *strongly disagree* was 3.64% (see Figure 31).

Figure 31. Student responses regarding assignment completion in block scheduling.

Students have time to complete assignments in class in a traditional schedule.

Students with experience in both block and traditional high school scheduling were asked

to respond to the statement: In traditional scheduling, students have time to complete

assignments in class. The percentage of students responding with *strongly agree* was

12.24%, *somewhat agree* was 20.41%, *neither agree nor disagree* was 8.16%, *somewhat*

*disagree* was 28.57%, and *strongly disagree* was 30.61% (see Figure 32).

Figure 32. Student responses regarding assignment completion in traditional scheduling.

Students receive teacher feedback and attention in block scheduling.

Students with experience in both block and traditional high school scheduling were asked

to respond to the statement: In block scheduling, students receive teacher feedback and

attention. The percentage of students responding with *strongly agree* was 46.15%,

somewhat agree was 28.85%, *neither agree nor disagree* was 17.31%, *somewhat*

*disagree* was 7.69%, and *strongly disagree* was 0% (see Figure 33).

Figure 33. Student responses regarding teacher feedback and attention in block scheduling.

Students receive teacher feedback and attention in traditional scheduling.

Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, students receive teacher feedback and attention. The percentage of students responding with *strongly agree* was 14.29%, *somewhat agree* was 32.65%, *neither agree nor disagree* was 20.41%, *somewhat disagree* was 26.53%, and *strongly disagree* was 6.12% (see Figure 34).
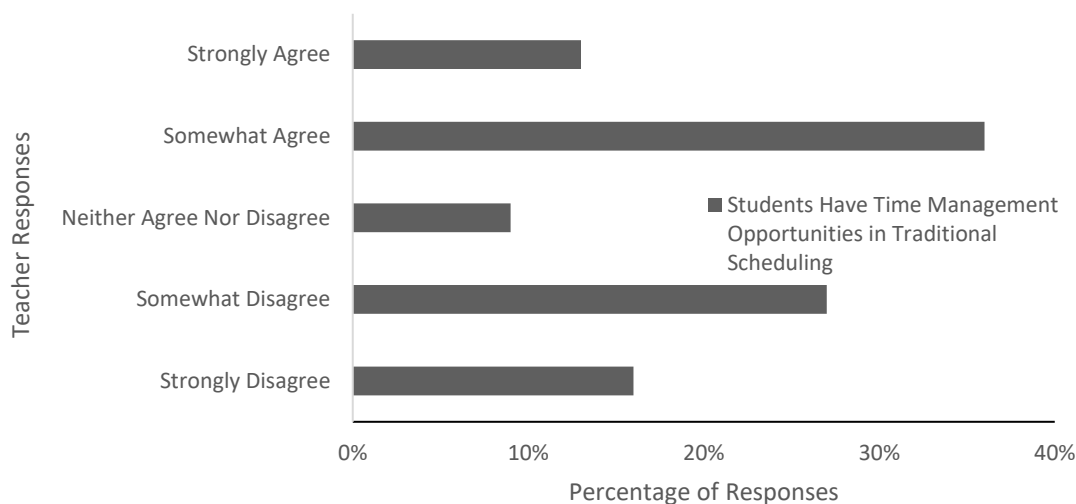

Figure 34. Student responses regarding teacher feedback and attention in traditional scheduling.

Classes are interesting and challenging in a block schedule. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, classes are interesting and challenging. The percentage of students responding with *strongly agree* was 30%, *somewhat agree* was 32%, *neither agree nor disagree* was 28%, *somewhat disagree* was 8%, and *strongly disagree* was 2% (see Figure 35).
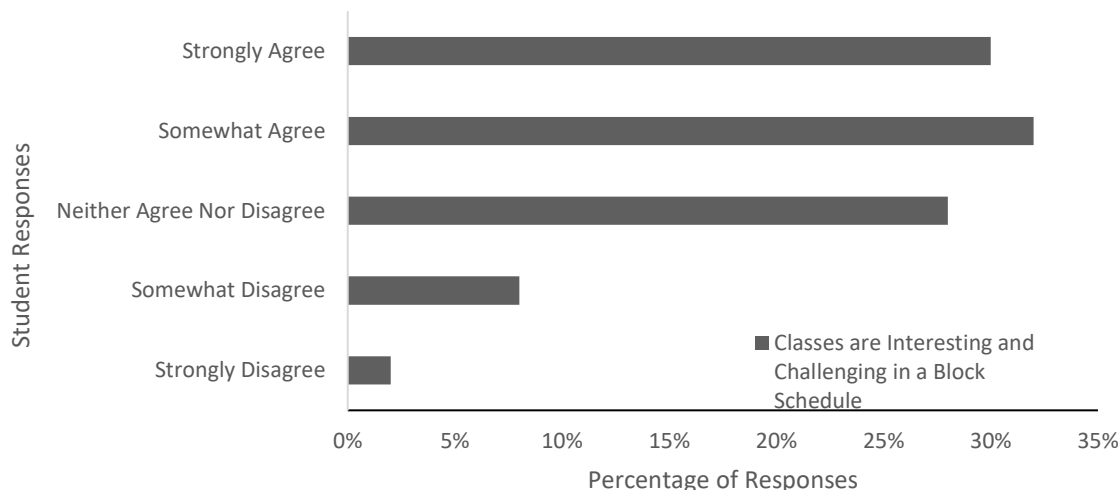
*Figure 35.* Student responses regarding interesting and challenging classes in a block schedule.

Classes are interesting and challenging in a traditional schedule. Students

with experience in both block and traditional high school scheduling were asked to

respond to the statement: In traditional scheduling, classes are interesting and

challenging. The percentage of students responding with *strongly agree* was 20.41%,

somewhat agree was 38.78%, *neither agree nor disagree* was 18.37%, *somewhat*

*disagree* was 12.24%, and *strongly disagree* was 10.2% (see Figure 36).
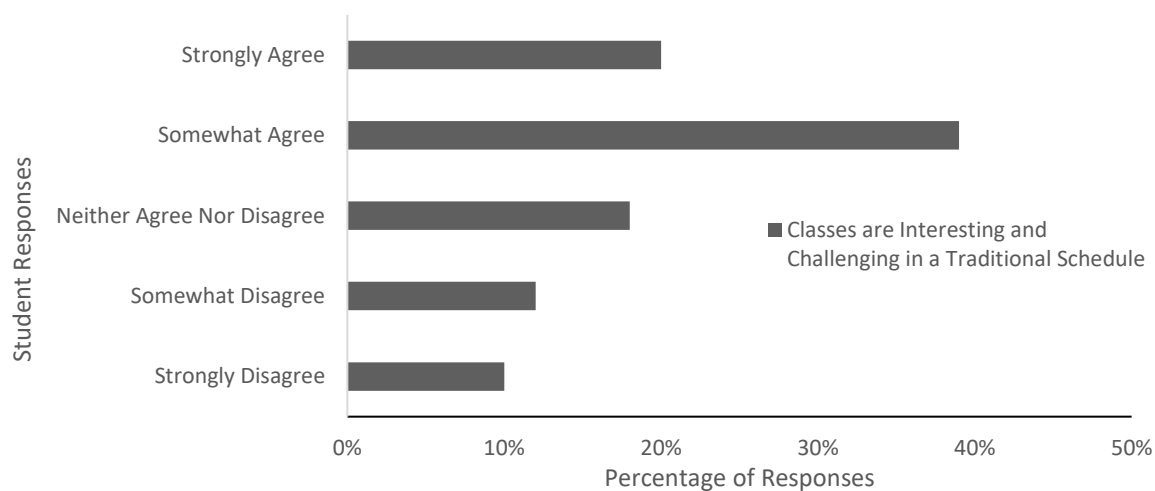
Figure 36. Student responses regarding interesting and challenging classes in traditional

scheduling.

