

**IMPROVING INSTRUCTION METHODS THROUGH SCHEDULING AT  
GLASSBORO HIGH SCHOOL**

by

Robert J. Preston

An executive position paper submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership

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## **ABSTRACT**

This paper is based on action research to help support an initiative in a NJ suburban high school of about 600 students aiming to improve student achievement. The main problem addressed is a recent trend of low test scores. Rather than look at socio-economic factors, school leaders as well as leaders at the district level are concerned that the school's master schedule, designed around "block scheduling" principles several decades ago, has become increasingly misaligned with state standards and is a significant contributing factor to lagging achievement. Evidence suggests that instructional time is not fully maximized and there are misalignments between the school's curriculum and the recently state-mandated Partnership for Assessment Readiness for College and Careers (PARCC) test, which reflects the national Common Core State Standards. This Executive Position paper has three objectives. First, it describes the local context, master schedule and test results. Second, it presents findings from a literature review on school schedules and time use and their relationship to student outcomes. Third, it presents results from surveys and site visits to other high schools conducted as part of a district supported yearlong study. The end result is a new schedule which has the potential to optimize use of instructional time and a professional development plan to support teachers to improve instructional practice.

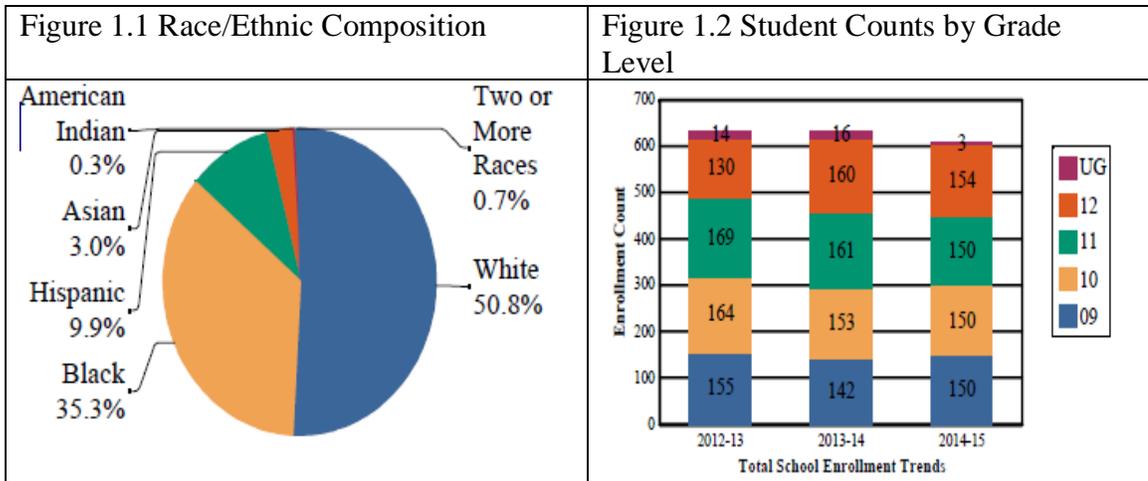
## **Chapter 1**

### **ORGANIZATIONAL CONTEXT AND PROJECT SCOPE**

This chapter presents information on the Glassboro Public School District and, more specifically, Glassboro High School. I provide a history of the school, in which I describe the demographics, test score history and other relevant data. I will outline the problem statement, in which I will discuss some of the achievement issues facing Glassboro HS after the recent introduction of the Partnership of Readiness for College and Careers (PARCC) test.

#### **The School and District**

Glassboro HS has 650 students with a diverse student body (see Figure 1 and Figure 2 below). The student body is generally representative of the town of Glassboro NJ, which is also home to Rowan University. However, there is a significant percentage of students who live in Glassboro that attend schools in neighboring districts, vocational schools, or private schools. The exact number of students who live in Glassboro but choose to attend school elsewhere is difficult to approximate because the district only tracks those students who attend vocational schools, which generally amounts to about 20 to 25 students. Enrollment sizes vary by grade, and the average student count per grade level is 150 (see Figure 1.2).



Glassboro HS uses a 4X4 Block schedule in which students take four different courses each semester. There are two semesters each year, and so students have the ability to accumulate 160 credits upon graduating (NJ mandates 120). The block schedule was introduced to Glassboro HS in the fall of 1999 amid concerns that the existing traditional 9 period schedule was a source of discipline problems. Data from Glassboro HS in the late 90s indicate that there were multiple fights weekly and that these fights happened mostly during passing times. One current teacher, who was a student during that time, told me that the schedule change was a result of the administration wanting a “culture” change, a way of minimizing opportunities for flare-ups stemming from tensions within the student body. Aside from the discipline concerns there is evidence that Glassboro HS administration in the 90s was persuaded by current literature on block scheduling. I found several copies of *Teaching in the Block* (Canaday & Rettig, 1996) with annotations and meeting minutes suggesting there was interest among staff and administration to move in the “block” direction. Needless to say, it appears that the Glassboro HS rode the same

wave of innovative scheduling that many schools did in the 90s. (I will discuss the merits of block vs. traditional scheduling, and a brief history of each, in chapter 2).

Glassboro HS has seen significant changes over the last five years, both in programs and in leadership personnel. Over the last five years, the prior principal retired and a new principal came in and led a number of organizational and program changes: the high school has become a school of choice, adding both a Fine and Performing Arts Academy and a STEM Academy. Glassboro HS has made use of a strong relationship with Rowan University that sits on the property adjacent to the school. The new principal was charged with expanding these academies and the relationship between Glassboro HS and Rowan University. Developing these academies and the relationship with Rowan University necessitated schedule modifications which affected and changed the block schedule structure at Glassboro HS. What once was a very traditional 4X4 schedule has essentially become a “modified” block. Students who take two semesters of classes at Rowan, for example, need to keep a period of time open all year. Since Glassboro HS’s semesters generally align with Rowan’s, students typically will keep the first or third block open for scheduling. Likewise, students enrolled in full year remedial math and English classes are scheduled for the full year (see Table 1.1 below).

Table 1.1 Modified Block Schedule	
Semester/Term 1	Semester/Term 2
Course 1	Course 5
Course 2	Course 6
Course 3 Full Year	Course 3 Full Year
Course 4	Course 7

About one third of the entire student body operates within the modified block, meaning students either have remedial courses or take courses at Rowan. The other two thirds operate on the traditional 4X4 block, meaning their schedules are not modified at all.

### **Problem Statement**

During the past two years, Glassboro HS has seen a decline in standardized test scores. One possible explanation for this decline is that the standardized test itself changed. The PARCC assessment is very different from the previously used test in New Jersey, the High School Proficiency Assessment. The PARCC test is aligned to the national Common Core State Standards which have raised the bar on achievement expectations for students and instructional goals for teachers (Afflerbach, Cho, & Kim, 2015; Faulkner, 2013; “Raising the bar,” 2013, June 15). Herman and Linn (2014, p. 35) write, “The new standards and the consortia assessments of those standards fully integrate content with higher-order thinking.” By most accounts, the PARCC is a more challenging test (Gewertz, 2014, Nov. 26; Herman & Linn, 2014).

Glassboro HS’s performance on the test is well below state averages and below that of other demographically similar high schools in NJ.<sup>1</sup> Tables 1.2, 1.3, and 1.4 show the distribution of 2015-2016 ELA PARCC scores for Glassboro HS against the state and consortium (cross-state) scores. The figures also depict content specific scores. Red scores indicate the percentage of students that did not meet or partially met expectations; blue scores indicate the percentage of students that approached expectations; and green scores indicate the percentage of students who met or exceeded expectations.

PERFORMANCE DISTRIBUTION BY %	NUMBER OF STUDENTS	ELA/L AVG OVERALL SCORE	AVG SCORE	LITERARY	READING* INFORMATION	VOCABULARY	AVG SCORE	WRITING* EXPRESSION	CONVENTIONS
	278,231	738	46				30		
	95,013	746	48				32		
	57	722	40				25		
	56	723	40				25		

<b>1</b> Did Not Yet Meet Expectations (650-699)	<b>2</b> Partially Met Expectations (700-724)	<b>3</b> Approached Expectations (725-749)	<b>4</b> Met Expectations (750-790)	<b>5</b> Exceeded Expectations (791-850)
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“Cross-state” refers to the group of states that participate in the PARCC assessment.

Table 1.3 PARCC Performance Distribution for Grade 10 (ELA)

<sup>1</sup> At the time of this writing, PARCC 2017 scores were not available. Appendix A shows that the pattern of low PARCC scores continued through 2017. This is not unexpected since nothing in the school’s schedule, curriculum, or professional development changed during the 2016-2017 school year. The 2016 PARCC reports available from NJ Department of Education do not show school-level results in “factor groups” – these are groups of schools with similar demographic characteristics. Thus, the comparisons reported in Chapter 1 are to statewide PARCC norms and “cross-state” (consortium) norms, which includes all the states in the PARCC consortium. The analyses in Appendix A involved downloading “csv” files from the state website and doing my own analyses. The pattern of results reported in Chapter 1, at the time of its writing, continued into 2017. The 2017 data analyses with the school level data set and with factor group identifiers allowed for comparing Glassboro HS to the other demographically similar schools. In these results, Glassboro HS still performed significantly below average.

PERFORMANCE DISTRIBUTION BY %	NUMBER OF STUDENTS	ELA/L AVG OVERALL SCORE	AVG SCORE	READING*			AVG SCORE	WRITING*	
				LITERARY	INFORMATION	VOCABULARY		EXPRESSION	CONVENTIONS
<b>CROSS-STATE</b> 	195,641	737	45				30		
24   15   20   28   12				41   19   39	43   18   39	45   14   41		45   11   44	46   11   43
<b>STATE</b> 	87,480	740	46				31		
22   14   20   30   13				39   20   41	40   19   41	43   14   43		42   10   48	42   10   48
<b>DISTRICT</b> 	94	717	37				26		
28   27   33   13   0				65   20   15	57   26   17	51   23   26		62   18   20	63   15   22
<b>GLASSBORO HIGH</b> 	94	717	37				26		
28   27   33   13   0				65   20   15	57   26   17	51   23   26		62   18   20	63   15   22

**Table 1.4 PARCC Performance Distribution for Grade 11 (ELA)**

PERFORMANCE DISTRIBUTION BY %	NUMBER OF STUDENTS	ELA/L AVG OVERALL SCORE	AVG SCORE	READING*			AVG SCORE	WRITING*	
				LITERARY	INFORMATION	VOCABULARY		EXPRESSION	CONVENTIONS
<b>CROSS-STATE</b> 	139,152	737	45				29		
19   19   24   31   8				40   21   38	39   24   38	42   20   38		41   21   37	39   21   40
<b>STATE</b> 	71,361	737	45				29		
19   18   23   31   8				40   21   38	38   24   38	42   20   38		42   20   38	39   20   41
<b>DISTRICT</b> 	42	715	37				23		
31   29   26   14   0				57   17   26	57   31   12	64   10   26		69   24   7	60   26   14
<b>GLASSBORO HIGH</b> 	42	715	37				23		
31   29   26   14   0				57   17   26	57   31   12	64   10   26		69   24   7	60   26   14

Clearly, Glassboro HS falls well below both state and consortium averages with regard to its ELA scores; even more troubling, perhaps, is the degree to which our students struggle in content specific tasks. In each table, the content tasks refer to the type of question that students answer and include literary, information and vocabulary specific tasks (or questions that fell under this particular nomenclature). For writing, students are scored on expression and conventions. Students fell below state and consortium averages in both of these areas.

Perhaps the biggest problem is that only two percent of Glassboro HS students in grades 9-11 exceeded expectations on the test. Furthermore, in grades 9-11 Glassboro HS

students fall at least 20 points below state and consortium averages. Students in 9<sup>th</sup> grade struggle most in reading literary texts, though not much worse than reading informational pieces or understanding vocabulary. In writing, students in 9<sup>th</sup> grade struggled with conventions. Students in 10<sup>th</sup> and 11<sup>th</sup> grade show similar weaknesses, though there is some variation in the percentage of scores where students fall below meeting expectations.

One reason for the poor test scores might stem from a misalignment between the timing of course coverage and when testing occurs. Students receive only three months of instruction in ELA before taking the PARCC test. The low ELA scores are one reason school leaders have raised concerns about how our master schedule with its block courses affects preparation for state testing – they are asking whether the schedule can improve the alignment between when content is covered and the schedule of state testing.

Math scores are also disappointingly low. Tables 1.5, 1.6 and 1.7 show the distribution of spring 2016 Math PARCC scores for Glassboro HS against the state and consortium (cross-state) scores.

Table 1.5 PARCC Performance Distribution for Algebra I

PERFORMANCE DISTRIBUTION BY %	NUMBER OF STUDENTS	MATH AVG OVERALL SCORE	MATHEMATICS*			
			MAJOR CONTENT	SUPPORTING CONTENT	REASONING	MODELING
CROSS-STATE 	328,029	734				
STATE 	106,125	741				
DISTRICT 	115	731				
GLASSBORO HIGH 	78	718				
GLASSBORO INTERMEDIATE 	37	757				

Table 1.6 PARCC Performance Distribution for Algebra II

PERFORMANCE DISTRIBUTION BY %	NUMBER OF STUDENTS	MATH AVG OVERALL SCORE	MATHEMATICS*			
			MAJOR CONTENT	SUPPORTING CONTENT	REASONING	MODELING
CROSS-STATE 	141,929	720				
STATE 	74,645	721				
DISTRICT 	44	728				
GLASSBORO HIGH 	19	709				
GLASSBORO INTERMEDIATE 	25	743				

Table 1.7 PARCC Performance Distribution for Geometry

PERFORMANCE DISTRIBUTION BY %	NUMBER OF STUDENTS	MATH AVG OVERALL SCORE	MATHEMATICS*			
			MAJOR CONTENT	SUPPORTING CONTENT	REASONING	MODELING
CROSS-STATE 	147,094	732				
STATE 	84,592	732				
DISTRICT 	137	723				
GLASSBORO HIGH 	137	723				

The math scores fall well below state and consortium averages, and students struggled in multiple measures of mathematics understanding. For instance, poor student performance in mathematical “modeling” was a problem in all three courses. Leaders in the district again surmise that these weaknesses might be the result of block scheduling.

