

Boston University

Building Leadership for Change through School Immersion

EDUCATIONAL REFORM/CAPSTONE PROJECT

"The Impact of Block Scheduling on Students Learning and Achievement"

 $\mathbf{B}\mathbf{y}$

Jawaher Mushref Alghamdi

Action Research|Spring 2020

Dr. Linda Banks-Santilli





Abstract:

Background: Over the past several decades, school districts have increasingly adopted block schedules in lieu of traditional schedules as a means to improve student achievement and educational programme delivery. The research aims to Highlight the differences between the traditional and block schedules to suggest changing the Saudi Arabian school calendar, especially since the ministry plans to reform high school. Block schedules improve attendance and learning. Materials and methods: The study was a mixed methods (qualitative and quantitative) study. The study was conducted at the high and middle schools in three cities in Saudi Arabia (Dammam, Riyadh, and Jeddah) which included 4 schools, KSA. Subjects: the study was conducted a survey of 1247 students, but only 181 has been respond. Tools of data collection: This study's measuring tool is the online questionnaire to examine the impact of Block Scheduling on Students' Learning and Achievement in KSA. Results: By analysing the survey results, I found that the block schedule may improve student performance. Block scheduling reduces student and teacher stress. This boosts student and teacher satisfaction and reduces absenteeism and stress. Block scheduling will affect teachers' styles, class preparation, and student relationships. All these positives boost student achievement. Conclusion: Block scheduling can improve student achievement and reduce absenteeism. Today's school leaders can be more transformative, which helps them choose the best system for students. Block scheduling creates a creative and equal school schedule for all students, bridging the achievement or opportunity gap. The study's findings give leaders confidence in using schedules to transform leadership. **Recommendation:** block scheduling can be used to affect student achievement, helping them love studying and reduce absenteeism. Today's school leaders have more latitude to be transformative leaders, which helps them choose the most effective system for students. Block scheduling bridges the achievement or opportunity gap by creating a creative and equal school timetable for all students. This study's findings give leaders confidence in using their schedules to achieve transformative leadership results.

الملخص:

الخلفية: على مدى العقود العديدة الماضية ، اعتمدت المناطق التعليمية بشكل متز ايد جداول المجموعات بدلاً من الجداول التقليدية كوسيلة لتحسين تحصيل الطلاب وتقديم البرامج التعليمية ، ويهدف البحث إلى تسليط الضوء على الاختلافات بين الجداول التقليدية والجداول الزمنية لاقتراح تغيير السعودية تقويم المدرسة العربية ، خاصة وأن الوزارة تخطط لإصلاح المدرسة الثانوية. تعمل الجداول الزمنية المحظورة على تحسين الحضور والتعلم. ا**لمواد والأساليب:** كانت الدراسة مختلطة (نوعيًا وكميًا). أجريت الدراسة في المدارس الثانوية والمتوسطة في ثلاث مدن في المملكة العربية السعودية (الدمام والرياض وجدة) ضمت 4 مدارس بالمملكة العربية السعودية. الموضوعات: أجريت الدراسة على 1247 طالبًا ، ولكن تم الرد على 181 فقط. أدوات جمع البيانات: أداة قياس هذه الدراسة عبارة عن استبيان عبر الإنترنت لفحص تأثير الجدولة على تعلم الطلاب وإنجاز اتهم في المملكة العربية السعودية. النتائج: من خلال تحليل نتائج الاستطلاع ، وجدت أن جدول الحظر قد يحسن أداء الطلاب. تقلل جدولة الكتل من إجهاد الطالب والمعلم. هذا يعزز رضا الطلاب و المعلمين و يقلل من التغيب و التوتر . ستؤثر جدولة الحظر على أنماط المعلمين و إعداد الفصل الدر اسي و علاقات الطلاب. كل هذه الإيجابيات تعزز تحصيل الطلاب. الاستنتاج: يمكن لجدولة الحظر أن تحسن تحصيل الطلاب وتقلل من التغيب. يمكن لقادة المدارس اليوم أن يكونوا أكثر تحولا ، مما يساعدهم على اختيار أفضل نظام للطلاب تعمل جدولة الكتل على إنشاء جدول مدرسي إبداعي ومتساو لجميع الطلاب ، مما يسد فجوة الإنجاز أو الفرص. تمنح نتائج الدراسة القادة الثقة في استخدام الجداول الزمنية لتغيير القيادة. التوصييات: يمكن استخدام جدولة الكتلة للتأثير على تحصيل الطلاب ، ومساعدتهم على حب الدراسة وتقليل التغيب. يتمتّع قادة المدارس اليوم بمزيد من الحرية ليكونوا قادة تحويليين ، مما يساعدهم على اختيار النظام الأكثر فعالية للطلاب. تعمل جدولة الكتل على سد فجوة الإنجاز أو الفرصة من خلال إنشاء جدول زمني إبداعي ومتساو لجميع الطلاب. تمنح نتائج هذه الدراسة القادة الثقة في استخدام جداولهم لتحقيق نتائج قيادية تحويلية.

- students **Keywords:** student's learning – student's achievements – block schedule – Advance Education – teachers.

الكلمات المفتاحية: تعلم الطالب - إنجازات الطالب - الجدول المجمع - التعليم المتقدم - الطلاب - المعلمون.





❖ Introduction:

the Saudi education system has a strong foundation as well. It is supported by the government in several ways which makes the educational budget one of the largest budgets among all sectors. It has a variety of resources and excellent books. The books are prepared very professionally, using strong resources that are written by specialists. The Saudi educational system has professional teachers with the highest degrees and a thirst for learning new things. The Saudi students are capable of being successful because of the creativity and challenging curriculum that allows them to stand out among the competition of other nations around the world.

However, on the downside, the Saudi educational system applies a more traditional schedule in the schools, which often has negative effects on time and the attitude of students toward classes, subjects, and their teachers.

For students, the school day starts at 6:45 a.m. and ends at 2:45 p.m. There are at least 35 students per class, for 7 to 8 periods each day, each class is 45 minutes in length, and there is also one hour for activities, 30 minutes for a slight breakfast, and 15 minutes is allocated to praying time. Having this kind of schedule creates stress for the teachers and students. There is no time for elective subjects, advisory time with teachers and students, meditation, or time for reading comprehension, and most importantly there is no time to learn or teach life skills to the students. This leads to stress and dissatisfaction. Because of the stress, more students are absent and therefore, decreasing their achievement and ability to learn.

For teachers, they often teach 4 periods, at 45 minutes in length per day. Essentially this means they are dealing with up to 120 students and do not have enough time to fully engage with students, learn their names, know what is unique about each student, and use the strategies that will be most effective for them. To have this number of students working with them does not allow teachers to know the individual differences of the students and build good relationships with them in class and outside of class that will create a better experience for the teachers and the students.