Students have time management opportunities in block scheduling. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In block scheduling, students have time management opportunities. The percentage of students responding with *strongly agree* was 48%, *somewhat agree* was 34%, *neither agree nor disagree* was 14%, *somewhat disagree* was 4%, and *strongly disagree* was 0% (see Figure 37).
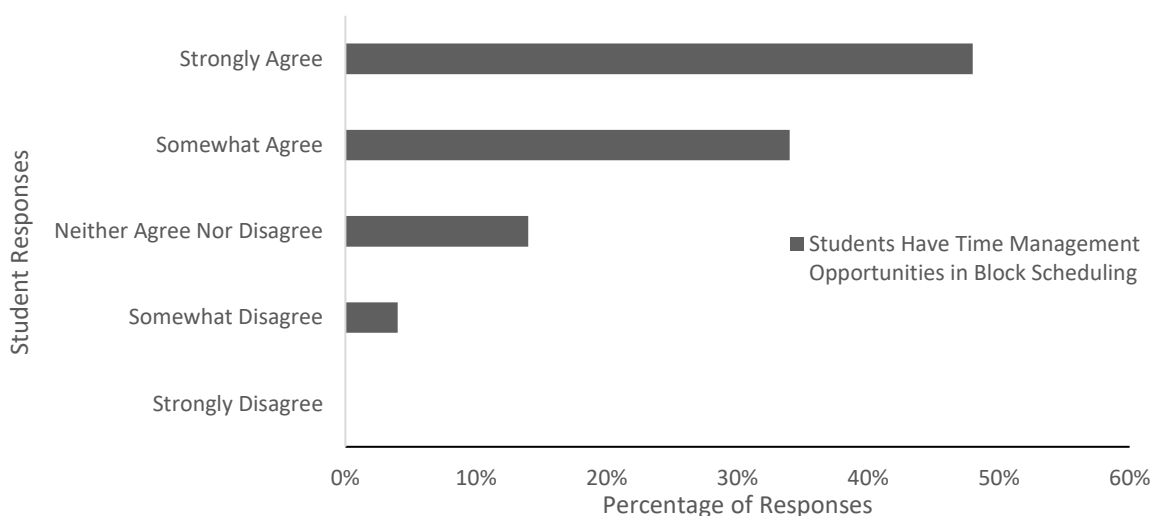
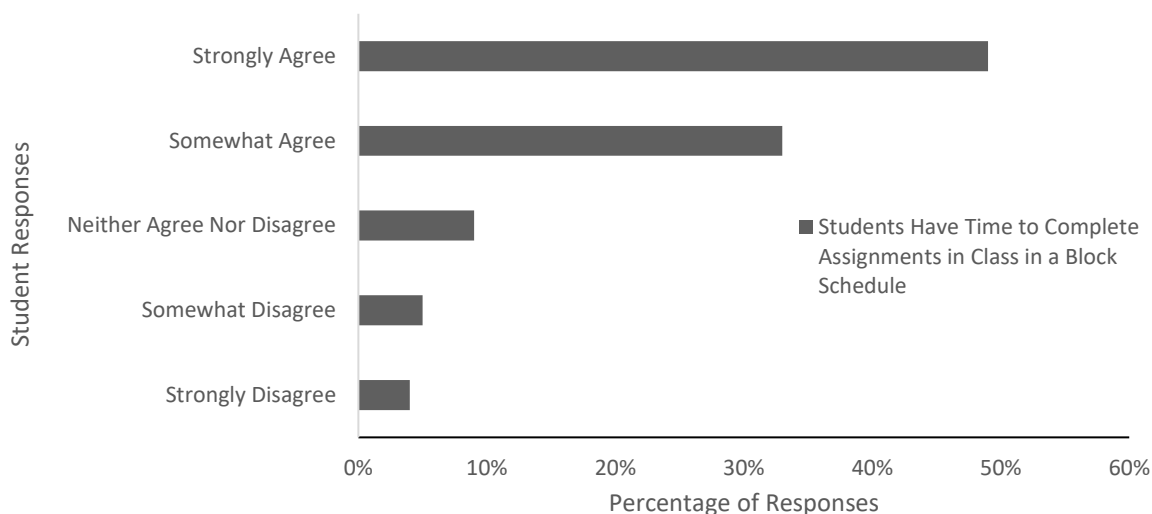*Figure 37.* Student responses regarding time management opportunities in block scheduling.

Students have time management opportunities in traditional scheduling. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: In traditional scheduling, students have time management opportunities. The percentage of students responding with *strongly agree* was 10.2%, *somewhat agree* was 20.41%, *neither agree nor disagree* was 16.33%, *somewhat disagree* was 24.49%, and *strongly disagree* was 28.57% (see Figure 38).
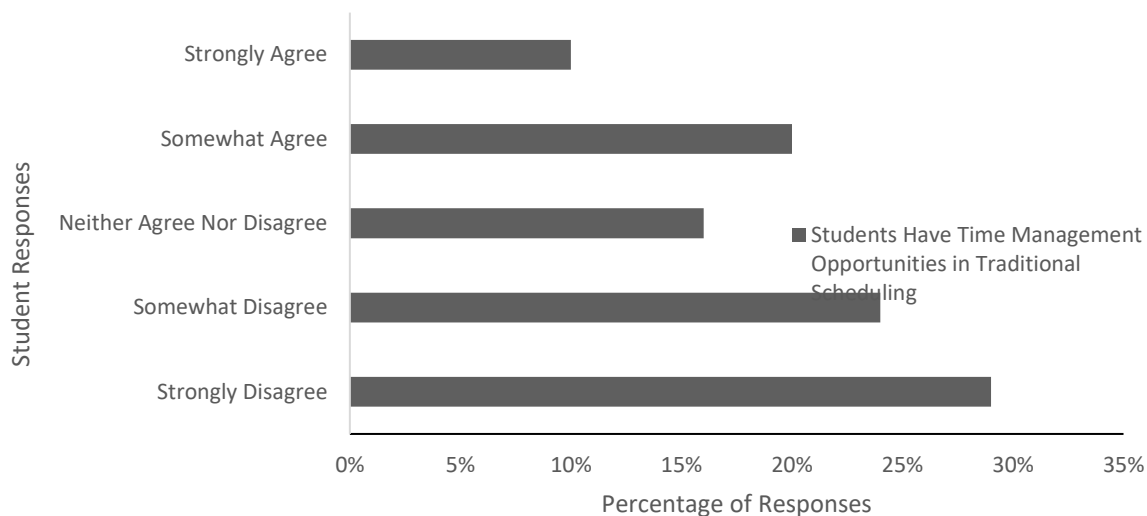
Figure 38. Student responses regarding time management opportunities in traditional scheduling.