**Previous Year Data (2014-2015) on NJ HSPA Test**

Prior to PARCC testing, Glassboro HS did comparatively better on state test results, the NJ High School Proficiency Assessment (HSPA). Prior to the 2015-2016 school year, students took the HSPA in language arts and math. Unlike the PARCC test, the HSPA was a criterion for graduation. Table 1.8 illustrates Glassboro HS’s performance on the HSPA during the 2014-2015 school year.

Table 1.8 HSPA Performance Distribution for Grades 9-11				
Academic Achievement Indicators	Schoolwide Performance	Peer Percentile	State Percentile	Percent of Targets Met
HSPA Language Arts Proficiency and above	91%	58	23	100%
HSPA Math Proficiency and above	80%	74	28	75%
<b>SUMMARY - Academic Achievement</b>		<b>66</b>	<b>26</b>	<b>88%</b>

Unlike PARCC, the scores are not broken down into subcategories nor are they broken down by grade. However, the scores do indicate that Glassboro HS not only met most of their targets, but also outperformed its peer group. These results differ from the PARCC test, where Glassboro HS falls below its peer group scores in both ELA and Math.

### **Potential Reasons for the Decline in Scores**

The poor performance on the PARCC test caused significant consternation among staff, school leaders, and members of the community. Parents were worried that if passing the PARCC assessment eventually became a graduation requirement their children would have difficulty graduating. This prompted school leaders to meet to review the test scores and discuss reasons for the score decline from the HSPA test to the PARCC test.

#### **The Decline was a Result of Differences in the Two Assessments**

Leaders contended that the HSPA might not have been an accurate measure of the literacy and mathematical proficiencies that the PARCC measures, and so recent success on the HSPA was perhaps not a true portrait of student achievement at Glassboro HS. Leaders suggested that the PARCC test exposed some curriculum and instruction shortcomings. Leaders pointed to the fact that the PARCC test placed a higher emphasis on critical thinking skills in both literacy and math, often asking students to not only answer a question correctly, but to provide justification for those responses.

#### **The Decline Was a Result of the HS Block Schedule**

Both school leaders and teachers pointed to a key distinction between the HSPA and the PARCC – the HSPA was administered only once a year, in March, giving teachers both semesters to prepare students for the test. The PARCC, on the other hand,

was given to students during the semester in which they were enrolled in the course for which they would take the PARCC test. A student who had math in the fall and English in the spring would sit twice for the PARCC test, once in the fall and once in the spring; a student enrolled in both math and English in the fall would only sit once. This led leaders to speculate that students who had to sit in the fall, after receiving only roughly 12 weeks (the PARCC test is given 12 weeks into the semester, both fall and spring). of instruction, would do even poorer than students who would take the test in the spring. Moreover, leaders highlighted the fact that even when students were able to sit for both tests in the spring, they would still only have 12 weeks of seat time in their math or English class before taking this test. On the contrary, the HSPA exam was given during the first week of March, allowing administrators to schedule most students' math and English classes during the first semester, which would run from September until the first week of February. Teachers contended that students would be able to receive a full course of instruction before taking the test and furthermore there would be added time before the test for teacher to hold review sessions with students.

### **The Decline Was a Result of Teacher Pedagogy Within the Block**

Most literature on teaching in the block points to the idea that teachers must be have a lot of training and support to teach effectively in a block schedule system. This is because 80 or 90-minute class sessions are demanding in terms of lesson preparation and increase the burden on the teacher to manage classroom discipline and create lessons that are engaging, sustain attention, and academically effective. Canaday and Rettig (1994) point to the fact that in a typical block classroom, teachers must pay particular attention

to the use of time, adding that each block must consist of some transferal of knowledge from teacher to student and the opportunity for students to apply and then ultimately synthesize that material. These phases, referred to as “explanation, application, and synthesis” are critical for block to be effective; what expressly cannot happen in the block is for students to sit passively and listen to lecture, or begin homework during the second half of the block. At Glassboro HS the administration has observed that many teachers over the last several years are misusing the last 20-30 minutes of the block period; some evidence indicates that some, perhaps many, teachers use the last portion of the class to let students begin their homework or, much more troubling, let students listen to music or socialize. There is some disagreement among staff about how widespread or frequent these dysfunctional practices are. Those opposed to moving back to a traditional schedule lament that during a 40 or 50-minute period, there is less opportunity for teachers and students to engage academic content in any significant depth. Still, administrators have reason to suspect that in the current block system there is not a lot of effective instruction taking place given the low results on the PARCC test, which, more so than the HSPA test, assesses student academic skills and content understanding in greater depth.

### **Project Goals**

The Glassboro administration has not reevaluated the efficacy of block scheduling since introducing it in 1999. The goal of this project is to study our current situation and produce recommendations about whether to maintain or change our master schedule and, if changes are warranted, what those changes should be. The charge for the committee I

am leading, called the High School Scheduling Committee, is as follows: “The mission of the HSSC is to review the efficacy of the high school schedule and explore ways to enhance the educational experience of our students. We are committed to student achievement and to making our educational programs both rigorous and beneficial for our students.” To that end, I will explore literature on block scheduling and literature on the degree to which time use has an effect on educational and achievement outcomes. I will also conduct surveys and interviews through which I will determine both student, parent, and staff member attitudes toward the current block schedule. I will review in further depth institutional data, including standardized test scores of Glassboro HS and cohort scores of schools similar to Glassboro HS. I will take site visits to other high schools employing block and modified block schedules, record anecdotal data from those visits, and report on my findings. Lastly, I will discuss the findings and make several scheduling proposals on which the board of education may choose to take action.

The ultimate aim of the committee, and naturally the aim of my EPP, is to provide school and district level recommendations that can help Glassboro improve student achievement through exploring changes to block scheduling. I’ve included a logic model (see Appendix B) that outlines the goals of the committee.

## **Chapter 2**

### **WAYS OF SCHEDULING HIGH SCHOOL CURRICULUM**

This chapter reviews literature on high school curriculum scheduling. I provide a historical background on the conventional 7-period schedule and then discuss the widely used alternative scheduling model – block scheduling. In the section on block scheduling I describe the theory behind block scheduling and describe different models. The section after this presents research on block scheduling. This chapter concludes with a description of the block scheduling approach used at Glassboro HS and other relevant features of the Glassboro HS curriculum program. In this last section I discuss concerns we have about our implementation of block scheduling – concerns giving impetus to this EPP’s study.

#### **The “Conventional” 7-Period Schedule**

I refer to the 7-period schedule as “conventional” because it has been the standard for American high schools since at least the 1940s (The National Education Commission on Time and Learning, 1994). The origins of this schedule date back to the beginning of the 20<sup>th</sup> century. At that time, high school preparation was ill defined and there was no uniform standard for high school graduation. Andrew Carnegie, decrying the problems of America’s system of higher education, sought to more clearly define what was expected of students in higher education and, consequently, how students should prepare for college in high school. After creating the Carnegie Foundation for the Advancement of Teaching, Carnegie donated \$10 million to the Foundation’s trustees. In its first annual report, the Foundation eventually would define a college as an institution with “at least

six professors giving their entire time to college and university work, a course of four full years in liberal arts and sciences, and should require for admission, not less than the usual four years of academic or high school preparation, or its equivalent” (Silva, White & Toch, 2015, p. 7).

Table 2.1 Conventional 7-Period Schedule

Period 1	7:30	8:22
Period 2	8:26	9:17
Period 3	9:21	10:12
Period 4	10:16	11:07
Period 5	11:11	12:41
<i>Lunch A</i>	11:11	11:41
<i>Lunch B</i>	11:41	12:11
<i>Lunch C</i>	12:11	12:41
Period 6	12:44	1:35
Period 7	1:39	2:30

From there, the trustees wanted to establish standards for secondary schools, and so they turned to the New York State Board of Regents that had previously established guidelines for high school graduation. The trustees worked to develop college entrance requirements and eventually settled on the Carnegie Unit. The Carnegie Unit is defined as “120 hours of contact time with an instructor, which translates into one hour of instruction on a particular subject per day, five days a week, for 24 weeks annually” (Silva, White & Toch, 2015, p. 8). Today, public high schools award credit based on this 120-hour standard, and each state defines how many total credits a student must

accumulate in order to graduate. States calculate the value of credits with varying multipliers. In NJ, for instance, one course constitutes five credits and a student must have 120 credits in order to graduate. In Pennsylvania, a student receives one credit, expressed as a Carnegie Unit, and must receive 23.5 in order to graduate. While these two states assign credit to courses with different multipliers, they both agree that a student must take and earn a passing grade in at least six courses per year.

The aforementioned 7-period schedule was likely born out of these standards. The 7-period schedule allows students to accumulate enough credits within four years to graduate while also accumulating credits in other elective courses that usually are not graduation requirements (e.g., typewriting, weaving, software applications, or other electives). Figure 2.1 illustrates a typical 7-period schedule, where classes consist of roughly 50-60 minute periods and include a 30-minute lunch. These classes are year-round and meet every day and in the typical public high school and include four distinct marking periods, at the end of which students receive report cards on their progress.

### **What Led to Block Scheduling?**

The genesis of block scheduling is difficult to pinpoint, but research into the effective use of instructional time was a key concern expressed in *A Nation at Risk* (National Commission on Excellence in Education, 1984). Other high-profile criticisms of high schools, including a report by the National Commission on Time and Learning in 1994 (The National Education Commission on Time and Learning, 1994) zeroed in on the effectiveness of instructional time usage during the school day. High school reformers criticized many aspects of the traditional schedule, including its inflexibility with regard

to the use of time. Among other criticisms, reformers who proposed changes to the traditional schedule argued that much of the academic day was spent on non-academic activities (Justiz, 1984) and were concerned at just how effectively classroom time was being used. In response to these concerns, the concept of “block scheduling” emerged, this term labeling a variety of restructuring reforms aimed at increasing the effective use of instructional time (Cawelti, 1994).

Canady and Rettig (1996) point to several instructional criticisms of the traditional schedule. First, often in the traditional 7-period schedule, instruction is “fragmented”; students in a seven-period day are exposed to “seven...pieces of unconnected curriculum each day” and “rarely, if ever, have time to study anything in depth.” Second, is the concern that teachers who teach in a seven-period schedule may see as many as 180 students a day and are faced with the challenge of meeting both their academic and socioemotional needs, often producing a “factory-like environment” for students. Lastly, the single-period schedule limits the type of instruction being done by teachers:

One of the major revelations of the 1990s has been that when “boiled down,” the actual amount of instructional time available in a traditionally scheduled school day is alarmingly brief (National Education Commission on Time and Learning, 1994). Because of the time lost to class openings, closings, interruptions, and various non-instructional activities, the actual class time available for instruction is far less than the allotted period.

Consequently, teachers faced with limited time often feel pressed, at the

very least, to EXPOSE children to curriculum. This exposure is most often accomplished by lecturing, which may be one of the least effective teaching methods used in schools today, especially for students who are not highly motivated (p. 4).

Such criticism of the traditional schedule led high school reformers to identify ways that time could be used more efficiently to maximize students' opportunity to learn.

Researchers looked to block scheduling as a remedy for the instructional shortfalls of the 7-period schedule.

### **Different Variations of the Block Schedule**

There are a number of different theoretical rationales supporting block scheduling. The primary theory behind block scheduling is that organizing the day into fewer but longer class periods increases the amount of time in the school day for instruction (LAB at Brown University, 1998). The theoretical advantages include (a) increases in student achievement levels and GPAs; (b) a greater ability for inquiry based and in-depth content studies; and (c) the ability for teachers to develop stronger relationships with students (LAB at Brown University, 1998). Further, researchers looked at what block scheduling could do for high school students. Zepeda and Mayers (2006) emphasize that reformers believed block scheduling could accomplish "including more 'hard subjects' in the curriculum, increasing graduation requirements, implementing more rigorous standards, reorganizing the day through alternate schedules, and promoting

smaller learning communities” (p. 140). Canady and Rettig (1996) went further, and pointed to specific advantages of block schedules, including their ability to:

- Reduce the number of classes students must attend and prepare for each day and/or each term.
- Allow students variable amounts of time for learning, without lowering standards, and without punishing those who need more or less time to learn.
- Increase opportunities for some students to be accelerated.
- Reduce the number of students teachers must prepare for and interact with each day and/or each term.
- Reduce the number of courses for which teachers must prepare each day and/or term.
- Reduce the fragmentation inherent in single-period schedules, a criticism that is especially pertinent to classes requiring extensive practice and/or laboratory work.
- Provide teachers with blocks of teaching time that allow and encourage the use of active teaching strategies and greater student involvement.
- Reduce the number of class changes. (p. 6)

Queen (2000) wrote from his professional experience and research about schools that in the 1990s had switched to block scheduling. As a block scheduling author and consultant, he was a proponent, but also concerned about many schools jumping on the block scheduling bandwagon, lacking an understanding and fidelity of implementation to its literature-based principles – such practices as cooperative learning, the case method, the Socratic seminar, Synectics, concept attainment, the inquiry method, and simulations (Queen, 2009). His perspective was positive, but with qualifications.