Problem Statement:

The efficacy of Block Scheduling and its variants is the subject of a wide range of opinions. This debate is heightened by the full weight of No Child Left Behind, as well as issues related to educational funding. There have been a number of studies on the effectiveness of the block schedule, but the results have been either inconclusive or incoherent. so Students' academic performance under Block Scheduling was examined in this study, with a particular focus on high and middle school students in saudi arabia.

***** Researsh objectives:

The primary objective of this study is to determine the differences between the traditional schedule and the block schedule in order to suggest changes to the school schedule in Saudi Arabia from the traditional schedule to the block schedule, especially at this time when the ministry intends to change the high school system. The block schedule will improve student attendance and create a better environment for teaching and learning. It will reduce the stress on students when they study fewer subjects per day. Block scheduling has the potential to provide





more time for teachers to plan lessons and more time in class, which leads to deeper understanding for students.

More specifically, it aims to know:

- 1- Does the block schedule impact the students' learning and achievement?
- 2- Does the block schedule impact the student attendance?
- 3- Does the block schedule impact the stress levels on students?
- 4- Does the block schedule impact the teachers' preparation time?
- 5- Does the block schedule impact the teachers' work life?

Significance of the Study:

The 2030 vision for the country aims to create students who are strong, cultured, aware, and have the ability and skills for their future careers. To create this capable generation, it requires well planned and deliberate preparation. But the traditional school schedule with its full class schedule ignores time to develop essential life skills for students. For example, no time to read, no time for sports, no time for hobbies so, the block schedule is a perfect choice to implement many of the changes that my colleagues and I suggest to improve the educational system in Saudi Arabia.

Study Limits:

Objective limits: The study focused solely on applying the block schedule to Saudi Arabia schools by examining the impact of block schedule on student's learning and achievements.

Time limits: The study was limited to studying for the impact of block schedule on student's learning and achievements 2019-2020.

Spatial Limits: Study the impact of block schedule on student's achievement at the high and middle schools in three cities in Saudi Arabia (Dammam, Riyadh, and Jeddah) which included 4 schools.

Definition of Terms:

Block scheduling

"Block Schedule is a system for scheduling the middle- or high-school day, typically by replacing a more traditional schedule of six or seven 40–50-minute daily periods with longer class periods that meet fewer times each day and week. For example, a typical block-schedule class might last 90 or 120 minutes and meet every other day instead of daily". (Partnership, 2013)

Review of literature:

This section shows an overview of research related to block schedules and traditional schedules. In particular, the review addresses how block scheduling impacts the stress on teachers and students. In addition, the review considers the effects of block scheduling on teachers' efforts, time, and their relationship with students as well as some research about the impacts of block scheduling on students' discipline and attendance. Finally, the review will examine how all these points are associated with student achievement.





A. Block Schedule:

"Block scheduling is an approach to school timetabling in secondary schools. It typically means that pupils have fewer classes (4-5) per day, for a longer period of time (70-90 minutes). The three main types of block schedules found in the research are:

- 4x4 block scheduling: 4 blocks of extended (80–90 minute) classes each day, covering the same 4 subjects each day. Students take 4 subjects over 1 term, and 4 different subjects in the following term.
- A/B block scheduling: 3 or 4 blocks of extended (70–90 minute) classes each day, covering the same 3 or 4 subjects on alternating days. Students take 6 or 8 subjects each term.
- Hybrid: a hybrid of traditional models and 3/4-class-per-day approaches. Students have 5 classes per day, of between 60 and 90 minutes" ("Block Scheduling", 2019).

B. The important of block scheduling:

For students, the block schedule will create opportunities for them to learn and sharpen their skills because they can study the mandatory curricula, and choose what they are interested in from the elective subjects offered. Also, they will have enough time in class to discuss and understand their lessons which leads to a strong relationship with their teachers. In addition, the block schedule reduces the number of subjects per day which means less stress on students and absenteeism. All these factors will result in higher achievement for students.

For teachers, if the classes decreased to 2 classes per day, they will have time to prepare their lessons in a professional way, to finish their work for grading and following their students and so on within the school hours. Also, they will deal with a smaller number of students so that they can concentrate on them and know them very well which leads to strong relationship between the teachers and students. In addition, the length of the period will help teachers to have more time with students so each student will have more time in the class to ask or discuss anything in the subject.

C. The advantages of block schedule:

• Stress:

In every area of our adult lives, we are affected by stress. Students should not have to have stressful learning experiences. Comer (2012) conducted his research on senior high school students. He concluded that block scheduling reduces stress on students. One of the reasons for the reduced stress is that fewer classes per day compared with the a traditional schedule relief pressure on students to learn and achieve in school. Also, the teachers in the block schedule have more time to prepare and make the lessons more creative and understandable for the students, which leads to more enjoyment and less stressful teaching experiences and learning opportunities. Brown-Edwards (2006) stated that the block schedule can creates a positive environment in the school. That environment makes a good relationship between students and teachers, encourages students to engage in extra activities, and gives teachers the time and opportunity to perfect the lessons. I think as a result for all these positive things, the stress will decrease for teachers and students.





• Learning Environment:

Block scheduling allows the teachers to differentiate the teaching style to reach each student's needs individually (Comer, 2012). It creates an encouraging environment that gives opportunities for teachers and students to build a good relationship. Moreover, it gives students opportunities to engage into extra activities at schools. (Brown-Edwards, 2006; Comer, 2012).

• Discipline

concluded that discipline improved among seventh grade students with the DiRocco (1997) alternating block schedule. Snow (2001) found that there was a decrease in discipline issues including tardiness, respect for teachers, fighting, and vandalism of school property. In addition, Thorse (2013) concluded that there was a reduction in discipline referrals with the implementation of the block schedule.

• Attendance

DiRocco (1997) stated that there is an improvement in attendance in the eighth and seventh grades with the alternating block schedule. While, Thorse (2013) reported that there was no large difference in attendance between the traditional and block schedule. Although, there are differing views on the effectiveness of the block schedule there is enough evidence to suggest that implementing it has more benefits than drawbacks.

• Achievement

In terms of achievement, it is important to know that there is a lot of research and varying results. For example, Arnold (2002) reported no significant increase in students' achievement in block reported the same scheduling compared with traditional scheduling. However, DiRocco (1997) result for standardized test, but, he reported an increase in students' grades in the final exams. Conversely, Queen (2009) concluded that there is constant improvement in students' achievement with block scheduling if it is combined with technology usage in the classroom. Additionaly, Parke & Kanyongo (2012) pointed-out that achievement improves in tandem with the attendance. And, Moghimislam, Jafari, & Hosein (2013) added that students who manage their stress achieve higher performance than those who do not manage their stress. Therefore, because block scheduling reduces stress, it can contribute to advancing student achievement.

• Time:

The period length in the block schedule will give more time for each student compared with the traditional schedule. For example, if a class has 45 students, with the traditional schedule the students have in average 15 min in each period for their questions and comments while, with the block schedule where the period length will be longer, consequently, the student will have in a lot of average 25 to 30 min per period for their questions and comments. (Solution for problems associated with the large number of students in the class).