Block scheduling allows time for teacher collaboration. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: Block scheduling allows time for teacher collaboration. The percentage of students responding with *strongly agree* was 34%, *somewhat agree* was 34%, *neither agree nor disagree* was 24%, *somewhat disagree* was 4%, and *strongly disagree* was 4% (see Figure 39).
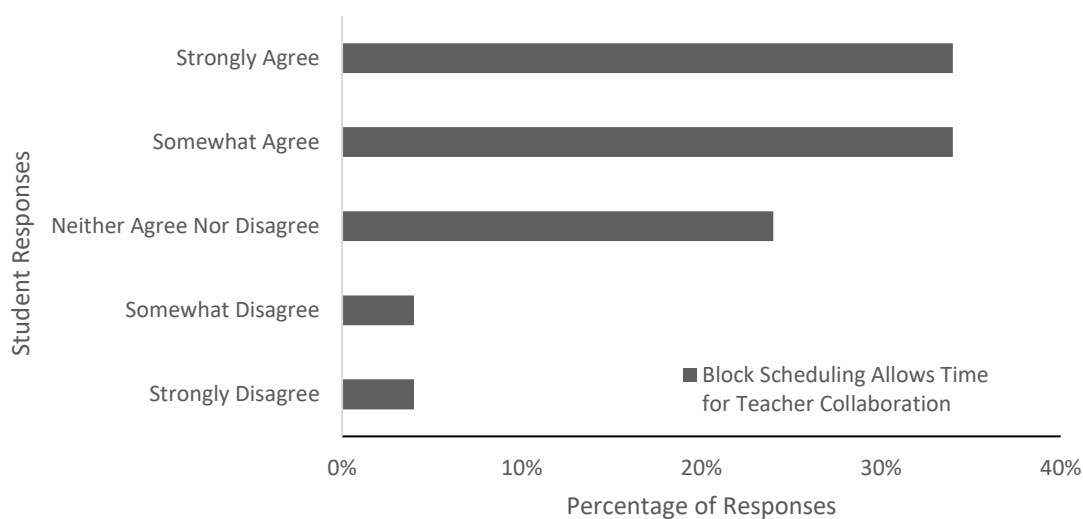
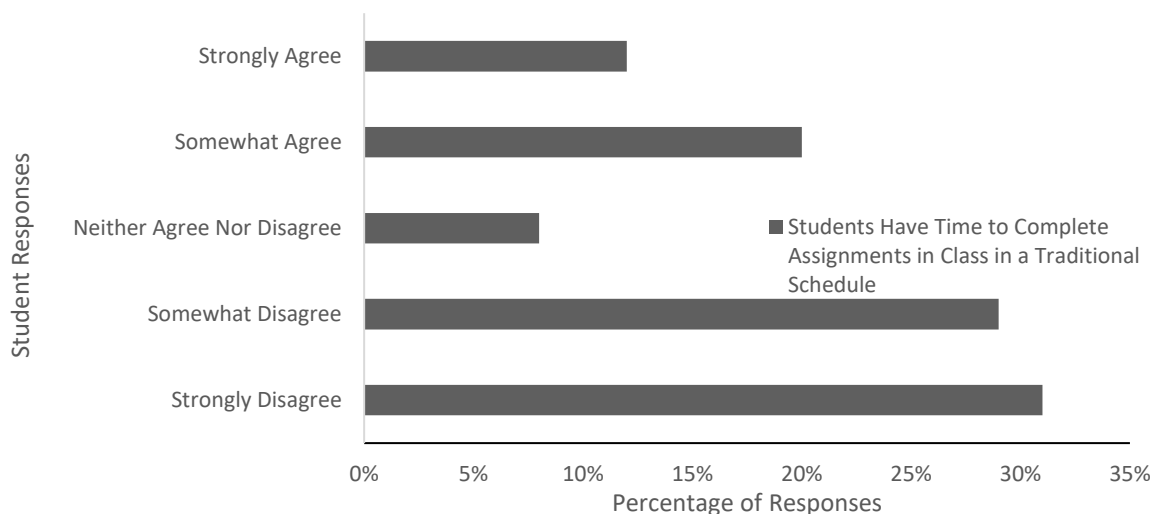*Figure 39.* Student responses regarding teacher collaboration time in block scheduling.

Traditional scheduling allows time for teacher collaboration. Students with experience in both block and traditional high school scheduling were asked to respond to the statement: Traditional scheduling allows time for teacher collaboration. The percentage of students responding with *strongly agree* was 10%, *somewhat agree* was 16%, *neither agree nor disagree* was 34%, *somewhat disagree* was 28%, and *strongly disagree* was 12% (see Figure 40).
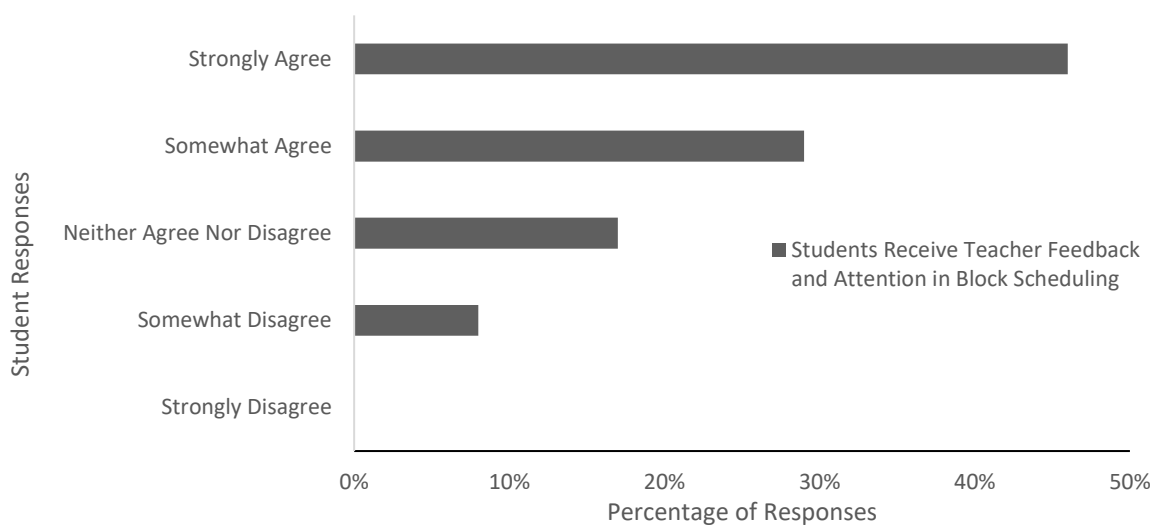