Most high schools that adopted the block schedule have enhanced the academic environment by increasing the number of courses that a student can complete in a four-year period. In the process educators have increased graduation rates, lowered discipline referrals, and improved drop-out rates. Moreover, since most students under a block schedule are limited to three or four courses per semester, far greater immersion in each subject is possible. Less time is spent in class changes. At the same time, improved school climate results in a more relaxed atmosphere, with greater student/teacher rapport. In many cases, the schedule change has become a tool for curriculum (pp. 215-216).

At the same time, Queen expressed misgivings about many schools switching to block scheduling, but without sufficient commitment from leadership and without support and training for teachers, resulting in little more than a schedule change, but no significant differences in instruction and student learning. Indeed, as some studies have found, if teachers teach ineffectively in longer class sessions, learning outcomes may be

worse. “A growing percentage of teachers,” Queen observed (p.214), “do not follow pacing guides. And those same teachers tend to use lecture and teacher-directed discussion extensively and to limit the 90-minute class to approximately 60 minutes of actual instruction. Such problems have been exacerbated both by poor monitoring of teachers who are failing to implement the block model and by a grave lack of training for teachers new to the field and the model.”

That block scheduling lengthens class sessions and reduces the number of daily class changes is not in dispute. What is less clear is whether this schedule change necessarily increases the daily amount of *effectively used* instructional time, which is essential to raise student achievement according to research and theory as far back as Carrolls’ seminal paper (1963), “A model of school learning.” This question is at the core of the debates and the research on block scheduling. While all block schedules organize the day into fewer and longer class periods, there are different types of block schedules and differing rationales for each model. Below, I have identified four block scheduling models that are commonly used in secondary schools. The following subsections examine the benefits of each model.

### **The 4X4 Model**

This model divides the school day into four, 90 minute blocks (though these blocks may be as short as 80 minutes in some schools to accommodate lunch schedules). Students enroll in four classes in the fall and four in the spring, though some schools offer year-round classes in either Advanced Placement courses or remedial math and

English courses. This schedule allows students to concentrate more fully on fewer classes. Additionally, students who fail a course may retake it in the spring semester, eliminating the stress of passing a course or attending summer school. Moreover, students may accelerate through required courses, freeing up their schedules for their junior and senior years. A student who takes Algebra 1, for instance, in the first semester of their freshman year may then take Algebra 2 in the spring semester of that same year. Teachers can benefit by having to prepare for fewer classes, see fewer students, and have longer planning times (most teachers receive a period-long “prep” period, which in the block is a substantial amount of time).

Table 2.2 The 4X4 Model

4X4	
FALL	SPRING
Course 1	Course 5
Course 2	Course 6
Course 3	Course 7
Course 4	Course 8

## A/B Block

The A/B model, sometimes referred to as alternate day, organizes each day into four 90 minute blocks. Unlike the 4X4 plan, the A/B model does not have a fall and spring term. Instead, students enroll in eight yearlong courses, which meet consecutively over two days – students

Table 2.3 The A/B Block Schedule

A/B Block					
Monday A-Day	Tuesday B-Day	Wednesday A-Day	Thursday B-Day	Friday A-Day	Monday B-Day
Course 1	Course 2	Course 1	Course 2	Course 1	Course 2
Course 3	Course 4	Course 3	Course 4	Course 3	Course 4
Course 5	Course 6	Course 5	Course 6	Course 5	Course 6
Course 7	Course 8	Course 7	Course 8	Course 7	Course 8

would thus alternate between “A” day classes and “B” day classes. The chief advantage of alternating between classes (which meet every two days) is that students have additional time to complete homework assignments, to prepare for quizzes and tests, and to read in between classes.

## The Copernican Model

The Copernican model derives its name from Nicolaus Copernicus, the famous astronomer who provided a new perspective on the orientation of the universe. The Copernican schedule likewise proposes a new perspective on the rigid scheduling practices of American public high schools. Carroll (1989) explains that the plan aims to provide a better school environment that maximizes instructional time:

*The Copernican Plan* proposes that each student enroll in only one, four-hour class each day for a period of 30 days. Each student enrolls in six of

these classes each year, which fulfills the required 180 school days...the Copernican Plan’s increased efficiency frees up a block of time that allows the Copernican high school to offer seminars that integrate knowledge across traditional disciplines (p. 25).

The Copernican model employs a type of “macroschedule” that allows even greater length and depth of study on a particular subject. Like the two-other block schedules, the Copernican model lightens students’ academic loads and provides teachers the opportunity to work with a smaller group of students. Students have more time to concentrate on the two “major” classes in which they are enrolled (LAB at Brown University, 1998).

Table 2.4 The Copernican Model

Copernican			
Time	Trimester 1 (60 days)	Trimester 2 (60 days)	Trimester 3 (60 days)
Morning	Course 1	Course 3	Course 5
	Course 2	Course 4	Course 6
	Lunch		
Afternoon	Seminars of interest		
	Electives /	Music /	Phys. Ed. / AP

**75-75-30**

This schedule organizes the academic year into three terms – fall, winter and spring. The fall and winter terms are both 75 days, and the spring term lasts just 30 days,

allows students to take an additional course or receive remediation in another. Many schools use the time to have students complete research projects or community outreach. One variation of this schedule includes interposing the fall and spring terms with the 30-day shorter term (75-30-75) thereby allowing students to receive extra enrichment on the courses taken in the fall. Another variation is to split the shorter term into two 15-day terms (75-15-75-15) which in theory would give enrichment to courses taken in both the fall and spring terms.

75-75-30		
Fall Term (75 days)	Winter Term (75 days)	Spring Term (30 days)
Course 1	Course 4	Enrichment, extra work, or a new course
Course 2	Course 5	
Course 3	Course 6	

### The Wheel

Maybe the most complicated of all the schedules, the wheel model diverges from other block schedules in that students take year-long courses, but each course may meet as little as twice a week. These schedules differ from the block in that the courses are not nearly as long, generally between 50 and 60 minutes, but provide the same kind of alternating schedule as an A/B block model. These models also generally include a “skinny” a period of time in which students participate in various activities, including

lunch, receiving remediation from teachers, or participating in various clubs. In the model below, which is simply a variant of a Wheel schedule, students enroll in six core courses, then participate in two skinnies.

Figure 2.1 Hybrid Scheduling (Wheel) Model

S.M.A.R.T. SCHEDULE						
Time	Duration	Day A	Day B	Day C	Day D	
7:15	Minutes	Student/Teacher Arrival				
First Bell	7:24 8:21	57	1	4	3	2
Second Bell	8:25 9:22	57	2	1	4	3
Third Bell	9:26 10:23	57	3	2	1	4
Fourth Bell	10:23 10:51	28	S.M.A.R.T. PERIOD (L1/E1)			
Fifth Bell	10:51 11:19	28	S.M.A.R.T. PERIOD (L2/E2)			
Sixth Bell	11:19 12:16	57	6	9	8	7
Seventh Bell	12:20 1:17	57	7	6	9	8
Eighth Bell	1:21 2:18	57	8	7	6	9
2:18 2:30	Student Dismissal Teacher Dismissal					
Drop	A.M. Wheel P.M. Wheel	Period 4 Period 9	Period 3 Period 8	Period 2 Period 7	Period 1 Period 6	

### Block Scheduling as Implemented: Shortfalls from the Model

Block scheduling in theory and “as implemented” are two different things. Drawing on anecdotal information (my personal experience and observations from colleagues) and from published literature, here are ways block scheduling in practice falls short of its theoretical model.

Some recent research reevaluates the efficacy of block scheduling, and the findings raise concerns. First, Nichols (2005, p. 300) found that in the theory and

advocacy for block scheduling, “quantitative data is seldom offered to support many of these anecdotal and theoretical positions.” His study, examines student achievement in English Language Arts in five high schools in urban areas for several years before and after the schools converted to either a Block 4 X 4 or Block 8 scheduling. He found “little evidence to support the hypothesis that conversion to block scheduling formats would significantly affect student achievement [in ELA]” (p. 299).

Rice, Croninger, and Roellke (2002) use national student achievement data (NELS: 88) to estimate the impact of block-scheduled mathematics courses on tenth-grade student achievement and teachers’ use of class time. They find teacher report using multiple instructional methods and individualized instruction, but that “this scheduling reform has a negative impact on students’ tenth-grade mathematics scores, controlling for other factors” (p. 599).

Lawrence and McPherson (2000) compared achievement results from two high schools in the same school district in the Southeastern region of North Carolina. The used results from four North Carolina End of Course tests (Algebra 1, Biology, English 1, and U. S. History) required of all students who graduate with a diploma. Using T-tests to do their comparisons, they found that students on the traditional schedule scored significantly higher on the Algebra 1, Biology, English I and U. S. History tests than students on the block schedule.

One study of a Georgia high school found a slight achievement deficit associated with the implementation of block scheduling. The authors compared the scores of a 1997

cohort of students, the last cohort under traditional scheduling, to a cohort four years later after the school implement block scheduling. While they found no statistically significant difference in grade point averages or in scores on the Writing portion of the GHSGT (high school graduation test) between the two groups, they did find statistically significant differences and moderate effect sizes in math, social studies, and science. For each of the statistically significant differences, students who received instruction via a traditional schedule received the higher GHSGT scores.

These studies are not conclusive but certainly raise questions about whether block scheduling produces academic gains as measured by standardized achievement assessments. Indeed, the results seem to find support for traditional scheduling. Huelskamp reports his results from a 2014 literature review focused on a handful of studies examining on longer-term effects of block scheduling. He notes that there are few good quantitative studies on achievement outcomes of block scheduling (short term or long term) and that evidence is mostly mixed. He finds that among the studies he examined of short term effects (studies examining student outcomes while the students were still in high school) the results of the studies are not conclusive enough “to justify creating block scheduling guidelines.” He found a few studies indicated a small positive effect in English language arts, but concerning the preponderance of evidence in science and math: “Numerous researchers found that there was little improvement and even possibly a slight negative effect among courses that require regular re-teaching of skills or concepts” (p.122). Seeking out studies of longer-term effects, Huelskamp (p. 122) writes,

After an exhaustive search of the literature, the author was only able to discover four studies that looked directly at whether or not students enrolled in introductory college courses who had been in schools with block scheduling models performed better than their peers in the same classes who went to schools with traditional scheduling. These four studies were all conducted in science and math classes.

Huelskamp's (2014) review summarizes each of the four studies methods and findings. None of the studies found student outcomes at the college level to be better for students who, back in high school, were matriculated in schools with block scheduling. He writes:

The general consensus of these four studies is that in the scientific and mathematics realm, at least, there is little evidence to conclude that block scheduling has any positive long-term effect (Dexter, Tai, & Sadler, 2006; Huelskamp, 2014; Maltese et al, 2007; Zelkowski, 2010).

Huelskamp goes on, in his review, to stress that while superior results from block scheduling are frequently not found, when they are it may be because there is fidelity to the prescribed forms of curriculum and instruction that are specifically part of the block scheduling model. He writes, "It is important to note that three of the studies specifically discuss the possibility that the issue with block scheduling being theoretically superior yet in practice inferior may have more to do with pedagogical limitations and teaching practices (Dexter, Tai, & Sadler, 2006; Maltese et al, 2007; Zelkowski, 2010) than with any inherent flaw in the Block scheduling idea. Huelskamp (p. 10) cites Zelkowski

(2010) who writes that, ‘the research community is confused by the mixed findings of block scheduling’ and that Zelkowski observed little difference in teaching styles and practices between the two scheduling approaches in sites he visited. Huelskamp concludes that a key missing factor in successful implementation of block scheduling is professional development.

Other research raises concerns about possible adverse effects on instruction from block scheduling, which is ironic because much of the rationale for block scheduling hinges on the theory that it should improve instruction. Studies have shown that teachers are often not trained well or equipped with the proper pedagogical resources to teach effectively in a block schedule, often relying on the same instructional practices that teachers in a traditional period use (Zelkowski, 2010). As a result, the potential advantage of a longer class period for greater depth in student discussions or engaging in extended in-class learning activities apparent does not often materialize in practice, and for a variety of reasons: these may include classroom management and discipline issues that arise with these types of pedagogies; the fact that many students – these are young teenagers, after all – have a hard time staying focused and academically engaged for an 80 minute class period; and that not all teachers have the time, expertise, or willingness for the more complex instructional planning and classroom management that the theory of block scheduling assumes.

Block scheduling may also contribute to a loss of content retention as a result of students not being continuously enrolled in a course for an entire year. This can have at least one adverse outcome of great concern to teachers, administrators, and parents:

misalignment with state testing. If a state test taken in May assesses content that students have not covered during the spring semester – content last covered the prior fall semester – those students will not do as well as they would have if the content were recently covered. This is a curriculum-assessment misalignment that block scheduling can create (and that we have to investigate in our school).