Previous studies:

- According to Roberts Jr, K. C. (2016), The objective of the study was to contrast block schools and traditional schools in these two regions. Six high schools in Pennsylvania provided three years of achievement data. Interviews with the building principals of four schools yielded information regarding classroom rigour. Schools with comparable demographics were paired, and independent trests were conducted on mean exam achievement data. In addition, data on rigour were aggregated by schedule type and compared using a t-test. This study found no correlation between schedule type and student achievement or rigour. Even though the school schedule does not affect student achievement or rigour on its own, the researcher concluded that transformative leaders should continue to use it to implement the educational programme.
- According to dirocco (1997) he studied the effect of the alternating day block schedule on student academic performance, attendance and discipline. He concluded that the 7th grade students final report in social studies showed higher grades with block schedule implementation compared with the traditional schedule. Also, he found an increase in attendance and decrease in discipline issues with the implementation of alternating day block schedule compared with the traditional schedule implementation.
- According to Smith, L. O. (2010). This study was intended to provide school and district administrators with more information regarding the impact of block scheduling on the test scores of middle and high school students. The study also revealed the perspectives of building administrators on block scheduling. A review of the literature reveals few statewide longitudinal studies. The review uncovered few studies on middle school performance and schedule information. iii The study utilised archival data from all four Mississippi Subject Area Exams and the Mississippi Curriculum Tests in Language Arts and Mathematics to compare the academic performance of students on block and traditional schedules. 5-year period employed. The data used was provided by the Department of Education in Mississippi. In addition, a survey was administered to school administrators whose schools had been using block for some time to determine their views on block and state-wide test performance, as well as its implementation and development. Mixed ANOVAs were included in the analysis. Middle school block only affected the math scores of seventh graders. Biology and Algebra in high school suffered from block. Three out of the five hypotheses were confirmed. Administrators concurred that improved state exams should be blocked. These results were supported and contradicted by prior research.

***** Methodology:

This section discusses the many procedures that facilitate study execution and aid in the achievement of study objectives. These stages are as follows: Design of the study, population of interest, devices and processes for collecting sample data, and data analysis.

A. Research Design and Approach:

Amaratunga, D., et al. (2002) claims that According to their goal, studies are classified into three types: exploratory, descriptive, and explanatory. The first is used to clarify concepts, uncover





explanations, evaluate phenomena, or seek new insights. The primary purpose of such study is to create a hypothesis. This type of study is noted for being extremely adaptable. The descriptive research method tries to characterize individuals, events, or circumstances. Before beginning the investigation, the researcher needs have a clear image of the phenomenon. As a result, all necessary alterations must be made before the study process can begin. Explanatory study, on the other hand, offers the cause and effect links between variables. (Amaratunga, D., et al., 2002)

This study employed an explanatory research design based on a mixed research strategy, which involves the combining or integration of qualitative and quantitative research and data in the research study.

B. Population and sample size:

Population refers to an aggregate of persons, objects, events, etc., i.e., observation units that are of interest to the investigation and remain the subject (Prasad, 2013). The group from which the result of the study can be extrapolated is this reference population or target population. After this target population is established, the researcher has to determine whether all individuals can be studied for an outcome. Usually, it is not possible to include everyone, so a research population is sampled. The significant characteristic of a sample is that every person should have an equal and non-zero probability of being included in the analysis. The survey should be carried out separately, i.e., the option of one does not impact the inclusion or exclusion of another.

A population is representative of a pool of components or subjects that the researcher considers to hold the requisite information or data, and of specific insinuations that may be made (Weeks, 2020). Population is essentially a category of subjects, such as human beings, animals and objects, with a particular specification that is interesting for experts to focus on. In fact, the resource has certain limitations in terms of financial, time and aim that this matter has a direct impact on the capacity of scholars to reach out to all constituents in the target community.

The sample size is determined by several factors, including the statistical instrument to be employed. While larger samples generally result in more generalizability, the size of the sample must be determined by a number of factors, including the model's complexity, the predicted rate of missing data, and the estimate methodologies utilised. Additionally, a researcher can estimate the predicted strength of the relationship under investigation if it is considered that there is one in the first place. This information can then be utilised to assist the researcher in determining the proper sample size to use.

This study's target demographic was made up of 1247 students, at the high and middle schools in three cities in Saudi Arabia (Dammam, Riyadh, and Jeddah) which included 4 schools. The .survey sent to the students through google forms, I got respond from 181

C. Research Instrument and Methods:

With an objective description, the research instruments such as measurement scales, questionnaires and scoring systems must be defined. These instruments should be tested prior to their use, and it is mandatory for research personnel to use them correctly to prevent any bias. To





anyone involved in the analysis, these tools should be clear and easily understandable. (Taherdoost, 2016)

Typical methods of quantitative data collection include (Nardi, 2018) as shown in figure (1):

- Surveys of closed-end questions (e.g., face-to-face, mobile, mail, etc.) are performed.
- Clinical trials/experiments
- Well-defined event observation and recording
- Recapture of applicable information systems management files
- Surveys and questionnaire.

Questionnaires:

Questionnaires are systematic surveys or pre-defined sets of questions that are administered to respondents in order to create quantitative and/or qualitative data that can be analysed and understood (Dewaele, 2018).

Due to its capacity to amass vast volumes of data from individuals, the questionnaire is one of the greatest ways for collecting data for studying large communities, such as states or cities. The circumstance is totally applicable to this study, as it necessitates getting as much information as possible from the research sample in order to accurately reflect the community. The study's objective necessitates the collecting of the perspectives of a large number of individuals of this community, which is accomplished through the use of a questionnaire. On the other hand, electronic surveys are gaining popularity, particularly among university students and academics.

Additionally, considering the enormous geographical region covered by a divergent community survey and the size of the state, any method other than a questionnaire is impractical. The interview, for example, necessitates visits with members of the sample, which necessitates travel throughout the country. This may result in inconvenience and financial costs, as well as the anticipated difficulty associated with scheduling and coordinating visits with a large number of responders spread across a big geographical area.

When conducting a survey, the fundamental necessity is to develop a plan defining the data collection techniques. Blair et al. (2013) suggest that six distinct activities can be used to collect the necessary data:

- Decide on the type of data that will be gathered.
- Select an appropriate data gathering technique and provide explanation for your selection.
- Choose and explain a sample target that is representative of the community in terms of kind and size.
- Adhere to ethical research norms.
- Conduct a pilot study to determine the questionnaire's validity and reliability.
- Programs for data processing that make use of one or more of the suitable statistical and analysis techniques.

This study's major goal is to examine the Impact of Block Schedule on Students' Learning and Achievements in KSA the online survey (questionnaire) was employed to collect the mixed data (quantitative and quantitative).