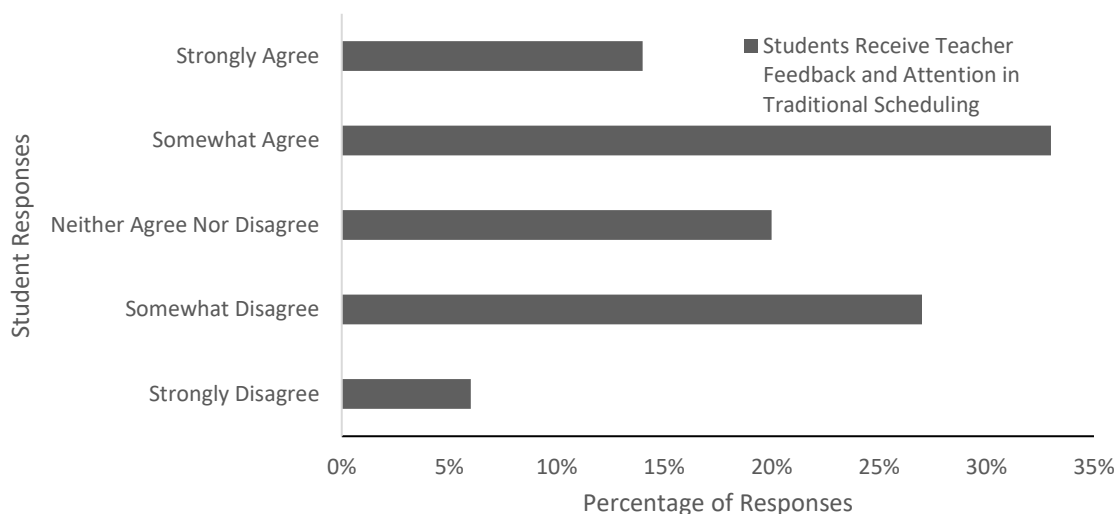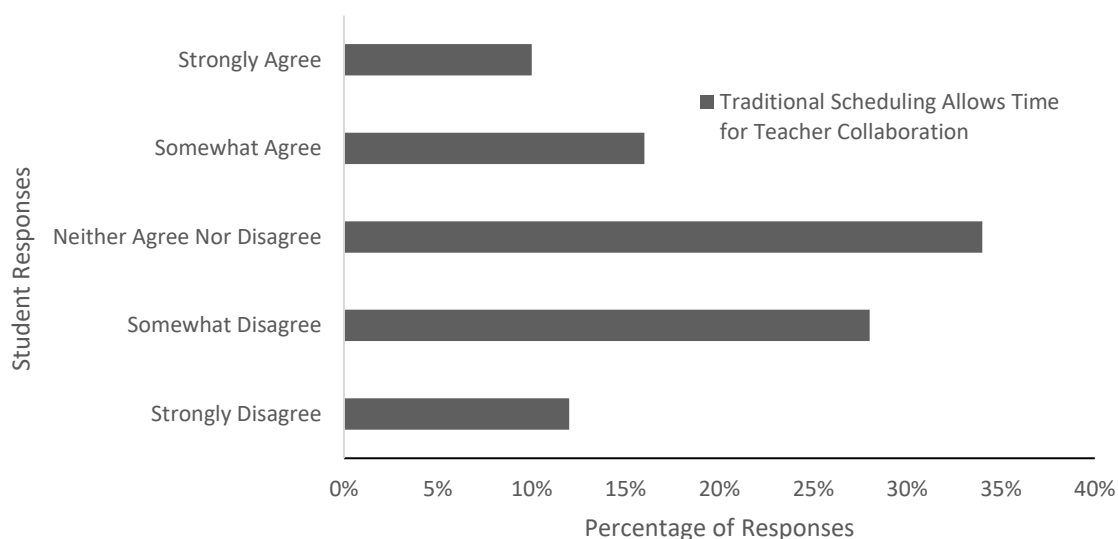*Figure 40.* Student responses regarding teacher collaboration time in traditional scheduling.

Summary

Surveys were sent to 71 teachers with teaching experience in both block and traditional scheduling and 66 students with learning experiences and parental consent in both block and traditional scheduling. Responding to the survey were 50 students and 46 teachers. Their responses were gathered to provide quantitative data that were reviewed and analyzed using percentages. Perceptions collected through the survey revealed teachers felt students are more productive in a block schedule. Both students and teachers agreed that the block schedule is stronger for academic growth. Additionally, teachers believed more student accommodations are offered in block scheduling, and that

homework is necessary in traditional scheduling. Students felt teachers use more instructional strategies in the block schedule.

Survey statements concerning school climate and culture were considered by teachers and students. Most of the teachers (85%) responded that the school climate was positive in a block schedule, and 68% of students agreed with the teachers, compared to 46% who felt the traditional schedule was a positive climate. A majority (52%) of the students agreed they were stressed in block scheduling, compared to 73% of the students who agreed they were stressed in traditional scheduling. Finally, in statements regarding teacher and student opportunities in scheduling, 87% of teachers realized more time management opportunities and collaboration time in block scheduling, as well as collaboration time. Students perceived more feedback and attention in block scheduling.

Chapter Five contains a review of the findings pertaining to each research question. Conclusions are included as well as implications for practice. Finally, recommendations for future research on the topic of school scheduling are offered.

Chapter Five: Summary and Conclusions

This study was designed to explore prevailing student and teacher perceptions regarding traditional and block scheduling in high school. Data were collected through surveys of students and teachers with experience in both traditional and block scheduling. Included in this chapter are the findings, conclusions, implications for practice, and recommendations for future research. A composite of the participants' responses are provided in Tables 5 and 6 (see Appendix G).

Findings

Research question one. *What are the perceptions of teachers regarding block scheduling and traditional scheduling at one high school in Missouri?*

The majority of classroom teachers reported a preference for block scheduling over traditional scheduling. Teachers reported students were more productive in the block schedule. The majority of teachers believe block scheduling promotes academic growth in students.

Research question two. *What are the perceptions of students regarding block scheduling and traditional scheduling at one high school in Missouri?*

The majority of students reported that block scheduling promotes academic growth in students. In fact, only 2% of students disagreed with the statement: "Block scheduling promotes academic growth." Comparatively, 30% of students either disagreed or strongly disagreed with the statement: "Traditional scheduling promotes academic growth."

Research question three. *In what ways do teachers accommodate student learning for block scheduling at one high school in Missouri*

The majority of classroom teachers felt strongly (74%) that teachers are able to accommodate different learning styles in the block schedule. The results were divided in regard to accommodations for students in the traditional schedule. Teachers reported homework was more necessary in the traditional schedule, as opposed to the block schedule. Students did not feel strongly homework was necessary in traditional or block scheduling.

Research question four. *In what ways do traditional scheduling and block scheduling impact the climate and culture, as perceived by students and teachers at one high school in Missouri?*

The majority of classroom teachers felt strongly (72%) that school climate is positive in a block schedule, as opposed to a traditional schedule (15%). Students perceived the school climate is more positive in block scheduling. Teachers believed that students are more stressed in a traditional schedule. Students felt stressed in both schedule types but were more stressed in a traditional schedule.

Research question five. *In what ways do students and teachers utilize opportunities provided through traditional and block scheduling, as perceived by students and teachers at one high school in Missouri?*

Teachers reported using classroom and planning time effectively in both block and traditional schedules. Teachers and students believed block scheduling provided more opportunities for time management than traditional scheduling. There was also a strong perception that block scheduling provided more time for teacher collaboration. Students felt they had more time to complete assignments and received more teacher

feedback and attention in block scheduling. Students did not note a perceptual difference in course offerings between the two schedule types.

Conclusions

Conclusions for this study were formulated from the analysis of survey responses regarding traditional and block scheduling at the high school level. In the following section, the conclusions are supported (and in some cases refuted) from research and authors' opinions, as reported in the review of literature presented in Chapter Two. Conclusions presented in this section are organized around each research question.

Conclusions for research question one. *What are the perceptions of teachers regarding block scheduling and traditional scheduling at one high school in Missouri?*

Regardless of the bell schedule, teacher perceptions are critically important when administrators are making decisions on the school schedule (Irmsher, 1996). When classroom teachers who had worked in both traditional and block schedules were asked their scheduling preference, the majority preferred block scheduling. Similar conclusions were drawn from Allen (2009), who determined teachers prefer teaching in a block schedule format.