While there is limited evaluation research on block scheduling,<sup>2</sup> a particularly informative study is a 2006 meta-analysis (Zepeda & Mayers, 2006). Their meta-analysis concludes that “block scheduling research reveals a rather shallow literature” and that “generalizations about the effects of block scheduling are problematic at best.” (p. 159) Their literature review supports two generalizations about block scheduling. First, they found that teachers and students both liked block scheduling, but also indicated they could not conclusively say *why* they liked it better. One explanation might be that the block schedule fosters stronger relationships between teachers and students, and thus might lead to better grades (Zepeda & Mayers, 2006). The second generalization is that in the block scheduling model, student grades and grade point averages increased. However, like the first generalization, they couldn’t conclusively say *why* based on the existing research. “One possible explanation is that because less content was covered (and there is some support for this claim), there was less to remember for tests.” Still, it is difficult to

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<sup>2</sup> As evidence of this, the “What Works Clearinghouse,” has no review of studies on block scheduling and its relationship to student achievement. The WWC<sup>1</sup> is the U.S. Department of Education’s an enormous, organized, and searchable archive of high quality research studies on many dozens of topics of interest to teachers, administrator, and education researchers. While there are research studies that have examined block scheduling, none have been of the methodological quality required to be added to the WWC archive. See: [<https://ies.ed.gov/ncee/wwc/>]

say conclusively that block scheduling solves some of the aforementioned issues with the 7-period schedule. One thing that researchers agree on is that what happens in time is more important than time itself.

### **Glassboro High School's Program**

Glassboro HS shifted to block scheduling about twenty years ago. We employ a 4X4 block schedule (see Table 1.1 below) in which students take four different courses each semester. There are two semesters each year, and so students can accumulate 160 credits upon graduating (NJ mandates 120). Students take advantage of what the block schedule offers – students often accelerate through math, completing state requirements by their sophomore year, freeing up space for electives during their junior and senior years. Many still take advantage of the schedule's flexibility, and when they fail a course or a standardized exam, they enroll in either the same course or a course that helps remediate their deficiencies.

Our schedule is modified slightly for students who enroll in certain electives, including AP classes (AP Bio and Statistics are year-round courses) and music (both Orchestra and Band are yearlong courses – students enrolled in both use the alternate day schedule).

We offer several Academy programs with Rowan University, where students can take advantage of dual-enrollment and earn college credits for an array of courses. Our two semesters allow the relationship with Rowan University to work – our bell schedule roughly aligns with the university schedule of courses, allowing students to miss no more than one block should they enroll in a course at Rowan.

The block schedule was implemented 20 years ago primarily as an attempt to decrease the number of discipline infractions. At the time Glassboro HS leadership believed that decreasing student time spent in the hallways between class changes would decrease the number of incidents. Based on anecdotal evidence and reports to the superintendent directly after the schedule was implemented, both the incidence of administrative detention and in and out of school suspension rates declined sharply.

Table 2.6 Regular Bell Schedule
<b>Regular Bell Schedule</b>
7:00-7:45am Teacher/Student Arrival/Breakfast
7:50-8:04am SSR
8:04-9:25am Block 1
9:25-9:28am Homeroom
9:31-10:52am Block 2
10:52-11:37am Bulldog Block
11:40-1:01pm Block 3
1:04-2:25pm Block 4

## **Chapter 3**

### **ANALYSIS OF RESULTS FROM TEACHER AND STUDENT SURVEYS**

#### **The Glassboro HS Scheduling Committee Surveys:**

##### **Purpose and Methods**

The Glassboro HS scheduling committee, comprised of both teachers and administrators, developed surveys for both teachers and students of Glassboro HS. The surveys were administered as part of the district's study to get information to help guide curriculum and scheduling planning. Results have been made publicly available at a school board meeting and to all Glassboro HS staff. In this chapter I summarize key results from the teacher and student surveys on perceptions and beliefs about block scheduling and traditional scheduling (see Appendix C and D for surveys). I report the survey findings in tables showing results as "frequencies" (percentages) since this approach, as opposed to summarizing results as means, provides more detailed and specific information on the central tendencies and distribution of responses for each item. I provide one set of comparisons where I use means, comparing responses on each item (means) among groups of teachers by subject area. I also provide a qualitative analysis of the text-response items from each of the surveys.

The teacher survey was constructed using a Likert scale in which teachers were asked to agree or disagree with statements about block scheduling, and the way that it contributes to Glassboro HS's instructional and operational programs. The committee's

main goal was to see if teachers believed that block scheduling helped them achieve better student learning outcomes; thus, many of the questions ask about whether the longer periods were preferred and whether they thought longer periods were better for student learning.

The teachers answering the survey – only 16% did not respond to the survey – have almost all been at Glassboro HS a long time. Therefore, most have taught under both the traditional 8-period schedule formerly used at Glassboro HS and the block schedule; among those teachers newer to Glassboro HS, some of these teachers we assume have either taught before under a traditional schedule so they have a comparative perspective. Glassboro HS only has a few teachers right out of college who have only taught here and only under the block schedule. The survey did not ask teachers how long they have been at Glassboro HS because we wanted to assure confidentiality, but did ask about their subject area. (If teachers were also asked about their years of experience, these two variables in combination would make it possible to identify individuals). Therefore, given the importance of assuring anonymity the survey did not ask questions that could raise concerns among respondents about the possibility of being identified

The teacher survey was administered online using the online survey platform Qualtrics. Teachers received a secure link to the survey and were permitted to answer the survey only once. Teachers took the survey anonymously.

In constructing the student survey, we wanted to learn what it was about the block schedule that students found most appealing. We wanted the survey to be brief and for it to be relevant to students. The survey contained five items and asked for judgments on

several features of the block schedule, including whether they preferred fewer but longer class periods or a schedule with more classes with shorter periods and whether longer class periods might help them study subject matter in more depth during class time. There was also an item on whether the long lunch period was potentially a source of discipline problems. Students were asked to respond by indicating “yes”, “no” and “maybe” on all but one question.

In designing the student survey we were cognizant of the fact that our students responding to the survey have never been exposed to the traditional 7 or 8-period schedule. Thus, their responses are opinions based on their contemplating a hypothetical alternative to the current block schedule. This is a limitation to some degree, but nonetheless, we wanted to learn about their perceptions.

The student survey was also administered online using the platform Qualtrics. Students were sent a secure link to the survey and were permitted to answer the survey once. Students took the survey anonymously.

### **Analysis of Student Survey Results**

Two hundred twenty students responded to the survey, about one third of the student population.<sup>3</sup> The main finding is that students liked the current schedule. This result is not surprising, since most of the research indicated that students generally had a favorable opinion of the 4X4 block schedule. After all, it reduces student workload considerably, from having to take 7 or 8 classes every semester to just 4.

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<sup>3</sup> This 33% response rate presents the possibility of bias in results if students more favorable to block scheduling were also more likely to respond to the survey.

More specifically, the survey (Table 3.1) asked students if they'd rather have shorter classes, whether or not they feel they would learn more in a school day that covered more (seven) subjects and whether or not they felt that they would be able to focus better when the period length was decreased (from 80 minutes to 50 minutes). We included two questions that were relevant to students on unit lunch, a 45-minute lunch period in which students are able to eat anywhere in the school and at which students are able to meet with clubs or seek remedial help in difficult subjects. The latter questions that target unit lunch were asked because a) unit lunch was a new addition to the schedule and b) some felt that the unit lunch was contributing to a decline in school climate, which some speculated might have been a variable in exacerbating poor test scores.

Only seven percent of students responded that they would rather have shorter class periods. Many commented on why shorter class periods might be detrimental in an open-ended question on the survey; I discuss these comments later on in this chapter. While they didn't like the idea of shorter class periods, a larger percentage, 25, said that shorter class periods would help them maintain more focus, which indicates that while they wouldn't rather have more class periods, they did believe they would be able to focus if class periods were shorter than 80 minutes (this was a chief concern of the committee, whose members argued that students shut down after about 50 minutes of instruction during the block). Students responses on the second item of the survey were consistent with their other answers; they didn't feel that they'd learn more in a day of seven class periods, lending credibility to some of the research which indicates that block allows for more in-depth study of subject matter.

Students felt that the unit lunch was also a positive addition to the current block schedule to the surprise of many on the committee. The longer lunch period, when it was created as part of the block schedule, was intended to create a larger block of time allowing students to study after eating. Students’ survey responses generally support this – they felt that most of their peers were using the unit lunch for this purpose. Eighty-five percent of students agreed that “most students use this time as it was intended.”

Table 3.1 Glassboro HS Student Survey: Item Results (Frequencies, Means, SD*)								
		Yes	No	Not Sure	Mean	SD		
There are different ways high schools organize their course schedules. Some high schools have classes about 50 minutes long, with seven class periods a day. Glassboro HS has what is called “block scheduling” – four 80 minute periods each day. Would you rather have seven 50 minute periods every day?		7%	80%	13%	2.7	0.7		
In our current schedule, class lasts for an hour and 20 minutes. In a different kind of schedule, classes would last approximately 50 minutes. Do you think you would learn more overall with a school day that covered more subjects, but each one for a shorter period (50 minutes)?		9%	78%	13%	2.6	0.7		
Do you think a shorter class period would help you maintain focus?		25%	58%	18%	2.3	0.8		
In our current schedule, we have a 45 minute unit lunch. Do you think most students use this time as it was intended – catching up on work, receiving extra help, attending club sessions?		85%	6%	8%	1.2	0.5		
Scale at right is “days per month”	>10	7-10	4-6	1-3	None	Mean	SD	
During the unit lunch period, about how many days per month do you usually spend either studying or doing extra-curricular (club) work?	40%	22%	22%	10%	6%	2.2	1.2	
*SD – Standard Deviation								

## Analysis of Teacher Survey Results

The teacher survey asked teachers to report their views on block scheduling as it relates to teacher and student workload, programming (e.g. scheduling standardized tests, block schedule impact on discipline), and effects on instruction and student learning. Eighty-six percent of the teachers (46 of 55 teachers) responded. This high response rate is likely due to the teachers believing in the importance of expressing their views on the topics in the survey and knowing that there were impending decisions about possible revisions to the master schedule.<sup>4</sup> At the end of the survey, teachers were asked an open-ended question to provide their thoughts on a potential schedule change. I will discuss these responses after reporting the results on the scale-based items shown the Table 3.2. The table shows both the frequencies by each of the five Likert scale points (SA, A, NS, D, SD); the table also shows the responses collapsed into categories of SA or A, “Not Sure,” and D or SD. This makes it easier to compare the “agrees” to the “disagrees” on each of the items.

On the main question of whether or not Glassboro HS should seek an alternative to block scheduling (item #12), 35% agreed or strongly agreed, 16% were not sure, and 49% disagreed or strongly disagreed. Thus, close to half of the teachers do not want to change the schedule, more than a third do, with the rest unsure.

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<sup>4</sup> Other staff surveys on topics of lower priority to teachers have had much lower response rates.

Survey Item		SA + A	SA	A	Not Sure	D	SD	D + SD
1	Block scheduling improves student learning outcomes	<b>61</b>	35	26	<b>15</b>	13	11	<b>24</b>
2	Longer lasting periods make it challenging to sustain student interest for the entire duration of class	<b>50</b>	22	28	<b>2</b>	22	26	<b>48</b>
3	Block scheduling reduces student workload	<b>57</b>	33	24	<b>15</b>	24	4	<b>28</b>
4	Block scheduling contributes to loss of content retention in students	<b>26</b>	7	19	<b>22</b>	37	15	<b>52</b>
5	Unit lunch is an integral part of our students' experience	<b>39</b>	22	17	<b>17</b>	20	24	<b>44</b>
6	Block scheduling allows for deeper content studies	<b>74</b>	39	35	<b>4</b>	15	7	<b>22</b>
7	Block scheduling is conducive to our academies and AP courses	<b>62</b>	45	17	<b>24</b>	7	7	<b>14</b>
8	Block scheduling allows for more student-centered, inquiry-based and/or project based learning	<b>80</b>	43	37	<b>7</b>	13	0	<b>13</b>
9	Block scheduling reduces discipline infractions	<b>43</b>	28	15	<b>33</b>	13	11	<b>24</b>
10	Block scheduling reduces teacher workload	<b>40</b>	20	20	<b>6</b>	35	19	<b>54</b>
11	Block scheduling makes the administration of standardized tests easier	<b>37</b>	20	17	<b>33</b>	13	17	<b>30</b>
12	Glassboro HS should seek an alternative to block scheduling	<b>35</b>	16	19	<b>16</b>	16	33	<b>49</b>

## **Statements Related to Student Learning**

Of the five statements related to student learning (1, 2, 4, 6, 8) teachers generally believed that block scheduling produced better outcomes for student learning. Asked whether block scheduling improves student learning outcomes, 61 percent of teachers believed it did, compared to 24 percent who disagreed. Likewise, when asked if block scheduling contributed to a loss of content retention, only 26 percent believed it did, compared to 52 percent who did not. It was interesting that 22 percent of teachers were not sure if the block schedule contributed to loss of content retention. The reason for the question is that the literature often raises the issue of block scheduling hurting content retention given the length of time that can elapse between courses on the same subject. Students may go for two or more semesters, in some cases almost 18 months, in between two same-subject courses. For instance, in the 4X4 block, students may complete Algebra 1 during their first semester of freshman year and not sit for Algebra II until second semester sophomore year, constituting a gap of about 18 months between instruction. Thus, it is reasonable to consider whether this gap undercuts retention of needed content knowledge between courses. Just a bit over half of the teachers do not see this as a concern.