D. Data collection:

Collection of data is the collection process and evaluating information in a defined systematic fashion on variables of interest, which helps one to answer specified research questions, test hypotheses, and analyze results (Gliner et al., 2016). The research aspect of data collection is popular in all fields of study, including physical and social sciences, humanities, industry, etc. Although methods differ by discipline, the focus remains the same on ensuring precise and truthful selection. The purpose of all data collection is to capture quality information that then converts to rich data analysis and enables a compelling and credible response to questions that have been asked to be established. Accurate data collection is crucial to preserving the integrity of science, regardless of the field of study or preference for identifying data. The risk of errors occurring is minimized by both the selection of suitable data collection instruments (existing, updated, or newly developed) and clearly delineated instructions for their correct use (Kabir, 2016).

Data can be collected using a variety of ways, including postal mail, face-to-face, telephone, and electronic mail, as well as a mix of these approaches. This study used an online self-administered survey because of its adaptability and speed, as well as the fact that it served as a checkpoint to guarantee that all respondents could access the Internet.

Secondary Data:

The secondary data allows the researcher to formulate and better comprehend the problem of study and expands the knowledge base on the problems of study. In addition, it provides a strong basic framework to carry on with the research and helps to identify appropriate research methodologies. Secondary data can also give a tool for simply interpreting and comprehending the source data (Hair et al., 2019). In this regard, the research is undertaken by means of a complete review of the literature, using pertinent research documents. A review of relevant government policy papers leading to the establishment of an instrument for data collecting was undertaken to gather several perspectives.

The collection of information has been implemented from several secondary resources such as published books and articles.

Primary Data:

Pandey & Pandey, (2021) state that primary information refers to the data collected directly by the researcher to the investigative topic in question. They claim that the researchers should obtain primary data when secondary data is not enough to answer the study questions. Several approaches, including surveys, comments and interviews, can be used to obtain primary data (Al Kilani, 2016). In both quantitative and qualitative approaches, primary data collection methods should be understood; nevertheless, the choice of method depends upon the goal of the study, available resources and researchers' expertise. The questionnaire was the cornerstone of primary data collection for the purpose of this research; so, primary information refers to the implementation by the researcher of data collection instruments produced in the target industry.

Ruel et al., (2015) identifies the questionnaire as a common instrument for observing data even though the researcher is geographically confined. The questionnaire acts as a translator from research goals to concrete questions and answers. Any of the features of a successful





questionnaire are quickly classified, performed, tabulated and evaluated. A good questionnaire should be short, unmistakable and rational and sequential. Easier questions should precede more complicated ones. Since questionnaires contain first-person opinions and answers and are in writing, their authenticity is assured (Mafini & Pooe, 2013).

A questionnaire was sent to 1247 students, at the high and middle schools in three cities in Saudi Arabia (Dammam, Riyadh, and Jeddah) which included 4 schools. The survey sent to the students through google forms, I got respond from 181.

❖ Data analysis and results: (See Appendix A)

- 66% of students identified the large number of subjects that they are responsible for taking as the main reason for the decrease in their overall achievement.
- 44% of students identify the main reason for excessive absences is due to academic pressure caused by the large number of classes they have to take within a school day.
- 38% identified that boredom and a general lack of interest with school is the main reason for the increase in the absences.
- 54% assumed that by decreasing the number of classes, there will be more opportunity to have interactive learning environment for students.
- 51% assumed that if the students have a chance to study a subject that they are interested in, it will help create an attractive learning environment.
- 44% of the students indicated that the good relationships with teachers supports an interactive learning environment.
- 50% expect high achievement if the school hours have a specific time for tutoring and concentrating on students' needs determined by their levels.
- 38% identified that the number of classes per day is inversely related with their achievement.

The reason for the low achievement of student in your opinion

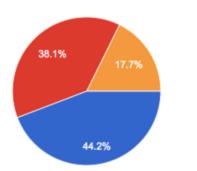




The reason for the student absence on your opinion



181 ردًا



نفظ الحصص The pressure because of the large number of classes
 المثل boredom
 الاهمال They don't care

By analyzing the results of the surveys, I learned that, the block schedule is likely to affect the students' performance in a positive way. The implementation of the block schedule leads to less pressure on students and teachers. This effect will heighten the students' and teachers' satisfaction and reduce their absence and stress. Also, the implementation of the block schedule will affect the teacher's style, preparation for the class, and build a strong relationship with their students. All of these positive points play an important role in heightening the students' achievement.

***** Education reform plan:

• The plan:

First of all, to obtain the maximum benefit from implementing a block schedule, some changes must be applied in the educational system within Saudi Arabia. For example, adding in time for reading. In addition, the period length, primary and elective subjects, advisor counseling and home room, and credit in high school all need to be further examined. To clarify these changes, below are some terms that are associated with block scheduling.

• Terms:

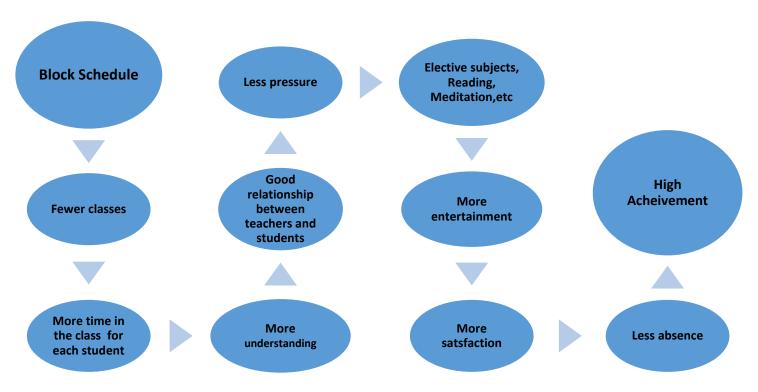
- **Home room:** A time not exceeding 15 minutes at the beginning of each school day needs to be incorporated so that each teacher has time to meet with a group of students that has been determined in advance. This time will be used to count the absent students, and report the most important announcements, etc.
- **Elective subjects:** A subject that the students can choose to study according to his/her inclination, desire, or future career.
- **Primary subjects:** Compulsory subjects and a required to obtain a high school diploma.
- What I Need (WIN): A time when students are divided according to their levels and needs to obtain the necessary support from teachers.
- **Recess:** Student rest time is devoted to play in which the student acquires many life skills.





- **Advisory:** Classes intended to provide advice to students on what they need, whether academic, life or consulting needs. Performed by a specific teacher. Each teacher is responsible for a group of between 20 to 30 students. Also, the students can meet individually with the advisory to plan their future and solve their problems either academic or counseling.
- **Credit:** special points for high school earned by the student in exchange for attending the courses, and these points are a requirement for graduation. These points are distributed among the subjects according to the number of hours of the course per week.

❖ Positive Effects of the Block Scheduling: Figure 1. Positive Effects of the Block Scheduling



• First phase:

Presenting the idea to the Education Ministry about the block schedule and showing them previous studies about the block schedule and its effects on students and teachers.