When developing a school schedule, educators are always attempt to maximize and create the most productive use of time (Benn & Partelow, 2017). In this study, teachers felt students were productive in the block schedule. Weller (n.d.) supported a contrasting opinion and proposed while it is difficult for teachers to demand productivity from students, longer teaching periods may lead to more opportunities for student engagement and a more productive learning environment.

Most teachers surveyed (83%) felt that block scheduling promotes academic growth in students; despite the research, there are few significant academic differences between the two schedule types (Rettig, 2017). Historically, block scheduling was not created to promote gains in student academic achievement (Queen, 2000). Over the years, while not the original intent, academic comparisons have occurred (Queen, 2000).

Conclusions for research question two. *What are the perceptions of students regarding block scheduling and traditional scheduling at one high school in Missouri?*

The overwhelming majority of students felt block scheduling promotes academic growth in students. Eighty percent of the students believed there are more opportunities for academic growth within the block schedule. Even in the early days of block scheduling, students perceived the block schedule allowed them a stronger grasp of the content taught in the classroom (Benton-Kupper, 1999). In the block schedule, students have additional time and additional opportunities to learn time management strategies (Strom et al., 2016). Research has shown students need real-life lessons in time management (Strom et al., 2016).

Conclusions for research question three. *In what ways do teachers accommodate student learning for block scheduling at one high school in Missouri?*

Overwhelmingly (74%), teachers believed they were able to accommodate different learning styles better in a block schedule. Students can benefit from longer time periods in subjects such as science and STEM classes which allow teachers to use project-based learning accommodations (Sciarrotta, 2019). When properly utilized, block scheduling can increase possibilities for varied forms of instruction (Benton-Kupper, 1999).

Nearly half (49%) of the teachers were less sure if proper accommodations can occur for students in a traditional schedule. The teachers slightly agreed that proper accommodations can be made in the classroom. The best schedule that meets the individualized student needs of the school should be considered when choosing a high school schedule (Marchant & Paulson, 2001). Students felt accommodations were made in both schedule types and did not favor one over the other.

On the issue of homework, 46% of teachers believed homework was necessary in the traditional schedule. According to Walker (2016), block scheduling tends to slow down the pace of the learning day and reduce the homework load. Ideally, the slower pace can lead to more learning experiences such as hands-on projects and discussion-based activities (Walker, 2016). Fifty percent of the students responded that homework was unnecessary in the block schedule. Forty-six percent of students believed homework was necessary in the traditional scheduling format.

Research question four. *In what ways do traditional scheduling and block scheduling impact the climate and culture, as perceived by students and teachers at one high school in Missouri?*

Classroom teachers felt strongly (72%) that the school climate is more positive when the building is operated within a block schedule. Buckman et al. (1995) determined a positive school climate can make a significant difference in the opportunities for learning and growth within a school. A positive school climate is developed through positive teacher interactions with students, and a block schedule can foster these opportunities for positive interactions (Salazar, 2017). In a New Jersey high

school, 93% of students said their teachers were available to them, which increased from 70% the year before block scheduling was implemented (Flocco, 2012, p. 68).

Twenty-two percent of the students believed the school climate is more positive in a block schedule. If students are comfortable and see school as a positive learning environment, educators can expect improvements in academics and overall achievement (Benner & Partelow, 2017). In a positive school culture, there should also be a drop in discipline referrals (Benner & Partelow, 2017).

A positive school climate should lead to students who feel less stressed. While students felt stressed regardless of the schedule type, 21% perceived more stress in a traditional schedule. High school students operating in a schedule with longer class periods tend to experience less stress than those in traditional schedules (Flocco, 2012). Block scheduling allows students, teachers, administrators, and support staff to slow down the pace of the day and reduce potential stress (Flocco, 2012).

Fifty percent of teachers perceived that students were less stressed in a block schedule. Historically, in block scheduling, teachers have felt the schedule provided them opportunities to ease the daily stress of the school through less hallway passing time, fewer disciplinary issues, and greater attention to student climate and culture (Shortt & Thayer, 1998). Block scheduling can provide students with an overall healthier school climate (Lawrence & McPherson, 2000).

Research question five. *In what ways do students and teachers utilize opportunities provided through traditional and block scheduling, as perceived by students and teachers at one high school in Missouri?*

Regardless of schedule type, 80% of the teachers believed they used classroom time effectively in the block schedule and 76% in a traditional schedule. The two schedule types offer different time constraints; however, teachers in either system must be able to use effective strategies and best practices to provide quality instruction (Benner & Partelow, 2017). The school administration must ensure that teacher support systems are in place for educators to maximize classroom minutes (Roberts, 2016).

Time management is a key life skill for students and educators (Strom et al., 2016). Forty-nine percent of the teachers perceived there were more opportunities for time management in block scheduling. Increased time management habits lead to stronger study habits (Strom et al., 2016). For students, a failure to develop time management strategies as teenagers could lead to future career struggles (Morin, 2019).

Teacher collaboration is a strong, accepted practice for modern educators (Benner & Partelow, 2017). Eighty-one percent of teachers perceived more time for teacher collaboration in the block schedule. The daily stress of school can create a great deal of pressure on teachers to find time for collaboration (Morgan & Bates, 2018). Block scheduling typically provides teachers with common planning periods or at the very least, additional planning time within the day to collaborate with peers (Benner & Partelow, 2017).

In the block schedule, 50% of the students believed they had more time to finish assignments and received more feedback and attention. Students in a block schedule seem to better understand how to prioritize assignments and had greater access to one-on-one instruction with the teacher (Kruse, 2015). Longer class periods also typically lead to more individual student attention (Weller, n.d.).

Typically, block scheduling offers students a greater quantity of courses; however, only 3% of the students perceived a difference in the quality or variety of courses in the two schedule types. The increased course options in a block schedule is usually an attractive aspect of the block schedule (Rettig, 2017). Students may be able to pick up at least one additional course per year (Rettig, 2017).

Implications for Practice

As with any systems change, input from all stakeholders should be considered and encouraged for maximum benefit. Based on the findings from this study, there are three recommendations to improve High School A and other districts considering a change in their current high school schedule. The first recommendation is specific to High School A, while the other two are recommendations for any district seeking a quality school schedule.

High School A should continue the practice of block scheduling. The beliefs and attitudes of teachers and students who have experienced both traditional and block scheduling consistently advocate for the continued use of block scheduling. The benefits have been outlined throughout, but the strongest argument is for the continued positive climate and culture of the high school. If there is truly no measurable academic advantage to one schedule over the other, then it is important to maintain the high trust and climate provided through block scheduling. Additionally, a change would cost students the opportunities provided through longer class periods and extra electives.

High schools should audit their current schedule. Thirty percent of American schools operate some type of block schedule (Rettig, 2017, p. 1). All schools should take inventory of how well their schedule works for their specific students and teachers.

Schedule modifications and innovations give administrators an opportunity to explore the most effective school schedule. Students and teachers prefer a slower-paced day with more opportunities for deeper learning. Schools should be willing to explore all scheduling options and consider a type of block or modified schedule. A change in the school schedule requires buy-in from all stakeholders and could take considerable time to implement. Schools should begin with an audit of their current practices and then collectively decide the path that offers the greatest benefit for students and teachers.