When asked if block scheduling allowed for deeper study of course content, teachers mostly agreed, only 22 percent disagreeing. Further, when asked if block scheduling allows for more student-centered and inquiry based learning, 80 percent of teachers agreed that it does. This is generally the prevailing notion among teachers, particularly because in the theory of block, more time can be allotted for inquiry based

and project based learning. A single block can act as a lab, inside of which the teacher has enough time to lecture and allow students to complete projects.

### **Statements Related to Student and Teacher Workload**

The subject of workload, as any administrator knows, is of keen importance to teachers. Teachers at the elementary schools in the district, for instance, complain that HS teachers actually have the least amount of student contact time at 240 minutes, and thus the least burdensome workload. School leaders also are aware that any scheduling change with the potential to increase workload will be controversial and likely face opposition. Survey item (#10) reads, “Block scheduling reduces teacher workload.” 54 percent of teachers either strongly disagreed or disagreed with that statement; 40 percent either strongly agreed or agreed that it did. Like several other survey items, teachers remained split over whether or not it actually reduces staff workload.

Likewise, school leaders speculate that one of the reasons students like the current schedule is simply because it reduces their workload; in other words, it makes school easier. Additionally, 57 percent of teachers either agree or strongly agree that students’ workload is decreased in the block, and only 28 percent of teachers disagree or strongly disagree that it does so. Meanwhile, teachers believed the opposite for themselves; specifically, 40 percent of teachers either agree or strongly agree that their workload is reduced, whereas 54 percent either disagree or strongly disagree that it is reduced.

## **Statements Related to Programming**

A theoretical advantage to block scheduling is reducing student discipline infractions. The idea is that because students spend less time in the hallways in between classes the less chance there is for them to get into trouble. 43 percent of teachers surveyed either agreed or strongly agreed that the block schedule reduced discipline infractions whereas 24 percent disagreed or strongly disagreed that it did. These findings lend credence to the initial impetus to move from the traditional schedule to the block schedule more than 15 years ago.

We asked teachers about the unit lunch period, which, according to students, was a major advantage to the current schedule. Teachers were split on its worth; 39 percent of teachers either agreed or strongly agreed that it was an integral part of student's experience, compared with 44 percent who either disagreed or strongly disagreed it was. The lunch period has become a hot button issue for teachers—many complain that it is too lengthy and that students get into trouble because of its disorganization. Others like it for the fact that it allows students to make up tests, study for class, and attend club meetings.

Another potential advantage to block schedule is its conduciveness to our academy programs with Rowan University. Because we have block scheduling we have two semesters, which do in fact align with Rowan University's schedule, allowing our students to take courses offered there. Only 14 percent of teachers considered block scheduling not conducive to the academies and AP courses. The statement which read,

“block scheduling is conducive to our academies and AP courses” is also paradoxical; many teachers believe that while the block schedule is good for the academies, it is not advantageous for AP students, who are forced to complete an AP course in one semester. Further, students who take an AP courses in the fall do not sit for the test until May, meaning many teachers of AP courses are forced to hold two to three week long evening review sessions during the second semester. I will elaborate on this in the qualitative section below.

Lastly, school leaders felt that one of the largest problems of the block schedule was that students did not receive enough seat time before the PARCC assessment. Students, for instance, in an Algebra I course would only receive 11-13 weeks of instruction in a class before being tested. In a school with a traditional 7-period schedule, students would not sit for the PARCC assessment until May, and would have spent closer to 35 weeks in a class before taking the test.

### Results by Subject Area

Table 3.3 Glassboro HS Teacher Survey: Means of Items by Teacher Subject Groups Scale = 1 [strongly agree] through 5 [strongly disagree] with 3 as midpoint						
	Math	Science	English	Social Studies	Business World Language, Health and PE, Music and Art	All
Block scheduling improves student learning outcomes	2.5	1.5	2.2	2.3	2.1	2.25

Longer lasting periods make it challenging to sustain student interest for the entire duration of class	3.3	4.5	2.6	3.0	3.0	3.03
Block scheduling reduces student workload	2.8	2.0	2.2	2.3	2.1	2.35
Block scheduling contributes to loss of content retention in students	3.6	4.5	2.4	3.3	3.5	3.2
Unit lunch is an integral part of our students' experience	2.8	4.5	3.1	3.3	2.4	2.93
Block scheduling allows for deeper content studies	2.3	1.0	2.2	2.7	1.8	2.1
Block scheduling is conducive to our academies and AP courses	2.1	1.5	2.1	1.3	1.6	1.88
Block scheduling allows for more student-centered, inquiry-based and/or project based learning	2.1	1.0	1.9	1.3	1.5	1.78
Block scheduling reduces discipline infractions	2.5	2.0	2.3	1.3	2.5	2.33
Block scheduling reduces teacher workload	3.0	3.5	3.0	1.7	3.9	3.15
Block scheduling makes the administration of standardized tests easier	2.7	3.0	3.2	2.0	2.1	2.65
GHS should seek an alternative to block scheduling	3.3	4.0	2.8	3.3	3.2	3.16

Teachers across subject areas generally agreed that block scheduling allows for deeper content studies and for more student-centered, inquiry-based learning, with science teachers being most favorable. Another area showing a high level of agreement, again, with the science teachers reporting the most agreement, was that block scheduling is conducive to the academy programs.

It is likely that science teachers were most favorable because the block schedule is conducive to much of the kind of instruction required in science class. For one thing,

science teachers hold lab periods that require a longer time period due to the set up and use of lab equipment and materials. The possibility of a new schedule with shorter periods may have created concerns that science labs would be eliminated from the curriculum. Also, it is my understanding that some members of the science department played a key role in bringing block scheduling to Glassboro HS in the late 90s. Another reason science teachers would be especially supportive of the current schedule is that the STEM program is headed by a group of science teachers who also coordinate with Rowan University to facilitate the academy program. This arrangement could be jeopardized or made more complicated by a 7-period schedule.

### **Qualitative Analysis of Response Items**

#### **Teacher Responses**

Teachers shared their thoughts on the potential scheduling change in an open-ended response item on the survey which asked teachers to add any concerns they had with our current schedule and with a possible schedule change. I identified responses that reported on both the effect block scheduling has on instruction and student achievement and on discipline, two of the more common responses from teachers.

Many teachers had misgivings about the potential move to a traditional schedule from the current block schedule. They were concerned that the move would impede in-depth study of course content. One teacher stated that, "Block scheduling allows for a better flow, especially with labs and inquiry based assignments. In period scheduling, one pre-determined extra period is built into the science schedule." Other teachers focused on

the heart of the problem, the misuse of instructional time during the block. One teacher went as far to say, “if there are teachers not using the block effectively then those individuals need to be dealt with accordingly, either with individualized training or discipline.”

Several teachers contended that block scheduling prevents discipline issues. One teacher pointed out that, “block scheduling reduces the amount of passing time, which limits issues pertaining to student interaction in the hallways.” In the current schedule, students spend significantly less time passing from class to class than if we had a seven or eight period schedule.

Some teachers pointed out one of the most obvious problems with moving to a traditional schedule: the Rowan academies. One teacher noted, “Students attending Rowan/RCGC would be impacted with a revised schedule. It is already difficult to make these academy schedules work.” Teachers also pointed out that AP classes and academy schedules are two different issues. There is a need for AP classes to be yearlong, which the current schedule doesn’t allow. At the same time, the Rowan academy almost requires semester based schedules that line up with Rowan University classes.

Another benefit to block scheduling is the ability for students to accelerate, which many teachers pointed out in the open-ended response. If a student is able to “double-up” on math courses, for instance, taking Algebra I and Algebra II all in one academic year, they would free their schedule up during the sophomore, junior and senior years to take more challenging math offerings, like Calculus and Project Engineering.

Other teachers indicated a more favorable view of the potential to move to a more traditional schedule. One teacher said, “subjects such as English and math should be full year courses because these disciplines are the focus of standardized tests. Students tend to forget and these subjects are crucial for successful life skills.” As noted in chapter two, block scheduling can create semester-length or longer gaps in content coverage, sometimes up to 18 months, where they are not exposed to core English and math courses. One teacher noted that there is an ideal amount of time, a zone of optimum coverage so to speak. “Sixty minutes all year round for your tested subjects (math and English) will dramatically increase PARCC scores across the board. The other subjects would teach in a 44-minute class period. Science labs would be utilized during gym time once or twice a week.” Some teachers used the platform as an opportunity to propose new schedules, providing frameworks for designing the ideal student schedule.

### **Students Responses**

Students also shared their thoughts on the potential scheduling change in an open-ended response item on the survey which asked students to list any concerns they have with our current schedule or the new schedule the district is contemplating. When I looked at student responses I included the most common responses, which talked about the differences in the amount of work between a block and traditional schedule.

Student responses were overwhelmingly in favor of the current schedule. The notion of the potential move to a traditional schedule was almost uniformly anathema to students. “Keep block scheduling!” one student noted emphatically. Another said, “If we

changed to a 7-period schedule the students would be more stressed out with more class. The kids that take honors classes will be taking more and be stressed out.”

Some students even touched upon how much learning would change: “Teachers may have to cut down on their lessons,” noted one student and another even weighed in that they would learn less in a 44-minute class period. Some even noted that they felt the 80-minute block was not even adequate, and that for real learning to take place students need time to discuss and have a dialog with their teachers.

Of the student responses, only three objected to the current schedule. Their complaint was mostly that they cannot maintain focus for such a long period of time, a key concern expressed by school leaders and the schedule committee.

Perhaps the most striking plea sums up the feelings of the students: “Please do not change the schedule!”

## **Chapter 4**

### **ANALYSIS OF SITE VISIT DATA**

In this chapter, I review the site-visit data, which the Scheduling Options subcommittee collected (see Appendix B for organization structure of committee). This data was particularly helpful for drafting a new schedule. The site-visit data informed the larger High School Scheduling Committee's decision-making for developing a schedule believed to best serve the students of Glassboro HS.

#### **Rationale for Selecting Schools**

The committee developed criteria for selecting high schools to visit. The chief aim of the site visits was to explore schools with schedules that combined elements of the traditional 7-period schedule with elements from the block schedule. This was important because the committee viewed it as likely that any new schedule for Glassboro HS would be a hybrid, traditional and block schedule model. Two priorities for the committee were retaining the features of Glassboro HS's current 4X4 schedule conducive to student participation in the Rowan college academies while also maximizing instructional time for students to prepare for state assessment test. Second, the committee wanted to look at schedules that provided a block of enrichment time to make it possible to provide socio-emotional development curriculum as well as provide for academic remediation.

Initially we sought out schools with student populations similar to Glassboro HS's. However, this provided to be challenging, we discovered, because most demographically similar schools employ some form of the traditional 7-period schedule.

After some searching and correspondence with candidate sites, we were able to locate two schools (Pemberton HS and Kingsway HS) that were demographically similar. Glassboro HS is categorized by the NJ Department of education as a district factor B school. District factor grouping is the DOE’s system of classifying schools based on the socioeconomic status of each district’s population. Demographic variables make up the score of each district and include such things as percent of adult residents who failed to complete high school; percent of adult residents who attend college; occupational status of adult household members; population density; income; and unemployment. The scores range from A (lowest socioeconomic districts) to J (highest socioeconomic districts). Table 4.1 shows the classification system.

Table 4.1 <i>NJ District Factor Groups</i>	
DFG	Number of Districts
A	35
B	78
CD	75
DE	100
FG	87
GH	78
I	105
J	15

The committee also wanted to examine high schools who offered dual enrollment programs. It came to light during the search process that Glassboro HS was the only high school in the state to actually offer dual enrollment courses for students at a regionally accredited four-year college, which was in walking distance for students. The schools that we eventually selected had dual enrollment programs with features sufficiently similar that the committee deemed these schools useful to visit. One reason for visiting Kingsway was to learn how they managed a program with a very high rate of participation (the highest in the county). Similarly, Pemberton sent many of its students to the local county college.

Lastly, the committee wanted to visit schools that employed a schedule that included a block of enrichment time, a non-academic period during which students would be able to pursue interests in other areas. In chapter 5, I outline the committee's 5X5 schedule. One notable feature of the design was a 30-minute enrichment period. This was a scheduling feature designed (a) to serve as a period useful for students who attend classes at Rowan University (giving them time to make it back from the college campus to the HS) and (b) to provide time to mentor students and/or allow them to choose non-academic interests to pursue. I will review this schedule in detail in chapter 5.

## **Methods**

At each school we met with a selection of staff, visited classrooms, and discussed their schedule. At Kingsway HS we met with the principal, an assistant principal and a guidance counselor who was instrumental in designing the current schedule. At

Pemberton HS we met with the principal, a guidance counselor and two teachers. At Garnet Valley HS we met with the principal and an assistant principal. At each school, we completed a walkthrough of the school, visiting pre-selected classrooms and speaking with students about what they did and did not like about their high school's schedule and why. During each visit, members of our committee interviewed the representatives from each of the schools. We designed the conversations around these three main questions: how the schedule supported the educational programs of the school, how the schedule supported student achievement, and any limitations perceived. During each visit, a member of the committee took notes from the interviews/conversations; these notes as well as information gathered from subsequent conversations and questions are the basis of the sections that follow.