Second phase:

Plan the budget needed for implementation:

- 1. For the block schedule implementation:
- 2. No budget needed, the subjects and teachers already exist.
- 3. For the workshops (Table 1):





Table 1:

| Items | The amount | The price/piece | Total Cost |
|-------------------------|------------|-----------------|------------|
| Computer | 1 | \$ 500 | \$ 500 |
| Projector | 1 | \$ 300 | \$ 300 |
| Printer & paper | 1 | \$ 100 | \$ 100 |
| Place for the workshops | 10 | \$ 300 | \$ 3000 |
| Tools set | 1 | \$ 100 | \$ 100 |
| Food | 10 | \$ 300 | \$ 3000 |
| Total | 24 | \$1600 | \$7000 |

• Third phase:

A. Collect data about the following prior to the implementation of block scheduling:

- 1. The final exam grades for the selected samples for the school year 2019/2020.
- 2. The result of national exams (Qudrat & Tahsely) for the selected samples for the school year 2019/2020.
- 3. The attendance percentage for the selected samples for the school year 2019/2020.
- 4. Make a survey and interview students and parents to ask them about the stress levels on students at schools for the selected samples for the school year 2019/2020.
- 5. Interview the teachers to ask them about their working time within school hours and how they do invest this time, for the selected samples for the school year 2019/2020.

The interview will include the following questions:

- 1. What subject are you teaching?
- 2. How much time do you have to complete your work within school hours?
- 3. Is this time enough to finish your work (grading and following up the students, and preparing your lessons by using new strategies)?
- 4. Do you need time out school hours to do your work associated with school?

B. The workshops:

After obtaining the permission of the ministry, start the workshops for the administrators, teachers, parents, and students from the target schools to explain what the block schedule is and how to build it. additionally, explain the pros of the block schedule and its effect on students and teachers.





Table 2: Timeline for The Workshops

| Representative | Target Group | The area | The time school year 2020/2021 | Time period |
|----------------|---|---------------------------------|--|-------------|
| Me | The administrators in the ministry and group of administrators and teachers from each area in Saudi Arabia (Group1) | Riyadh city | The first week of the beginning of the school | 3 to 5 days |
| Group1 | Group of (2 or more of administrators and teachers) from each school in the area (Group2) | In the main office in each area | The second week of the beginning of the school | 3 to 5 days |
| Group2 | For students | In the schools | The third week of school starting | 3 to 5 days |
| Group2 | Parents | In the schools | The fourth week if school starting | 1 day |

• Fourth phase:

A. Implementation and time line:

1. Throughout 2021/2022 school year:

- Preparation:
- I. The work connected with the determination of primary and elective subjects will be done for all levels.
- II. Make the schedule templates for all levels.

2. 2022/2023 school year:

- Pilot implementation:

Start the implementation of the block schedule in 12 selected schools. The implementation will in the same time period and will last be on all the levels (Elementary, Middle, and High School) for 2 years.

3. 2024/2025 school year:

- Full implementation:
- I. Start the implementation of the block schedule in all remaining schools.
- II. Below is a visualization of the primary and elective subjects as well as an example of the block schedule in each level.

Elementary schools:

- 1. Create a 15 min period for a new class called Home Room
- 2. Divide the subjects into two kinds (Primary subjects, Elective subjects). At the beginning, the ministry of education will determine the elective subjects for each grade. See table 3.
- 3. Create a 45 min What I Need class (WIN)





- 4. Create a 30 min break for playing and fun activities only (recess)
- 5. Allocate 20 min for free reading. The students will be provided by the books from the school library or they can bring their own books.
- 6. Use the last 45 min period as a study time for students, they may have a tutoring session or complete their homework.
- 7. All of the changes will be implemented in the 1st grades so that students move through the system and become more familiar with each advancing grade.

The elective subjects are modeled after Baker School & Excel Academy in Massachusetts in the USA – See Appendix B).

Table 3: Primary and Elective Subjects

| The primary subject | classes/week | The elective subject | | | |
|---------------------|--------------|----------------------|--|--|--|
| Math | 4 | Art | | | |
| Science | 4 | Sport | | | |
| Arabic language | 4 | Computer | | | |
| English language | 4 | Chines language | | | |
| Religion | 3 | Health | | | |
| Social studies | 2 | | | | |
| Quran | 3 | | | | |

An example of student schedule is in table 4. (The schedules are modeled after Baker School & Excel Academy in Massachusetts in the USA – See Appendix C):

| | Sunday | Monday | Tuesday | Wednesday | Thursday | | |
|----------------|-----------|--------------|-----------------------|-----------|-----------|--|--|
| 7:00 to 7:15 | Home room | Home room | Home room | Home room | Home room | | |
| 7:15 to 8:10 | Math | Math | Social studies | Science | science | | |
| 8:10 to 9:05 | Science | Science | Math | Arabic | Arabic | | |
| 9:05 to 9:35 | | | Break | | | | |
| 9:35 to 10:30 | Arabic | Arabic | Arabic Social studies | | Math | | |
| 10:30 to 10:50 | | | Free Readin | ıg | | | |
| 10:50 to 11:30 | Religion | Elective | Religion | Elective | Advisory | | |
| 11:30 to 12:00 | | | Recess | | | | |
| 12:00 to 12:40 | Quran | English | Elective | Quran | English | | |
| 12:40 to 1:20 | Elective | Quran | English | Religion | Elective | | |
| 1:20 to 1:35 | | Praying time | | | | | |
| 1:35 to 2:05 | WIN | WIN | WIN | WIN | Home room | | |
| 2:05 to 2:45 | Home room | Home room | Home room | Home room | | | |

Table 4: Elementary School Schedule:





> Middle schools:

- 1. Create a 15 min period for a new class called Home Room
- 2. Divide the subjects into two kinds (Primary subjects, Elective subjects). Students will be responsible for selecting their own elective subjects. Elective subjects will be determined by the grade of the students. See table 5.
- 3. Create a 45 min What I Need class (WIN)
- 4. Allocate 20 min for free reading. The students will be provided by the books from the school library or they can bring their own books.
- 5. Allocate 45 min for advisory.
- 6. Use the last 45 min period as a study time for students, they may have a tutoring session or complete their homework.
- 7. All of the changes will be implemented in the 1st grades so that students move through the system and become more familiar with each advancing grade.