Schools should provide more professional development concerning classroom instruction time. Regardless of whether a school is on a block or traditional schedule, teachers must know how to best utilize classroom time provided by the district. Too often, teachers are handed a schedule without any consideration of the professional learning needed for proper implementation. For example, at the time of this study, High School A operated in a block schedule. A new teacher out of college or a new teacher to the district needs support and professional development on how to effectively use time in a block schedule. Current collegiate education programs, practicums, and student teaching experiences are still most likely conducted in schools with traditional schedules (Brugal, 2019). Throughout the research, even more important than the minutes given to a class, is the instruction that takes place within those minutes (Rettig, 2017).

Recommendations for Future Research

More research is needed in the field of school scheduling and time management. Much of the current research regarding block and traditional scheduling is from the late 1990s to early 2000s. There is a true lack of research in the last 20 years on the topic (Irmsher, 1996; Shortt & Thayer, 1998; York, 1997). The topic is still relevant to schools

operating under both scheduling types. In fact, relevancy is heightened with growing opportunities for virtual learning in schools.

This research study included a sample of teachers and students in High School A who have participated in both block and traditional scheduling. Future studies could include a larger sample of participants across Missouri or the United States. While the sample for this study included students and teachers with varying backgrounds, a larger pool could include students and teachers with diverse experiences. Other quantitative studies could attempt to determine an academic growth comparison between the two schedule types.

Future research on the topic of virtual education will be needed in the coming years. Virtual learning is beginning to shape school schedules on an individual and group level. Students are now able to create their schedule using both seated and virtual courses. How can schools accommodate individual learning and still balance a block or traditional schedule for students and teachers?

Summary

Chapter One included the background of both block and traditional scheduling in the United States. Additionally, the chapter included a variety of practical concepts on time management theories with applications for students and teachers. Pros and cons of block scheduling were addressed, as well as the problem facing school boards and administrators in regard to finding and implementing the best school schedule. The theoretical and conceptual frameworks, statement of the problem, purpose of the study, research questions, and significance of the study were detailed. To better understand the

context of the study, Chapter One also included the definition of key terms, limitations, and assumptions of the research study.

In Chapter Two, a review of the literature continued with a discussion of the merits of block and traditional scheduling. The literature review began with an outline of current scheduling types used in American schools and the advantages and disadvantages of each schedule. The review continued with a more detailed exploration of block scheduling, time management, high school curriculum, teaching in block and traditional schedules, school climate, and academic achievement. The chapter concluded with a look ahead to the future of high school scheduling.

Chapter Three included the methodology for the study. The problem and purpose of the study were briefly discussed, and the research questions were restated. The research design was quantitative and descriptive statistics were applied to analyze data acquired through surveys. Convenience sampling was utilized to select the students and teachers. A survey was used as the instrument to gather data for the study. Data were collected from students and teachers currently enrolled in or employed by High School A with experience in other districts using traditional scheduling. Responses from the surveys were presented through figures and percentages. Ethical considerations were provided for all participants through informed consent.

In Chapter Four, survey responses were analyzed for each research question. Surveys were completed by 46 teachers with teaching experience in both block and traditional scheduling and 50 students with learning experiences in both block and traditional scheduling. Perceptions collected through the survey revealed teachers felt students are more productive in a block schedule. Both students and teachers agreed that

the block schedule is stronger for academic growth. Additionally, teachers believed more

student accommodations are offered in block scheduling, and homework is necessary in

traditional scheduling.

Survey statements concerning school climate and culture were considered by

teachers and students. Most teachers (85%) responded that the school climate was

positive in a block schedule, and 68% of students agreed with teachers, compared to 46%

who felt a traditional schedule encouraged a positive climate. A majority (52%) of

students agreed they were at least somewhat stressed in block scheduling, compared to

73% of the students who at least somewhat believed they were stressed in traditional

scheduling. Finally, in statements regarding teacher and student opportunities in

scheduling, 87% of the teachers perceived more time management opportunities in block

scheduling, as well as collaboration time. Students also noted they received more

feedback and attention in block scheduling.

Chapter Five was an overview of the findings and conclusions of the study. The

majority of classroom teachers reported a preference for block scheduling over traditional

scheduling. Teachers believed students were more productive and grew academically in

the block schedule. Only 2% of the students disagreed with the statement that, "Block

scheduling promotes academic growth." Comparatively, 30% of the students either

disagree or strongly disagreed that, "traditional scheduling promotes academic growth."

The majority of classroom teachers believed strongly (74%) that teachers are able

to accommodate different learning styles in the block schedule. Teachers reported

homework was more necessary in the traditional schedule, as opposed to the block

schedule. The majority of classroom teachers (72%) perceived school climate is positive

in a block schedule, as opposed to a traditional schedule (15%). Students believed the school climate is more positive in block scheduling. Teachers sensed students are more stressed in a traditional schedule. Students experienced stress in both schedule types but perceived more stress in a traditional schedule. Teachers believed they used classroom and prep time effectively in both block and traditional schedules. Teachers and students felt block scheduling provided more opportunities for time management than traditional scheduling. There was a strong perception that block scheduling provided more time for teacher collaboration. Students experienced more time to complete assignments and received more teacher feedback and attention in block scheduling.

As many traditional methods are still applicable in the classroom, other methods should be implemented carefully and with fidelity. The future will hold many variations on the traditional school schedule. The block schedule is preferred by students and teachers, based on the findings of this study. However, educators should not lose sight of the value of each instructional minute with students.

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Appendix A

High School Scheduling: Teacher Survey

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
In Block Scheduling:					
1. Students are productive.	1	2	3	4	5
2. Teachers are able to accommodate different learning styles of student learning.	1	2	3	4	5
3. Teachers use classroom time effectively.	1	2	3	4	5
4. Teachers use prep time effectively.	1	2	3	4	5
5. The school climate is positive.	1	2	3	4	5
In Traditional Scheduling:					
6. Students are productive.	1	2	3	4	5
7. Teachers are able to accommodate different styles of student learning.	1	2	3	4	5
8. Teachers use classroom time effectively.	1	2	3	4	5
9. Teachers use prep time effectively.	1	2	3	4	5
10. The school climate is positive.	1	2	3	4	5

In Block Scheduling:

11. Students have time management opportunities.	1	2	3	4	5
12. Students are stressed.	1	2	3	4	5
13. Homework is necessary.	1	2	3	4	5
14. Allows time for teacher collaboration.	1	2	3	4	5
15. Promotes academic growth.	1	2	3	4	5

In Traditional Scheduling:

16. Students have time management opportunities.	1	2	3	4	5
17. Students are stressed.	1	2	3	4	5
18. Homework is necessary.	1	2	3	4	5
19. Allows time for teacher collaboration.	1	2	3	4	5
20. Promotes academic growth.	1	2	3	4	5

Appendix B

High School Scheduling: Student Survey

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
In Block Scheduling:					
1. Students have time to complete assignments in class.	1	2	3	4	5
2. Teachers use a variety of instructional strategies when teaching.	1	2	3	4	5
3. Students receive teacher feedback and attention.	1	2	3	4	5
4. The school climate is positive.	1	2	3	4	5
5. Classes are interesting and challenging.	1	2	3	4	5
In Traditional Scheduling:					
6. Students have time to complete assignments in class.	1	2	3	4	5
7. Teachers use a variety of instructional strategies when teaching.	1	2	3	4	5
8. Students receive teacher feedback and attention.	1	2	3	4	5

9. The school climate is positive.	1	2	3	4	5
10. Classes are interesting and challenging.	1	2	3	4	5
In Block Scheduling:					
11. Students have time management opportunities.	1	2	3	4	5
12. Students are stressed.	1	2	3	4	5
13. Homework is necessary.	1	2	3	4	5
14. Allows time for teacher collaboration.	1	2	3	4	5
15. Promotes academic growth.	1	2	3	4	5
In Traditional Scheduling:					
16. Students have time management opportunities.	1	2	3	4	5
17. Students are stressed.	1	2	3	4	5
18. Homework is necessary.	1	2	3	4	5
19. Allows time for teacher collaboration.	1	2	3	4	5
20. Promotes academic growth.	1	2	3	4	5

Survey Research Information Sheet

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Survey Research Information Sheet

You are being asked to participate in a survey conducted by Martin Spence and Dr. Sherry DeVore at Lindenwood University. We are doing this study to determine attitudes toward different forms of scheduling in high schools. Survey statements are related to experiences in block and traditional scheduling. It will take about 10 minutes to complete this survey.