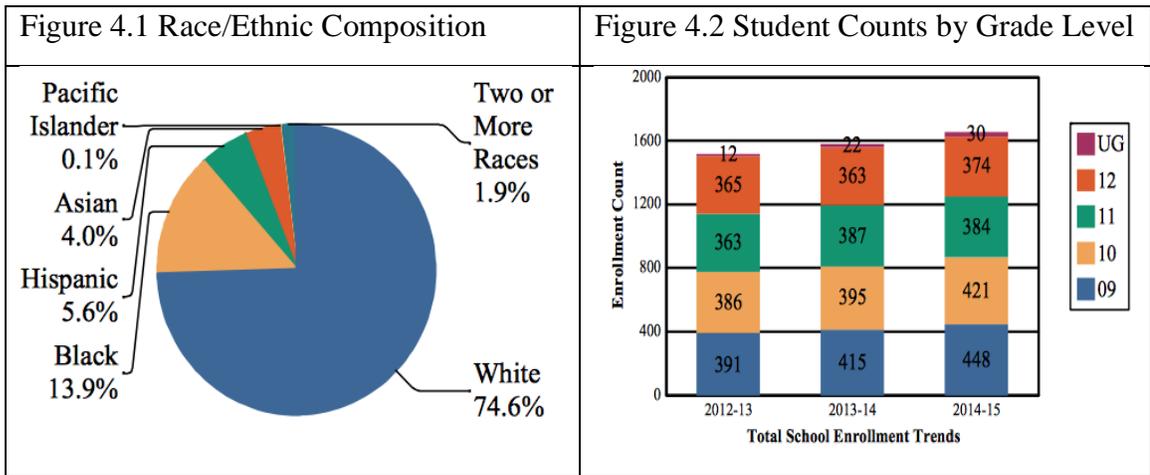
## **Kingsway HS Site Visit**

### **School Profile**

Kingsway High School is located in Swedesboro, NJ. The scheduling committee decided that Kingsway HS was a good school to use as a comparison because they have recently gone through scheduling revisions. There are approximately 1600 students, much larger than the 600 at Glassboro HS, and the student body itself isn't as diverse. There are fewer families receiving free and reduced lunch and, as a regional school, the school pulls students from multiple townships and boroughs.

Kingsway HS is situated close to Rowan College at Gloucester County, a community college that offers Kingsway HS students dual enrollment. About 10 percent

of the student body at Kingsway HS participates in dual enrollment. This made Kingsway HS a logical choice, since the committee wanted to examine a school whose students participated in dual enrollment. The school district (made up of the middle school and the high school) has experienced tremendous growth in recent years; in 2000, there were 1,100 students while today there are over 2,700. Demographers predict that the district could reach over 3,000 students within the next couple of years.



### Academic Achievement

Kingsway HS outperforms Glassboro HS in both English Language Arts and Math. Table 4.2 and 4.3 compare PARCC exam scores from the 2014-2015 school year for both Kingsway HS and Glassboro HS.

Table 4.2 <i>Kingsway HS PARCC Performance</i>			
Academic Achievement	School Performance %	Peer Percentile	State Percentile
HS English Language Arts/Literacy Met or Exceeded Expectation	44	68	62
Math Met or Exceeded Expectation	32	N/A	N/A

Table 4.3 <i>Glassboro HS PARCC Performance</i>			
Academic Achievement	School Performance %	Peer Percentile	State Percentile
HS English Language Arts/Literacy Met or Exceeded Expectation	24	23	26
Math Met or Exceeded Expectation	11	N/A	N/A

It's evident that students perform better at Kingsway, though not surprising because of its demographics. Kingsway is categorized as a district factor FG school according to the NJ DOE. Glassboro HS, in comparison, falls into district factor group B, so to compare achievement results is difficult. Most of the comparisons in achievement that the committee conducted compared data across district factor B schools. However,

since most of those schools employed a schedule that was not compatible with our needs, the committee decided against conducting site visits at those schools. However, the committee wanted to visit Kingsway to because, despite demographic differences, the committee felt it would be useful to learn about Kingsway's schedule.

## **Schedule**

Kingsway's schedule, deemed the S.M.A.R.T schedule, an acronym for Students Maximizing Achievement, Resources, Relationships and Time, was designed around the idea that students would perform better in a rotating schedule. The schedule itself is designed around the concept that students only meet with certain classes on certain days, allowing for some classes to plan around labs and extend study time at least once a week. The rotation is also conducive to co-op programs, work study programs, and STEM labs. The designers of the schedule explain how the schedule is also conducive to their large portion of students who take dual enrollment courses at Rowan College at Gloucester County. Students are able to take these courses without missing certain credits and courses mandated by the state of NJ.

Figure 4.3 provides an overview of the wheel schedule employed by Kingsway HS. They provide a description in their handbook that reads:

“The daily bell schedule works on a 4-day rotation. At the end of the 4-day cycle, the rotation repeats itself. Students are scheduled 3 rotating periods in the morning and 3 rotating periods in the afternoon. Each day,

students have 6 of 8 possible classes, 3 in the AM and 3 in the PM with 1 class from both the morning and afternoon being dropped. Students go to each of their classes 3 times within a 4 Day Cycle. The S.M.A.R.T. period is split into two 28-minute lunch periods when the entire student body eats lunch and has the opportunity to engage in a number of enrichment and/or extra-curricular activities. Food service is available in the Cafeteria West and Cafeteria East. Specific areas in the building are designated as locations where students are able to eat and/or engage in other activities during the S.M.A.R.T. period. In all locations, students are expected to pick up after themselves, place trash and recyclables in the appropriate containers, and behave in an appropriate manner. Those students who demonstrate improper lunch time behavior are placed in Administrative Lunch Detention (ALD) at the discretion of the school administration. Members of the faculty and administration are present to supervise activities during the S.M.A.R.T. period.”

Figure 4.3 Kingsway HS Schedule

S.M.A.R.T. SCHEDULE							
	Time	Duration		Day A	Day B	Day C	Day D
	7:15		Minutes				Student/Teacher Arrival
First Bell	7:24	8:21	57	1	4	3	2
Second Bell	8:25	9:22	57	2	1	4	3
Third Bell	9:26	10:23	57	3	2	1	4
Fourth Bell	10:23	10:51	28	S.M.A.R.T. PERIOD (L1/E1)			
Fifth Bell	10:51	11:19	28	S.M.A.R.T. PERIOD (L2/E2)			
Sixth Bell	11:19	12:16	57	6	9	8	7
Seventh Bell	12:20	1:17	57	7	6	9	8
Eighth Bell	1:21	2:18	57	8	7	6	9
	2:18						Student Dismissal
	2:30						Teacher Dismissal
		Drop	A.M. Wheel P.M. Wheel	Period 4 Period 9	Period 3 Period 8	Period 2 Period 7	Period 1 Period 6

**Perceived drawbacks of a rotating schedule for Glassboro HS.** Schedules like Kingsway’s, often referred to as “wheels” place a large emphasis on students being able to stay organized, often having to remember which classes meet on which days, and how to schedule projects and homework that arise from a complicated schedule, a lack of routine. Many pointed out that while Kingsway students could rely on parents to help them remember how to work within a complicated system, many students at Glassboro HS aren’t as fortunate. While a schedule like Kingsway’s would potentially preserve Glassboro HS’s unit lunch, an open period of time at which students participate in activities or seek help in core courses, it would require administration to place students

on a stricter schedule, where students would no longer be free to choose daily what they will be doing during that chunk of time. In other words, Glassboro HS's unit lunch period now is a non-scheduled period of time in which students choose where they want to go – they may simply want to eat lunch in the cafeteria, or they may choose to work with a teacher. In Kingsway's schedule, students are required to attend courses and/or participate in a group. They are in essence scheduled during this time, unlike Glassboro HS's unit lunch period.

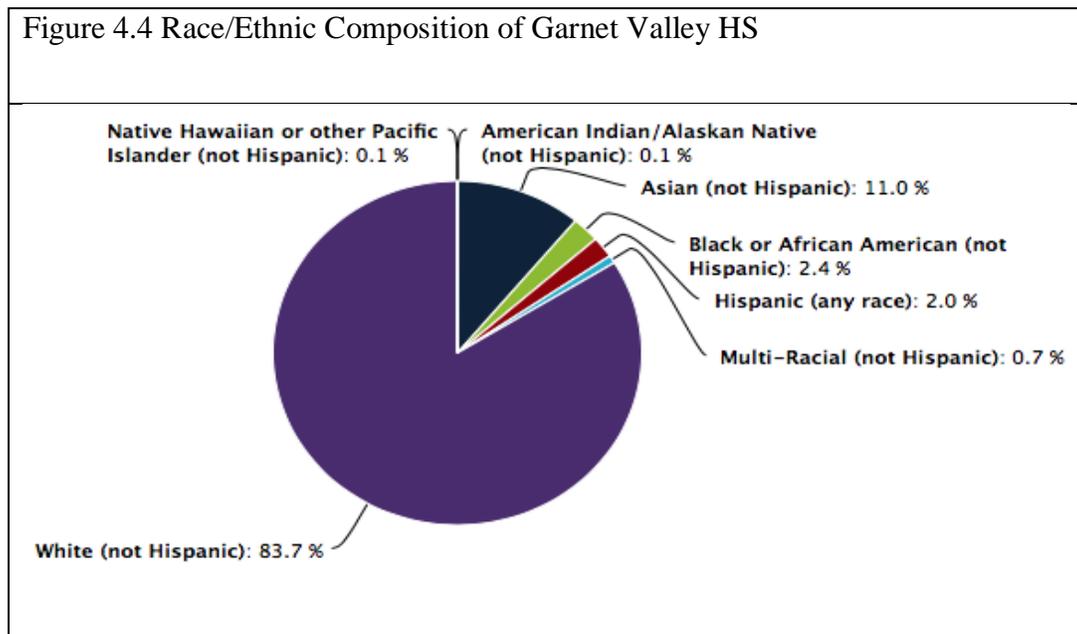
Lastly, Kingsway HS's schedule would make it difficult for Glassboro HS students who attend Rowan Academy; students would be forced into missing multiple classes at Glassboro HS, and would have difficulty keeping track of what classes they've missed. Somewhat obvious is the notion that Rowan's schedule would no longer "sync" with Glassboro HS's.

### **Garnet Valley HS Site Visit**

#### **School Profile**

Garnet Valley HS is located in Glen Mills, PA, an affluent suburb of Philadelphia. There are roughly 1,600 students, which makes the school similar in size to Kingsway HS. Compared with Glassboro HS, there is less diversity in the student body: 94 percent of the student body is either white or Asian. Only 9 percent of its students are economically disadvantaged, far less than the 50 percent who are economically disadvantaged at Glassboro HS.

The school offers dual enrollment to its high school seniors. Seniors work with a guidance counselor to take courses at the high school which double as college credits. This was not as informative for the committee, since the committee was mainly interested in scheduling systems where students left the high school campus to take courses. However, because Garnet Valley HS’s schedule included an enrichment period – something Glassboro HS was contemplating – the committee decided to visit.



### Academic Achievement

Students at Garnet Valley HS consistently outperform state averages on standardized testing. Additionally, a large number of students participate in either AP/IB programs. On the Keystone test, the standardized test in Pennsylvania, students performed well above other schools. In Mathematics, students were 89 percent proficient, and in Literature students were 93 percent proficient. Since the Keystone test is

significantly different than the PARCC exam, it is nearly impossible to infer exactly how different student performance was than Glassboro HS.

## **Schedule**

Garnet Valley HS's schedule was chosen because of its enhancement period, a 44-minute chunk of time in which students select activities to participate in. Figure 4.5 depicts the schedule with enhancement period. During the site visit, the principal explained the genesis of the schedule in detail, explaining that when it was implemented a number of years ago, it was designed around the concept of student interest. Students could pursue a variety of activities during the enhancement period including community outreach activities, science and math clubs, and tutoring in various disciplines. There was even a group of students who, during the enhancement period, chose to work with the "Little Jags," a group of pre-kindergarten students who attend school in a small wing of the high school.

Garnet Valley uses the Alma scheduling assistant to schedule students during this enhancement period. Students check in with teachers, who may act as club advisors or instructors during the time, depending on which activity it is. Likewise, on certain days (the schedule includes a 6-day cycle, which rotates elective courses) clubs would meet during this period and would be overseen by a club facilitator. All students were scheduled to be somewhere during the enhancement period, unlike the unit lunch period which Glassboro HS employs where students are freely able to choose where they go on any given day.

In the schedule, teachers teach three blocks a day with one preparation period (a prep period is a term used to signify time during which teachers prepare, grade work, and complete other professional work uninterrupted)

**Potential advantages of Garnet Valley HS schedule.** Garnet Valley's schedule provided a blueprint for school leaders in Glassboro to begin designing a new schedule. The enhancement period was ideal because it would allow students who attend classes across the street at Rowan University to return prior to the start of the second period. The enhancement period would also offer students an opportunity to connect with a mentor, attend tutoring and/or participate more fully in clubs that would otherwise be offered after school.

**Potential disadvantages of Garnet Valley HS schedule.** Garnet Valley's schedule was not altogether different from what Glassboro HS currently employs. The schedule itself is essentially a modified block with the inclusion of an enhancement period. It would be impossible to implement at Glassboro HS because there is not as much time built into its schedule. Another disadvantage is that the schedule is a block schedule that runs on semesters, so students cannot take yearlong courses. One of the primary objectives of school leaders in Glassboro was to provide students with yearlong courses in English and Math so that students would only have to sit for standardized testing once. Currently, students take the standardized test in two installments, once in the fall and once in the spring. In each case, students only have about 12 weeks of instruction before sitting for the test. In the case of this schedule, students would still have to sit twice, once in the fall and once in the spring, for the PARCC assessment.