The elective subjects are modeled after Baker School & Excel Academy in Massachusetts in the USA – See Appendix B):

Table 5: Primary and Elective Subjects

| Table 3. I I maily and Elective Subjects | | | | | |
|--|--------------|----------------------|--|--|--|
| The primary subject | classes/week | The elective subject | | | |
| Math | 4 | Art | | | |
| Science | 4 | Sport | | | |
| Arabic language | 4 | Computer | | | |
| English language | 4 | Chines language | | | |
| Religion | 3 | Health | | | |
| Social studies | 2 | | | | |
| Quran | 3 | | | | |

An example of student schedule is in table 6. (The schedules are modeled after Baker School & Excel Academy in Massachusetts in the USA – See Appendix C):







Table 6: Middle School Schedule

| | Sunday | Monday | Tuesday | Wednesday | Thursday | |
|----------------|--------------|------------------------|----------------|----------------|-----------|--|
| 7:00 to 7:15 | Home room | Home room | Home room | Home room | Home room | |
| 7:15 to 8:15 | Math | Math | Social studies | Science | Science | |
| 8:15 to 9:15 | Science | Science | Math | Arabic | Arabic | |
| 9:15 to 9:45 | | | Break | | | |
| 9:45 to 10:45 | Arabic | Arabic | Arabic | Social studies | Math | |
| 10:45 to 11:05 | Free Reading | | | | | |
| 11:05 to 11:45 | Religion | Elective Religion Elec | | Elective | Advisory | |
| 11:45 to 12:25 | Quran | English | Elective | Quran | English | |
| 12:25 to 1:10 | Elective | Quran | English | Religion | Elective | |
| 1:10 to 1:25 | Praying time | | | | | |
| 1:25 to 2:00 | WIN | WIN | WIN | WIN | Home room | |
| 2:00 to 2:45 | Home room | Home room | Home room | Home room | | |



High schools:

- 1. Create a 15 min period for a new class called Home Room
- 2. Divide the subjects into two kinds (Primary courses, Elective courses). Students will be responsible for selecting their own elective courses. See table 7.
- 3. The period length will be determined depending on the course.
- 4. Allocate 45 min for advisory.
- 5. Use the last 45 min period as a study time for students, they may have a tutoring session or complete their homework.
- 6. Add credit for each course (primary or elective) to encourage students to attend the classes. The credit will be determined depending on the subject. The student obtains the credit if he/she attends at least 80% of classes. The student needs to 22 credit to graduate.
- 7. All of the changes will be implemented in the 1st grades so that students move through the system and become more familiar with it in each advancing grade.

The elective subjects are modeled after Brookline High School and Dana Hall school in Massachusetts in the USA see- Appendix B:

Table 7: Primary and Elective Subjects

| The primary subject | The elective subject | |
|---------------------------------------|--------------------------|--|
| Math | Art | |
| Science (Physics, Biology, Chemistry) | Sport | |
| Arabic language | Computer | |
| English language | Chines language | |
| Religion | Health | |
| Social studies | Science (some curricula) | |
| Quran | Math (some curricula) | |

An example for high school schedule in table 8. (the schedules are modeled after Brookline High School in Massachusetts in the USA – See Appendix C):





Table 8: High School Schedule

| | Sunday | Monday | Tuesday | Wednesday | Thursday | | | |
|---------------|----------|--------------|-----------|-----------|-----------|--|--|--|
| 7:00 to 7:15 | Home | Home | Home room | Home room | Home room | | | |
| 7.00 to 7.13 | room | room | | | | | | |
| 7:15 to 8:20 | Math | Math | Science | Science | Science | | | |
| 8:20 to 9:25 | Science | Science | Math | Arabic | Arabic | | | |
| 9:25 to 9:55 | | | Break | | | | | |
| 9:55 to 11:00 | Arabic | Arabic | Arabic | Math | Math | | | |
| 11:00 to | Religion | Elective | Religion | Elective | Advisory | | | |
| 11:45 | | | | | | | | |
| 11:45 to | Quran | English | Elective | Quran | English | | | |
| 12:30 | | | | | | | | |
| 12:30 to 1:15 | Elective | Quran | English | Religion | Elective | | | |
| 1:15 to 1:30 | | Praying time | | | | | | |
| 1:30 to 2:05 | WIN | WIN | WIN | WIN | Home room | | | |
| 2:05 to 2:45 | Home | Home | Home room | Home room | | | | |
| | room | room | | | | | | |

Note: The schedules adjust to fit the Saudi religion and culture.

• Fifth phase:

- The Objectives:

- 1- Does the block schedule impact the students' learning and achievement?
- 2- Does the block schedule impact the student attendance?
- 3- Does the block schedule impact the stress levels on students?
- 4- Does the block schedule impact the teachers' preparation time?
- 5- Does the block schedule impact the teachers' work life?





- The evidence and analysis:

I. Quantitative:

- 1. After 2 years of application, collect the data about the results of (Qudrat & Tahsely) exams from the National Center of Assessment* for the selected samples for the school year 2021/2022 and compare the results ¹ with the prior data which was collected in the second phase.
- 2. After one year of the implementation collect data about the final exams results from Noor System** for the selected samples for the school year 2020/2021 and compare the results with the prior data which was collected in the second phase.
- 3. After one year of application, collect data about the percentage of absence from Noor System for the selected samples for the school year 2020/2021 and compare the results with the prior data which was collected in the second phase.

II. Qualitative:

- 1- The impact on the stress: Interview the students, parents, and teachers or make a survey for the selected samples for the school year 2020/2021 and compare the results with the prior data which was collected in the second phase.
- 2- The impact on the teaching methods: Make a survey for teachers to measure the block schedule effects on their methods in teaching for the selected samples for the school year 2020/2021 and compare the results with the prior data which was collected in the second phase.
- 3- The impact on teachers working time: Make a survey for teachers to measure the block schedule effects on their working time for the selected samples for the school year 2020/2021 and compare the results with the prior data which was collected in the second phase.



^{*} The National Center for Assessment is a center that performs standardized tests to measure the educational attainment of students who want to apply to study at universities.

^{**} Noor System is a comprehensive and integrated system of learning that depends on the most advanced technology, the system connects all educational institutions which are part of the Ministry of Education.



Table 9: Summary of the Action Plan

| | | | | 1 | |
|-------------------------|--|--|---|--|--|
| | The objectives | The evidence | Data Collection | Analysis | Evaluation |
| The primary objective | Does the block schedule impact the students' learning and achievement? | Increasing in students' achievement and learning | Quantitative: Collect data pre and post the implementation of the block schedule from Noor System National Center for Assessment) | | 15% increasing in students' achievement (excellent) 10% increasing in students' achievement (very good) 5% increasing in students' achievement (good) |
| | Does the block schedule impact the student attendance? | Increasing in students' attendance | Quantitative: Collect data after one year of the implementation of the block schedule from (Noor System) | pre and post. | 15% increasing in attendance (excellent) 10% increasing in attendance (very good) 5% increasing in attendance (good) |
| y objective | Does the block schedule impact the stress levels on students? | Decreasing in the stress levels on students | Qualitative: Make a survey for student to measure the stress level after the implementation of the block schedule | Calculate the percent change pre and post. | 15% decrease in stress levels (excellent) 10% decrease in stress levels (very good) 5% decrease in stress levels (good) |
| The secondary objective | Does the block schedule impact the teachers' preparation time? | teachers have more time to prepare the lessons | Qualitative: Make survey and interviews with the teachers | Calculate | 30% of teachers change their teaching style (excellent) 20% of teachers change their teaching style (very good) 10% of teachers change their teaching style (good) |
| | Does the block schedule impact the teachers' work life? | the teachers have more time to finish their work within school hours | Qualitative: Make survey and interviews with the teachers | | 30% of teachers finish their work within school hours (excellent) 20% of teachers finish their work within school hours (very good) 10% of teachers finish their work within school hours (good) |