Your participation is voluntary. You may choose not to participate or withdraw at any time by simply not completing the survey or closing the browser window. There are no risks from participating in this project. We will not collect any information that may identify you. There are no direct benefits for you participating in this study.

WHO CAN I CONTACT WITH QUESTIONS?

If you have concerns or complaints about this project, please use the following contact information:

Martin Spence (ms193@lindenwood.edu)
Dr. Sherry DeVore (sdevore@lindenwood.edu)

If you have questions about your rights as a participant or concerns about the project and wish to talk to someone outside the research team, you can contact Michael Leary (Director - Institutional Review Board) at 636-949-4730 or mleary@lindenwood.edu.

By clicking the link below, I confirm that I have read this form and decided that I will participate in the project described above. I understand the purpose of the study, what I will be required to do, and the risks involved. I understand that I can discontinue participation at any time by closing the survey browser. My consent also indicates that I am at least 18 years of age.

You can withdraw from this study at any time by simply closing the browser window. Please feel free to print a copy of this information sheet.

Appendix D

Survey Research Information Sheet for Minors

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Research Information Sheet

You are being asked to participate in a research study. We are doing this study to examine attitudes of students and teachers toward different scheduling methods in high school. During this study you will be asked to take a brief survey. It will take about 10 minutes to complete this study.

Your participation is voluntary. You may choose not to participate or withdraw at any time.

There are no risks from participating in this project. There are no direct benefits for you participating in this study.

We will not collect any data which may identify you.
We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: members of the research team, qualified staff of Lindenwood University, representatives of state or federal agencies.

Who can I contact with questions?

If you have concerns or complaints about this project, please use the following contact information:

Martin Spence (ms193@lindenwood.edu)
Dr. Sherry DeVore (sdevore@lindenwood.edu)

If you have questions about your rights as a participant or concerns about the project and wish to talk to someone outside the research team, you can contact Michael Leary (Director - Institutional Review Board) at 636-949-4730 or mleary@lindenwood.edu.

Appendix E

Consent Forms

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Research Study Consent Form

Block Versus Traditional Scheduling in High School:
Teacher and Student Attitudes

Before reading this consent form, please know:
- Your decision to participate is your choice
- You will have time to think about the study
- You will be able to withdraw from this study at any time
- You are free to ask questions about the study at any time

After reading this consent form, we hope that you will know:
- Why we are conducting this study
- What you will be required to do
- What are the possible risks and benefits of the study
- What alternatives are available, if the study involves treatment or therapy
- What to do if you have questions or concerns during the study

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Basic information about this study:
- We are interested in learning about perceptions of block and traditional scheduling.
- You will asked to complete a survey.

LINDENWOOD

Research Study Consent Form
Teacher

Block Versus Traditional Scheduling in High School:
Teacher and Student Attitudes

You are asked to participate in a research study being conducted by Martin Spence under the guidance of Dr. Sherry DeVore at Lindenwood University. Being in a research study is voluntary, and you are free to stop at any time. Before you choose to participate, you are free to discuss this research study with family, friends, or a physician. Do not feel like you must join this study until all of your questions or concerns are answered. If you decide to participate, you will be asked to sign this form.

Why is this research being conducted?

We are doing this study to better understand perceptions and attitudes regarding scheduling. We will be asking about 30-50 other people to answer these questions.

What am I being asked to do?

Answer the survey.

How long will I be in this study?

Study participation will last through the end of the survey.

Who is supporting this study?

No other entities are supporting this study.

What are the risks of this study?

- Privacy and Confidentiality:
- We will not be collecting any information that will identify you.
- We will be collecting data from you using the internet. We take every reasonable effort to maintain security. It is always possible that information during this research study may be captured and used by others not associated with this study.

What are the benefits of this study?

You will receive no direct benefits for completing this survey. We hope what we learn may benefit other people in the future.

What if I do not choose to participate in this research?

It is always your choice to participate in this study. You may withdraw at any time. You may choose not to answer any questions or perform tasks that make you uncomfortable. If you decide to withdraw, you will not receive any penalty or loss of benefits. If you would like to withdraw from a study, please use the contact information found at the end of this form.

What if new information becomes available about the study?

During the course of this study, we may find information that could be important to you and your decision to participate in this research. We will notify you as soon as possible if such information becomes available.

How will you keep my information private?

We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: members of the research team, qualified staff of Lindenwood University, representatives of state or federal agencies.

How can I withdraw from this study?

Notify the research team immediately if you would like to withdraw from this research study.

Who can I contact with questions or concerns?

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu.

You can contact the researcher, Martin Spence at ms193@lindenwood.edu. You may also contact Dr. Sherry DeVore at sdevore@lindenwood.edu.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

_____   _____
Participant's Signature   **Date**

_____
Participant's Printed Name

_____   _____
Signature of Principal Investigator or Designee   **Date**

_____
Investigator or Designee Printed Name

LINDENWOOD

Research Study Consent Form

Parent

Block Versus Traditional Scheduling in High School:
Teacher and Student Attitudes

You are asked to participate in a research study being conducted by Martin Spence under the guidance of Dr. Sherry DeVore at Lindenwood University. Being in a research study is voluntary, and you are free to stop at any time. Before you choose to participate, you are free to discuss this research study with family, friends, or a physician. Do not feel like you must join this study until all of your questions or concerns are answered. If you decide to participate, you will be asked to sign this form.

Why is this research being conducted?

We are doing this study to better understand perceptions and attitudes regarding scheduling. We will be asking about 30-50 other people to answer these questions.

What am I being asked to do?

Answer the survey.

How long will I be in this study?

Study participation will last through the end of the survey.

Who is supporting this study?

No other entities are supporting this study.

What are the risks of this study?

- Privacy and Confidentiality:
- We will not be collecting any information that will identify you.
- We will be collecting data from you using the internet. We take every reasonable effort to maintain security. It is always possible that information during this research study may be captured and used by others not associated with this study.

What are the benefits of this study?

You will receive no direct benefits for completing this survey. We hope what we learn may benefit other people in the future.

What if I do not choose to participate in this research?

It is always your choice to participate in this study. You may withdraw at any time. You may choose not to answer any questions or perform tasks that make you uncomfortable. If you decide to withdraw, you will not receive any penalty or loss of benefits. If you would like to withdraw from a study, please use the contact information found at the end of this form.

What if new information becomes available about the study?