While there were potential drawbacks to this schedule, the decision to visit this school was primarily based on the committee’s desire to better understand how Garnet Valley HS designed their enhancement period. The members of the committee who visited were pleased that they could present to the larger committee an idea of how to structure an enrichment period in a different schedule design.

Figure 4.5 Garnet Valley HS Schedule

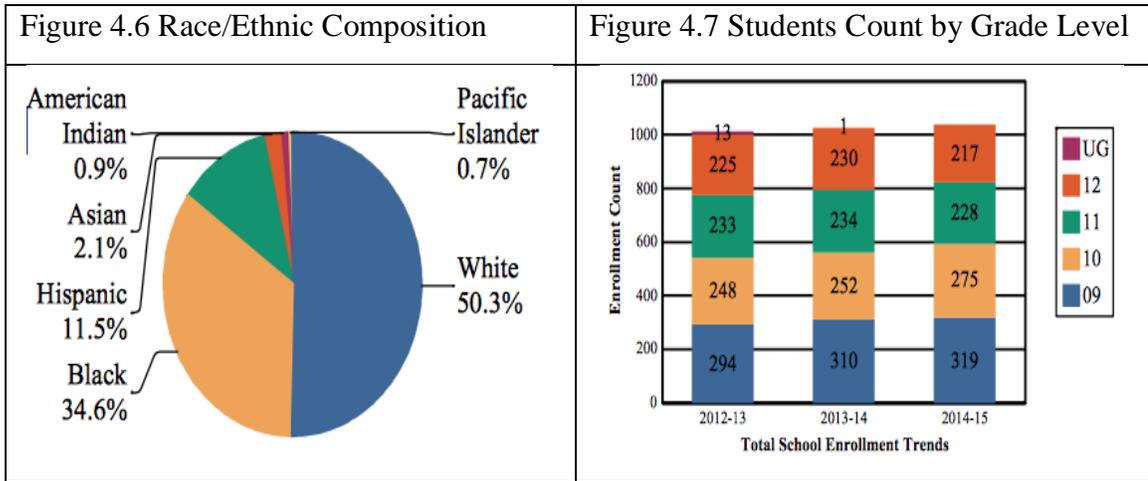
<b>GARNET VALLEY HIGH SCHOOL Bell Schedule</b>			
<b>PERIOD 1 7:30 - 8:50</b>		<b>80 minutes</b>	
class change		5 minutes	
<b>PERIOD 2 8:55 – 10:18</b>		<b>83 minutes</b>	
class change		6 minutes	
<b>ENHANCEMENT 10:24 – 11:08</b>		<b>44 minutes</b>	
class change		5 minutes	
<b>LUNCH 1 11:13 – 11:43 <i>30 minutes</i></b>	<b>PERIOD 3 11:13 – 11:53 <i>40 minutes</i></b>	<b>PERIOD 3 11:13 – 12:34 <i>81 minutes</i></b>	<b>114 minutes TOTAL</b>
<b>PERIOD 3 11:46 – 1:07 <i>81 minutes</i></b>	<b>LUNCH 2 11:55 – 12:25 <i>30 minutes</i></b>		
	<b>PERIOD 3 12:26 – 1:07 <i>40 minutes</i></b>		
class change		5 minutes	
<b>PERIOD 4 1:12- 2:32</b>		<b>80 minutes</b>	

## **Pemberton HS Site Visit**

### **School Profile**

Pemberton HS was chosen for its similarity in demographics to Glassboro HS. Slightly larger, with approximately 1,000 students, Pemberton HS's population is nearly identical to Glassboro HS. The school is classified as a district factor B school (see Table 4.1) which indicates that it shares characteristics of Glassboro HS. The school has similar special education enrollments and is awarded Title I funds. About 50 percent of their students are on free and reduced lunch.

Pemberton HS is an Advancement Via Individual Determination (AVID) school. The program, which exists in 46 states, is designed to decrease the achievement gap and provide rigorous, college focused education to students. Teachers that are AVID certified spoke highly of the program at Pemberton HS, and explained that they felt the schedule they employed was advantageous to both AVID students and students in the general and special education populations.



### Academic Achievement

Pemberton HS students fared worse than Glassboro HS students on the state assessment. Scores on the ELA and math portions of the test are four and nine points below Glassboro HS respectively. The scores, school leaders say, indicate that Pemberton has to figure out how to adjust to the test, like many other schools. Students at Pemberton HS enroll in AP courses at about the same rate as Glassboro HS, and students achieve similar marks on those tests. Students at Pemberton HS have the opportunity to attend classes at the local community college, and about 10 percent of the student body take advantage of dual-enrollment.

Table 4.4 <i>Pemberton HS PARCC Performance</i>			
Academic Achievement	School Performance %	Peer Percentile	State Percentile
HS English Language Arts/Literacy Met or Exceeded Expectation	20	19	19
Math Met or Exceeded Expectation	2	N/A	N/A

Table 4.5 <i>Glassboro HS PARCC Performance</i>			
Academic Achievement	School Performance %	Peer Percentile	State Percentile
HS English Language Arts/Literacy Met or Exceeded Expectation	24	23	26
Math Met or Exceeded Expectation	11	N/A	N/A

## **Schedule**

Pemberton HS employs a 5-period schedule in which students attend four required courses for which they receive credits towards graduation. The schedule has been in place for 10 years. The schedule includes a shortened period, which they call their School Resource Period or SRP, which is similar to a study hall but students may use the time for other reasons. The committee observed students seeking help from teachers in particular subjects, using it as a study hall, and attending various clubs and activities. Students may also take “skinny” courses, classes that meet for a shortened period of time, which are built into the third and fourth period of the day (see Figure 4.8 below). These courses include chorus, band, test preparation and several art electives.

Pemberton HS is a semester based schedule, like Glassboro HS. Students take four courses in the fall and four in the spring. Each of the required courses is 74 minutes long. During the site visit, school leaders talked extensively about the SRP period, which allows school leaders to, among many things, schedule a fall Advanced Placement (AP) course but a spring “skinny” course where students use the time to work with the teacher solely on exam preparation (the AP exam is administered in May).

Teachers teach three courses per semester. If they teach an additional course (AVID, AP skinny, etc.) they are compensated for that time at an hourly rate. Teachers at Pemberton HS were happy with the schedule, explaining that it combines the best of block scheduling with yearlong programming (perhaps a nod to the SRP which allows

some students to take a course in the fall and continue it in the spring in a shortened format – 41 minutes instead of the 74).

Figure 4.8 Pemberton HS Schedule

<b>Regular Day</b>	<b>Early Dismissal</b>	<b>Delayed Opening</b>
7:10 BUSES OFFLOAD 7:19 WARNING BELL 7:20 LATE BELL-Must be in 1 <sup>st</sup> Block	7:10 BUSES OFFLOAD 7:19 WARNING BELL 7:20 LATE BELL-Must be in 1 <sup>st</sup> Block	9:10 BUSES OFFLOAD 9:19 WARNING BELL 9:20 LATE BELL-Must be in 1 <sup>st</sup>
7:20-7:30 MORNING BUZZ (no bell after The Buzz)	7:20-7:30 MORNING BUZZ (no bell after The Buzz)	9:20-9:30 MORNING BUZZ (no bell after The Bu
<b>BLOCK 1</b> 7:30-8:44 (74 minutes)	<b>BLOCK 1</b> 7:30-7:59 (29 minutes)	<b>BLOCK 1</b> 9:30-10:04 (34 minutes)
<b>BLOCK 2</b> 8:48-10:02 (74 minutes)	<b>BLOCK 2</b> 8:03-8:32 (29 minutes)	<b>BLOCK 2</b> 10:08-10:42 (34 minutes)
<b>BLOCK 3</b> 10:06-11:24 (78 minutes) <u>LUNCH 3A</u> 10:06-10:43 (37 minutes) <u>LUNCH 3B</u> 10:47-11:24 (37 minutes)	<b>BLOCK 3</b> 8:36-9:54 (78 minutes) <u>LUNCH 3A</u> 8:36-9:13 (37 minutes) <u>LUNCH 3B</u> 9:17-9:54 (37 minutes)	<b>BLOCK 3</b> 10:46-12:04 (78 minutes) <u>LUNCH 3A</u> 10:46-11:23 (37 minutes) <u>LUNCH 3B</u> 11:27-12:04 (37 minutes)
<b>BLOCK 4</b> 11:28-12:46 (78 minutes) <u>LUNCH 4A</u> 11:28-12:05 (37 minutes) <u>LUNCH 4B</u> 12:09-12:46 (37 minutes)	<b>BLOCK 4</b> 9:58-11:16 (78 minutes) <u>LUNCH 4A</u> 9:58-10:35 (37 minutes) <u>LUNCH 4B</u> 10:39-11:16 (37 minutes)	<b>BLOCK 4</b> 12:08-1:26 (78 minutes) <u>LUNCH 4A</u> 12:08-12:45 (37 minutes) <u>LUNCH 4B</u> 12:49-1:26 (37 minutes)
<b>BLOCK 5</b> 12:50-2:05 (74 minutes)	<b>BLOCK 5</b> 11:20-11:50 (30 minutes)	<b>BLOCK 5</b> 1:30-2:05 (35 minutes)

**Potential advantages of Pemberton HS schedule.** Of the three site-visits, Pemberton HS was most relevant to the Glassboro HS committee’s planned scheduling decisions. The Pemberton model builds in an extra block, which could potentially allow Glassboro school leaders to get creative in scheduling shorter classes that run yearlong, assuaging concerns of the lapse in instruction that is common in 4X4 block schedules.

Pemberton HS's schedule also includes a School Resource Period, which provided some insight to the committee on how to design an enrichment period at the start of the day.

One concern with a 5-period schedule was that it has shorter class periods. Rowan Academy students typically enroll in classes during first block currently, and the classes at Rowan run concurrently to Glassboro HS classes, allowing Glassboro HS students to only miss one class. However, in a 5-period schedule, students would presumably miss up to two classes. The enrichment period, then, acts as a buffer to allow students to return across the street to the HS in time for second period.

**Potential disadvantages of Pemberton HS schedule.** Pemberton HS still employs a semester based schedule, which precludes students from enrolling in yearlong classes. Glassboro HS is interested in scheduling yearlong classes for its general population in both English and math classes. Also, one of the key issues school leaders at Glassboro HS wanted to address was the misuse of the last third of the block. Instruction at Glassboro HS typically becomes poorer or stops, as administrators have noted in the past several years. Pemberton HS's blocks are 78 minutes long, which means their teachers could potentially face the same instructional issues. If we were to adopt a facsimile of Pemberton HS's schedule, our key concern (misuse of instructional period) would not be addressed.

### **Construction of Proposed Schedule (How we Synthesized the Site Visit Data)**

School leaders have identified two significant problems with our schedule – its long class periods where teachers are prone to misuse time, as noted previously, block

scheduling can create semester-length or longer gaps in content coverage, sometimes up to 18 months, where they are not exposed to core English and math courses. While a traditional 7-period schedule would address those problems, it creates a separate problem for Glassboro HS academy students who benefit from the compatibility of a semester based high school schedule aligning with the college semester-based schedule. On the other hand, only a small percentage of the student population at Glassboro HS participate in the academies. Some committee members and other stakeholders have argued that we ought to devise a schedule that benefits the greatest number of students – the large majority who are not in dual enrollment.

While none of the site visits presented an ideal model, they did inform the committee's thinking about how to design a new schedule for Glassboro HS. Kingsway HS's schedule was a yearlong model, which allowed students to take classes that ran fall to spring. With its wheel, students at Kingsway HS were able to take dual-enrollment classes, something the committee noted might work for Glassboro HS academy students. Its schedule also includes 57 minute classes, a sweet-spot, so to speak, for HS students; students aren't forced to cram learning into a 40-minute-long period, and teachers don't have to prepare for an 80-minute class. The assumption is that in a shorter class period, instruction won't suffer.

Garnet Valley HS's schedule provided the committee a model for designing a student enrichment period, which they called an enhancement period. The committee sought ways to improve this experience, rather than have it inevitably become a study hall or a waste of time. During this time, students can visit with teachers to seek help,

attend clubs and activities, and meet with peer mentors, all ideas that would work at Glassboro HS. Glassboro HS currently employs a 15-minute silent reading period at the start of the day, so lengthening this to 30 minutes could provide additional support to our academy students, allowing them to return to the high school after their first block class.

Pemberton HS's schedule gave leaders at Glassboro HS an idea of how to schedule a 5-period day, which would alleviate the concerns inherent in the block schedule and would enable administrators to schedule yearlong classes, particularly for at-risk students and students who have not passed the state assessment. Still, Pemberton's schedule would not be a perfect fit, because it still makes use of semester based block classes not altogether different than what Glassboro HS currently uses.

The next chapter, the final chapter, draws on the information that I gathered during the site visits, surveying students and teachers, and conducting research. To this point what has become clear is that there likely is not one single best scheduling design, that we might be better served using this information from each of the schedules we examined to construct our own.

## **Chapter 5**

### **DISCUSSION AND RECOMMENDATIONS TO THE BOARD OF EDUCATION**

In this chapter, I outline research collected by each subcommittee. I include several scheduling models that the scheduling committee developed and include a rationale for each of the models. The final recommendation is a modified block schedule consisting of 5 blocks per day, in which teachers would be expected to teach four of five blocks. The recommendation includes board actions including opening the teacher contract and/or remunerating teachers for an additional course taught.