***** Recommendation:

This study has yielded a number of recommendations as a result of the investigation:

- 1. An increase in student accomplishment or attendance rates, or a drop in discipline referrals, cannot be facilitated by a timetable alone. To make a difference, it takes essential stakeholders, primarily well-trained and informed teachers in the classroom and well-informed administrators who circulate around the school. This researcher proposes that not only should instructors be trained on how to improve their classrooms based on the scheduling of their classes, but also administration should participate in training sessions that will help them become better assessors, mentors, and facilitators. Additionally, guidance counsellors require instruction on how to properly organize classes within a given timetable, as well as an awareness of potential and actual scheduling issues.
- 2. This researcher proposes that school districts thoroughly review the research, or possibly employ a researcher to do so, to ensure its validity. In order to make decisions that touch so many people, districts can't afford to rely on inaccurate information. It is impossible to make an informed judgement if important data are omitted from a research report. In spite of this, some school districts continue to depend on a report's findings rather than conducting their own study.
- 3. I would like to propose that the teachers be provided support to address the issue of not having enough activities for their classes.
- 4. When students are absent from class, I feel it is crucial that they have access to adequate support and tools to help them make up for the material they have missed.

***** Conclusion:

The focus of this research was to determine the impact of block scheduling on student achievement on the Saudi Arabia, also on the student's attendance, and on environment for teaching and learning. This study bears significance on multiple fronts. First, the study effectively contributes to the dialogue surrounding schools' schedule impact. As this topic requires additional studies to be conducted on this topic and to focus on relevant standardized assessments. This research addresses that request by focusing on a new assessment battery adhering to a nearly national set of standards. The study provides meaningful data to practitioners as well. Given the landscape of education today with continued high stakes accountability, schools continue to strive for optimal student achievement. Thus, leveraging the schedule to help meet achievement goals remains a relevant focus.

The block scheduling can be used as a tool to deliver the programme in a way that effectively affect student's achievements, in which It helps them to love studying and reduce absenteeism. school leaders today have more latitude to serve as transformative leaders, which helps them to choose the most appropriate system that is in line with the students and achieves them more effective results. It is worth noting there is no better way than block scheduling to bridge the achievement or opportunity gap than by creating a school timetable that is both creative and equal for all pupils. The findings of this study provide leaders with the confidence they need when deciding how to best utilize their schedules in order to achieve transformative leadership outcomes.





***** References:

- 1. Al Kilani, M. (2016). An overview of research methodology in information system (IS). Open Access Library Journal, 3(11), 1.
- 2. Amaratunga, D., Baldry, D., Sarshar, M., & Newton, R. (2002). Quantitative and qualitative research in the built environment: application of "mixed" research approach. Work study.
- 3. Arnold, D. (2002). Block Schedule and Traditional Schedule Achievement: A Comparison. NASSP Bulletin, 86(630), 42-53.
- 4. Blair, J., Czaja, R. F., & Blair, E. A. (2013). Designing surveys: A guide to decisions and procedures. sage publications.
- 5. Block scheduling. (2019, November 25). Retrieved April 6, 2020, from https://www.summaedu.org/block-scheduling/?lang=en
- 6. Brown-Edwards, S. (2006). The impact of block scheduling on student performance on the Georgia High School Graduation Test. Available from ProQuest Dissertations & Theses database. (UMI No. 3268439)
- 7. Comer, E. (2012). The 4x4 Block Schedule: Its Impact on Student Achievement and School Climate, ProQuest Dissertations and Theses.
- 8. Dana Hall School. (2019). Dana Hall School Curriculum Handbook. Wellesley, MA.
- 9. Dewaele, J. M. (2018). Online questionnaires. In The Palgrave handbook of applied linguistics research methodology (pp. 269-286). Palgrave Macmillan, London.
- 10. DiRocco, M. (1997). Effects of Alternating Day Block Scheduling on Student Academic Performance, Attendance and Discipline. ProQuest Dissertations and Theses.
- 11. Gliner, J. A., Morgan, G. A., & Leech, N. L. (2016). Research methods in applied settings: An integrated approach to design and analysis. Routledge.
- 12. Gullatt, D. (2006). Block Scheduling: The Effects on Curriculum and Student Productivity. NASSP Bulletin, 90(3), 250-266.
- 13. Hair, J. F., Page, M., & Brunsveld, N. (2019). Essentials of business research methods. Routledge.
- 14. Kabir, S. M. S. (2016). Basic guidelines for research. An Introductory Approach for All Disciplines, 168-180.
- 15. Mafini, C., & Pooe, D. R. (2013). The relationship between employee satisfaction and organisational performance: Evidence from a South African government department. SA Journal of Industrial psychology, 39(1), 1-9.
- 16. Moghimislam, M., Jafari, P., & Hoseini, M. (2013). Impact of Stress Management Training on the Girl High School Student Academic Achievement. Procedia Social and Behavioral Sciences, 89, 22–26. doi: 10.1016/j.sbspro.2013.08.803
- 17. Nardi, P. M. (2018). Doing survey research: A guide to quantitative methods. Routledge.
- 18. Pandey, P., & Pandey, M. M. (2021). Research methodology tools and techniques. Bridge Center.
- 19. Parke, C., & Kanyongo, G. (2012). Student Attendance, Mobility, and Mathematics Achievement in an Urban School District. The Journal of Educational Research, 105(3), 161-175. doi: 10.1080/00220671.2010.547231
- 20. Partnership, G. S. (2013, August 29). Block Schedule Definition. Retrieved April 1, 2020, from https://www.edglossary.org/block-schedule/
- 21. Queen, J. A. (2009). The Block Scheduling Handbook (2nd ed.). Thousand Oaks, CA: CORWIN PRESS.



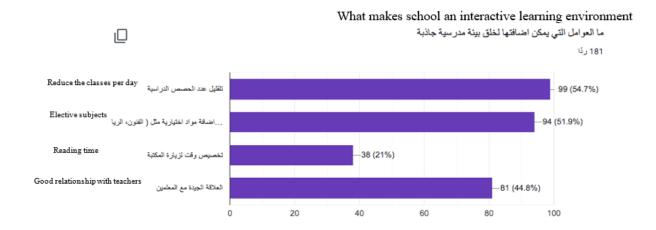


- 22. Roberts Jr, K. C. (2016). Relationship of block scheduling to student achievement and learning activities.
- 23. Ruel, E., Wagner III, W. E., & Gillespie, B. J. (2015). The practice of survey research: Theory and applications. Sage Publications.
- 24. Smith, L. O. (2010). A longitudinal study of block scheduling versus traditional scheduling in Mississippi schools: Utilizing the Mississippi student assessment system and administrators' perceptions. The University of Southern Mississippi.
- 25. Snow, A. (2001). Teacher, Administrator, and Student Perceptions of the Impact of Block Scheduling on High School Discipline. ProQuest Dissertations and Theses.
- 26. Taherdoost, H. (2016). Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in research. How to test the validation of a questionnaire/survey in research (August 10, 2016).
- 27. Thorse, D. (2013). The Utilization of Time and Its Impact on Student Achievement, Behavior, and Attendance in Middle Schools in a Select Suburban Chicago School District. ProQuest Dissertations and Theses.