During the course of this study, we may find information that could be important to you and your decision to participate in this research. We will notify you as soon as possible if such information becomes available
.

How will you keep my information private?

We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: members of the research team, qualified staff of Lindenwood University, representatives of state or federal agencies.

How can I withdraw from this study?

Notify the research team immediately if you would like to withdraw from this research study.

Who can I contact with questions or concerns?

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu.

You can contact the researcher, Martin Spence at ms193@lindenwood.edu. You may also contact Dr. Sherry DeVore at sdevore@lindenwood.edu.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

_____   _____
Parent or Legally Authorized Representative's   **Date**
Signature

_____
Parent or Legally Authorized Representative's
Printed Name

_____   _____
Signature of Principal Investigator or Designee   **Date**

_____
Investigator or Designee Printed Name

LINDENWOOD

Research Study Assent Form

Student

What is research?
We are going to do a research study. A research study is when a researcher or doctor collects information to learn more about something. During this research study, we are going to learn more about high school scheduling. After we tell you more about this study, we would like to ask you about being part of it.
We also will be asking about 50-100 other people to be part of this study.

What will you ask me to do?

If you choose to be part of this study, you will be asked for response to 20 statements.
This study is going to last 5-10 minutes and then it will be over.

Will I be harmed during this study?

You will not be harmed in this study. We will not be collecting any identifiable information.

Will I benefit from being in this study?
You will not get anything special if you decide to be part of this study. We hope what we learn will help other children.

Do I have to be in this research?

No, you do not. If you do not want to be in this research study, just tell us. You can also tell us later if you do not want to be part of it anymore. No one will be mad at you and you can talk to us at any time if you are nervous.

What if I have questions?

You can ask us questions right now about the research study. You can ask questions later if you want to. You can also talk to someone else about the study if you want to. And you can change your mind at any time. Being in this research study is up to you.

If you want to be in this research study, just tell us. Or, you can sign your name in the blank below. We will give you a copy of this form to keep.

_____ _____
Minor Participant's Signature **Date**

_____
Minor Participant's Printed Name

_____ _____
Signature of Principal Investigator or Designee **Date**

_____
Investigator or Designee Printed Name

Appendix F

Letter of Introduction to Parents

Date:

Dear Parent:

As a doctoral candidate at Lindenwood University, I am extending an invitation to your student to participate in a study.

I am conducting a research study titled, *Block Versus Traditional Scheduling in High School: Teacher and Student Attitudes,* to fulfill part of the requirements for a doctoral degree in Educational Administration at Lindenwood University. The purpose of this study is to determine the preferred schedule type for students and teachers between block and traditional scheduling methods in secondary school and explore a rationale for why schools should assess how to use time efficiently in the course of the school day.

Participation in this study is voluntary. The survey will take approximately 10 minutes. The identity of the participants will remain confidential and anonymous in the dissertation and any future publication of this study.

If you are interested in participating, please see the attached informed consent.

Please do not hesitate to contact me with any questions or concerns about participating in the research. I can be reached at ms193@lindenwood.edu. You may also contact the dissertation advisor for this research study, Dr. Sherry DeVore at (sdevore@lindenwood.edu).

A copy of this letter should be retained for future reference. Thank you for your time.

Martin Spence

Letter of Introduction to Teachers

Date:

Dear Teacher,

As a doctoral candidate at Lindenwood University, I am extending an invitation to you to participate in a study.

I am conducting a research study titled, *Block Versus Traditional Scheduling in High School: Teacher and Student Attitudes,* to fulfill part of the requirements for a doctoral degree in Educational Administration at Lindenwood University. The purpose of this study is to determine the preferred schedule type for students and teachers between block and traditional scheduling methods in secondary school and explore a rationale for why schools should assess how to use time efficiently in the course of the school day.

Participation in this study is voluntary. The survey will take approximately 10 minutes. The identity of the participants will remain confidential and anonymous in the dissertation and any future publication of this study.

If you are interested in participating, please see the attached informed consent.

Please do not hesitate to contact me with any questions or concerns about participating in the research. I can be reached at ms193@lindenwood.edu. You may also contact the dissertation advisor for this research study, Dr. Sherry DeVore at (sdevore@lindenwood.edu).

A copy of this letter should be retained for future reference. Thank you for your time.

Martin Spence

Appendix G

Table 5

Research Findings

Key Statements	Students		Teachers	
	Agree	Disagree	Agree	Disagree
Block scheduling promotes academic growth.	80%	2%	83%	6%
Traditional scheduling promotes academic growth.	41%	30%	52%	14%
Homework is necessary in the block schedule.	20%	50%	21%	50%
Homework is necessary in the traditional schedule.	41%	36%	67%	17%
There is a positive school climate in the block schedule.	68%	12%	85%	4%
There is a positive school climate in the traditional schedule.	46%	26%	50%	13%
Students are stressed in a block schedule.	52%	32%	11%	63%
Students are stressed in a traditional schedule.	73%	14%	61%	8%
Teacher use classroom time effectively in block scheduling.			80%	8%

Teacher use classroom time effectively in traditional scheduling.			76%	11%

Table 6

Research Findings

	Students		Teachers	
Key Statements	Agree	Disagree	Agree	Disagree
Students receive feedback and attention in block scheduling.	75%	8%		
Students receive feedback and attention in traditional scheduling.	47%	33%		
Students have time to complete assignments in class in a block schedule.	82%	9%		
Students have time to complete assignments in a traditional schedule.	32%	60%		

Appendix H

IRB Approval Disposition

Dec 2, 2019 10:18 AM CST

RE:
IRB-20-101: Initial - Block Versus Traditional Scheduling in High School: Teacher and Student Attitudes

Dear Martin Spence,

The study, Block Versus Traditional Scheduling in High School: Teacher and Student Attitudes, has been Approved as Exempt.

Category: Category 1. Research, conducted in established or commonly accepted educational settings, that specifically involves normal educational practices that are not likely to adversely impact students' opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

The submission was approved on December 2, 2019.

Here are the findings:
Regulatory Determinations

- This study has been determined to be minimal risk because the research is not obtaining data considered sensitive information or performing interventions posing harm greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

Sincerely,
Lindenwood University (lindenwood) Institutional Review Board

Vita

Martin Spence is the principal at Willow Springs High School in Willow Springs,
Missouri. He holds a Bachelor of Science degree in Journalism from Missouri State
University in Springfield, Missouri; a Master of Arts in Teaching from the University of
Central Missouri in Warrensburg, Missouri; a Master of Science in Educational
Administration from Missouri State University; and an Educational Specialist in
Educational Leadership from William Woods University in Fulton, Missouri. Martin
taught for 12 years at Willow Springs High School as a Language Arts, Journalism, and
Speech teacher. He moved into the role of Assistant Principal at Willow Springs High
School in 2014 and in 2017, moved into his current position. As a principal, he has the
privilege of leading a caring and devoted staff who strive daily to make students the top
priority. He also has the honor of serving approximately 400 students and families each
year in an effort to make Willow Springs High School a place of safety, encouragement,
and learning.

Additionally, Martin enjoys watching sports (whether it is the St. Louis Cardinals
or the Willow Springs Bears), family movie nights, and planning the annual family
vacation. The family is actively involved at First Baptist Church in Willow Springs.
Martin enjoys tackling the adventures of life with his family, including his wife, Megan,
and daughters; Emma, Kathryn, and Abigail.