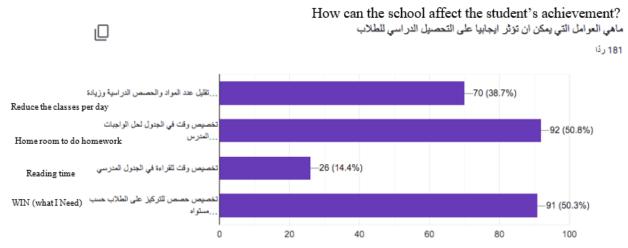
***** Appendices:

Appendix A (The Graphs)

The charts that I obtained from the primary data collection.

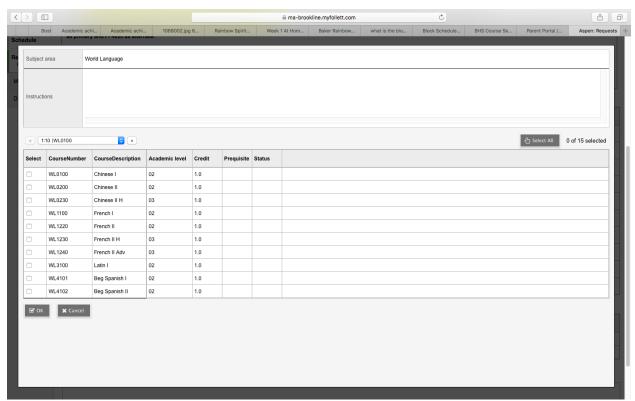






Appendix B (Elective and Primary Subjects)

Here are some examples for the elective subjects that I used to determine the elective subjects in my proposal.

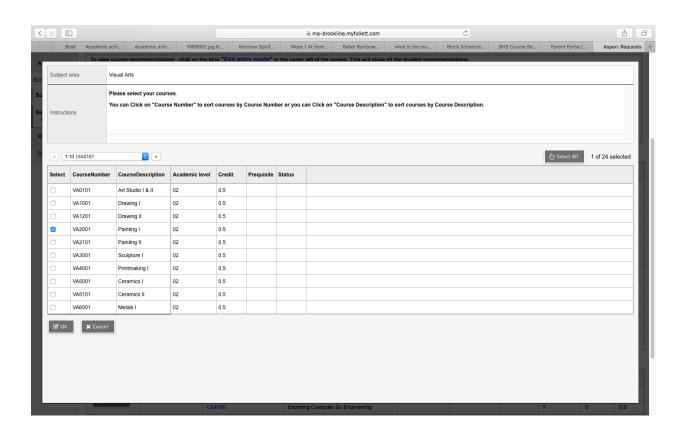


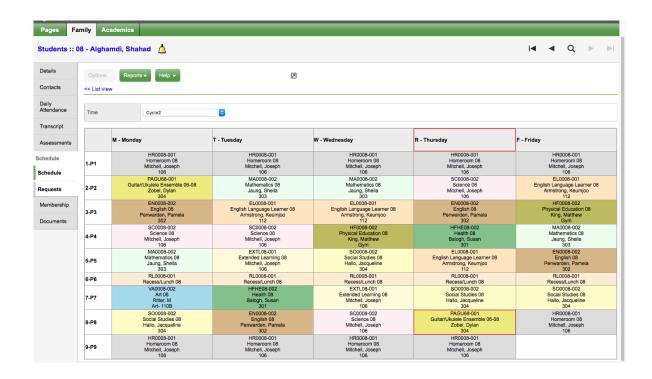
Appendix C (the schedule)

Here are some examples for the schedules that I used to build the schedules in my proposal











| 5 | 6 - 8 | Monday | Tuesday | Wednesday | Thursday | Friday Schedule | Friday |
|----------------------------|--------------------------------|----------------|---------------|------------|-----------|------------------------------|--------|
| Pre-homeroom | Pre-homeroom | | | | | Before School | |
| (7:30-8:00) | (7:30-8:00) | | | | | (7:30-8:00) | |
| AM Homeroom (8:00-8:20) | AM Homeroom (8:00-8:20) | | | | | AM Homeroom (8:00 - 8:30) | |
| Period 1 | Period 1 | | | | | Period 1 (8:30- | |
| (8:20-9:10) | (8:20-9:10) | | | | | 9:20) | |
| Period 2 | Period 2 | | | | | Period 2 (9:20- | |
| (9:10-10:00) | (9:10-10:00) | | | | | 10:10) | |
| Break | Break | | | | | Break (10:10- | |
| (10:00-10:15) | (10:00-10:15) | | | | | 10:25) | |
| Period 3 | Period 3 | | | | | Period 3 (10:25- | |
| (10:15-11:05) | (10:15-11:05) | | | | | 11:15) | |
| Period 4 | Period 4 | | | | | PM HR (11:15- | |
| (11:05-11:55) | (11:05-11:55) 7th/8th grade | | | | | 11:30) | |
| Lunch/Det. | DEAR | | 7th & 8th | grade DEAR | | Lunch/BRs | |
| (11:55-12:25) | (11:55-12:25) | | (11:30-12:00) | | | | |
| | | | | | | | |
| Recess | | | | | | Enrichment | |
| (12:20-12:45) | 6th grade DEAR | 6th grade DEAR | | | | (12:00 - 1:30) | |
| Win A | (12:25-12:55) | | | | | | |
| (12:45-1:15) | | | | | Dismissal | | |
| Win B | Period 5 | | | | | | |
| (1:15-1:45) | (12:55-1:45) | | | | | | |
| (1.10-1.40) | (12.55-1.45) | | | | | | |
| Period 5 | Period 6 | | | | | | |
| (1:45-2:35) | (1:45-2:35) | | | | | | |
| (1.45-2.55) | (1.45-2.65) | | | | | | |
| | PM Break | | | | | | |
| Period 6 | (2:35 - 2:55) | | | | | PD | |
| (2:35-3:25) | PM Homeroom | | | | | | |
| ,, | (2:55 - 3:05) | | | | | | |
| | | | | | | | |
| PM HR | Focus/Tutoring | | | | | | |
| (3:25-3:40) | (3:05-4:00) | | | | | | |
| Focus 2 (3:40-4:00) | | | | | | | |
| (3.45-4.00) | | | | | | | |
| Diemiees | I / Huddle | | | | | | |