#### **Considerations for Designing the New Schedule**

The site visit data and survey data were compiled by the scheduling committee. I used the data to construct several designs. One option was to leave the schedule as it is, since the survey data in particular showed that both teachers and students found our current schedule more favorable than a traditional 7-period schedule. However, the site visit data provided some evidence that a schedule could be creatively designed to fit Glassboro HS's specific needs.

#### **Glassboro HS Scheduling Needs**

I wanted to address several key issues when designing a new schedule. The schedule had to address both instructional and logical shortcomings of the current schedule.

**Issue #1: The schedule must adequately serve all student groups.** There are three broad student groups we serve: basic skills, college prep, honors/AP students. Each group would benefit from a different schedule design. We know there exists some research, for example, that a traditional 7-period schedule may contribute to greater achievement outcomes in history, science and math (Huelskamp 2014). Nonetheless, the reason why this is true is not certain. One can conjecture that it might have something to do with the duration of the course itself; students will have more seat time in English and math in a yearlong schedule, thus maximizing their potential on the exam.

**Issue #2: The current block schedule is too long for many students.** Not only is the block length too long for students, but school leaders have identified that there are pedagogical limitations among the staff. It is simply more difficult to teach in the block without resorting to more traditional lecture practices (Zelkowski 2010), which administrators have noted over the past several years. On the other hand, the traditional 42-minute period is too short, and it disallows for deep learning, one of the theoretical underpinnings of block schedules. The new schedule should seek a middle ground.

**Issue #3: Semester based schedules have strong advantages and disadvantages.** While the semester based schedule aligns for Rowan academy students, it may not be as advantageous for other student subgroups, such as basic skills and college prep students, whose classes culminate in standardized testing. Students in these classes are at a distinct disadvantage, because they receive only roughly 11 weeks of instruction before having to take an end-of course assessment, which appears short for students who need extra remediation.

**Issue #4: Block scheduling requires intensive and ongoing professional development.** Canady and Rettig (1996) point out that block scheduling works more effectively when professional development on it is continuous and meaningful. When Glassboro HS instituted block scheduling 20 years ago, there is evidence that teachers were subject to intensive professional development. However, school leaders note that in the last 15 years, the district has spent virtually no time on best pedagogical practices in a block schedule.

### **Four Scheduling Options**

I drafted four separate schedule designs. Each addressed one or more of the aforementioned issues. The initial drafts of each of the schedules were altered after the larger committee made suggestions.

#### **Schedule A**

I designed the first schedule around the traditional 7-period day concept, where classes would be organized into 47-minute periods and would be yearlong (Table 5.1). Students in the academy would face a slight problem in that they would be forced to miss two periods each day. Those students would either have to opt to take classes at Rowan in the evening or, if they were seniors with enough credits, would be able to take courses at Rowan but not accumulate credits through Glassboro HS. The shorter class periods would also present a challenge for science teachers who, despite gaining yearlong classes, would likely have to eliminate labs. This schedule keeps in place the unit lunch period (Bulldog Block), which could potentially provide science teachers the ability to schedule labs, but it would make it difficult for schedulers to ensure that all science classes would

butt up against the unit lunch period. Teachers would be required to teach five of the seven periods, and would also be required to serve a duty (lunch, hall, lavatory), an additional responsibility that some on the committee thought would diminish staff morale.

Table 5.1 Schedule Option A	
Period 1:	7:50-8:37 (47 mins)
Homeroom:	8:37-8:42
Period 2:	8:45-9:32
Period 3:	9:35-10:22
Period 4:	10:25-11:12
Bulldog Block:	11:12-11:55
Period 5:	11:55-12:42
Period 6:	12:45-1:32
Period 7:	1:35-2:22
Aftrn. Annmmts:	2:22-2:25

### Schedule B

The most traditional of the schedules I designed, Schedule B (Table 5.2) eliminates semester, the block schedule, and the unit lunch period. Students enroll in 50-minute-long classes (except for those classes that take place during the lunch period which are shortened to 42 minutes). This schedule is closest to what Glassboro HS employed before the switch to the block schedule.

Table 5.2 Schedule Option B	
Period 1:	7:50-8:40 (50 mins)
Homeroom:	8:40-8:45
Period 2:	8:48-9:38
Period 3:	9:41-10:31
Period 4:	10:34-11:24
Period 5:	11:24-12:39
Lunch A:	11:24-11:54
Class A:	11:27-12:09 (42)
Lunch B:	12:09-12:39

Class B:	11:57-12:39 (42)
Period 6:	12:42-1:32
Period 7:	1:35-2:25

### Schedule C

Many on the committee felt that in order to satisfy all of the issues the current schedule presented, we needed to hit a theoretical sweet spot on the length of the class. In the current schedule, students attend class for 80 minutes, which many think is far too long and too difficult a length of time to instruct effectively. On the other hand, a 40-minute period precludes students from deep, inquiry based learning, a fact that was shared by teachers and students alike on the surveys. I designed Schedule C (Table 5.3) with these thoughts in mind, where classes would run 60 minutes long, would be semester based, and would help preserve the integrity of the Rowan Academy. Additionally, students who would need extra remediation in English or math, for instance, would be able to enroll in yearlong courses. Thus, the schedule is a hybrid, allowing both semester based and yearlong classes. This draft would become the penultimate design before reaching an ideal design which is outlined in the section below.

Table 5.3 Schedule Option C—Modular with Fall and Spring	
Block 1:	7:50-8:50 (60 mins)
Advisory:	8:53-9:25
Block 2:	9:28-10:28
Block 3:	10:31-11:31
Bulldog Block:	11:34-12:19
Block 4:	12:22-1:22
Block 5:	1:25-2:25

## **Schedule D**

The last option would be to leave the schedule as is. Since some research points to the fact that block scheduling only works with continuous professional development, I thought that building this in might alleviate some of the instructional issues the school has been facing. The district could theoretically design a strategic plan that includes professional development and pedagogical expectations for the staff.

### **The 5X5 Model**

I presented these options to the committee and to school leaders of Glassboro HS. The consensus was that Schedule C was a perfect fit for the HS. This was the schedule that I recommended to the board of education, who likewise agreed that it was particularly good at addressing the committee's original goals. The final design is depicted in table 5.4 below. The 5x5 semester schedule provides a 4-year student with 40 (60 minute) "blocks" of class. Under this regime, classes come in two varieties: x1 or x2; x1 classes are 1-semester, 1-block classes and x2 classes are 2-semester, 1 block classes. Students can enroll in either class depending on their needs. The following subsections describe how different subgroups of students (labeled according to Glassboro HS "tracks" Basic Skills (track 1), College Prep (track 2), and Honors/AP (track 3).

		Fall	Spring
7:50-8:20			
8:20-8:25	HR		
8:28-9:28	Block 1		
9:31-10:31	Block 2		
10:34-11:34	Block 3		
11:37-12:22			
12:25-1:25	Block 4		
1:28-2:28	Block 5		

### College Prep Students

#### State Requirements and Schedules

One of the challenges and constraints of designing a schedule is making sure it allows students to meet state requirements for graduation set forth by the state of NJ. As of 2008, students must complete 15 credits of math courses (in NJ a full course is worth five credits) 20 credits of English courses, 15 credits of social studies courses, 15 credits of science courses and essentially must complete four years' worth of health and physical education (Table 5.5.). The schedule makes room for all of the credits required for graduation. In fact, one of its main facets is that students can earn credits faster, particularly if they are in the Honors/AP track. Even still, college prep students who take and pass courses will theoretically have the opportunity to either graduate early or, in most cases, take more elective courses by senior year.

<b>NEW JERSEY HIGH SCHOOL GRADUATION REQUIREMENTS (N.J.A.C. 6A:8-5)</b>									
<b>Number of Credits for State-Endorsed Diploma: Option One</b>									
<b>STUDENT'S YEAR OF ENTRY: GRADE 9</b>	<b>Sept. 2000</b>	<b>Sept. 2001</b>	<b>Sept. 2002</b>	<b>Sept. 2003</b>	<b>Sept. 2004</b>	<b>Sept. 2005</b>	<b>Sept. 2006</b>	<b>Sept. 2007</b>	<b>Sept. 2008</b>
Language Arts Literacy	20	20	20	20	20	20	20	20	20
Math	15	15	15	15	15	15	15	15	15
Science	15	15	15	15	15	15	15	15	15
Social Studies (Including 2 courses in US History per N.J.S.A. 18A:35)	15	15	15	15	15	15	15	15	15
Health and PE	3.75 per year	3.75 per year	3.75 per year	3.75 per year	3.75 per year	3.75 per year	3.75 per year	3.75 per year	3.75 per year
Technology	Technological Literacy, consistent with the Core Curriculum Content Standards, must be integrated throughout the curriculum.								
Visual and Performing Arts (Art, Music, Theater, Dance)	10 credits total; may be acquired as 5 credits in visual and performing and 5 credits in practical arts or 10 credits in one content area				5	5	5	5	5
Career Education and Consumer, Family, and Life Skills (Practical Arts)					5	5	5	5	5
World Languages	State Board moratorium on 10 credit requirement				5 or testing				
Electives taken from CCCS areas	20	20	20	20	15	15	15	15	15
<b>Total Number of Required Credits</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>

### **Implications for College Prep Students**

The schedule illustration below (Table 5.5) shows what a typical college prep student would experience over the course of their high school career. These students receive three years of x2 instruction in English and Math, which allows them greater seat time leading into the PARCC. This was a primary concern at the outset of the scheduling discussion; too many students who are on the bubble, students who have a chance at passing the PARCC assessment and who could perhaps use more seat time before taking it, would now get just that, and will now presumably have a greater chance at passing the assessment.

The full year instruction admittedly precludes them from having as many

elective courses options, but there is still space in their schedules senior year. Such mid-level students have high degrees of variances with regards to scheduling. Some may fill that elective space with art or music, business or World Language. Others might eventually elect to take an AP course or two which will run as full year courses (but probably not a full slate of them).

However, by requiring these students to take 3 years of full year English and Math courses, the ability to take electives later on will be limited.

Table 5.6 Illustration of a CP Student Schedule		
9TH	Fall	Spring
	English I (A)	English I (B)
	Algebra I (A)	Algebra I (B)
	General Science I	World Language I
	US History I	Gym
	Elective	Elective
10TH	Fall	Spring
	English II (A)	English II (B)
	Algebra II (A)	Algebra II (B)
	General Science II	World Language II
	US History II	Gym
	Elective	Elective
11TH	Fall	Spring
	English III (A)	English III (B)
	Geometry (A)	Geometry (B)
	General Science III	World Language III
	Financial Literacy	Gym
	Elective	Elective

<b>12TH</b>	<b>Fall</b>	<b>Spring</b>
	English IV (A)	Elective
	Elective	Elective
	Elective	Elective
	Elective	Gym
	Elective	Elective

### **Basic Skills Students**

The schedule for basic skills students is similar to that of College Prep students with the exception of the sequence of coursework. In math, for instance, these students begin with a year of pre-algebra in order to better prepare students for grade-level math and eventually Algebra I.

Basic skill students in English will a) receive full year instruction leading into the PARCC and b) will likely be placed in test prep, or remedial English IV if they have not passed the PARCC in either their freshman, sophomore or junior year, thus alleviating the need for additional test prep classes. These classes could also likely run as a x2 alternate day class; math could likewise use a similar scheduling technique.

Regardless of how exactly these classes will eventually be scheduled, there is opportunity in this schedule to help students who really struggle in math and English. Additionally, the flexibility of this schedule to address these needs into senior year ensures that students are more likely to meet graduation requirements, which have become increasingly rigorous.

Table 5.7 Illustration of a Basic Skills Student Schedule

<b>9TH</b>		
	<b>Fall</b>	<b>Spring</b>
	English I (A)	English I (B)
	Pre-algebra (A)	Pre-algebra (B)
	General Science I	World Language I
	US History I	Gym
	Elective	Elective
<b>10TH</b>		
	<b>Fall</b>	<b>Spring</b>
	English II (A)	English II (B)
	Algebra I (A)	Algebra I (B)
	General Science II	World Language II
	US History II	Gym
	Elective	Elective
<b>11TH</b>		
	<b>Fall</b>	<b>Spring</b>
	English III (A)	English III (B)
	Algebra II (A)	Algebra II (B)
	General Science III	World Language III
	Financial Literacy	Gym
	Elective	Elective
<b>12TH</b>		
	<b>Fall</b>	<b>Spring</b>
	English IV (A)	Elective
	Geometry (A)	Geometry (B)
	Elective	Elective
	Elective	Gym
	Elective	Elective

## Honors and AP Students

This sketch (Table 5.8) has perhaps the most variation from student to student. Since most students in this track will be taking mostly x1 classes, they have a greater opportunity to fit more in their schedule earlier on. The idea behind this schedule is this: students in advanced classes are better equipped to deal with the demands of an English and Math course in an accelerated setting (e.g., x1 classes) and still pass the PARCC. We know this because previous data indicates it. Conversely, when these students become juniors and seniors, they generally aspire to take AP classes, which ideally should run as full year (x2 classes). In this schedule scenario, all AP classes are run as x2 classes (full year). This is a large advantage of the schedule, since another concern at the outset was that students enrolled in AP classes received only a half year instruction before sitting for the AP exam in May. These students develop various interests as they progress through high school, which is why 11<sup>th</sup> and 12<sup>th</sup> grade years are left mostly to electives. Some students might want to take more AP English/social studies classes and less AP math/science, and vice versa. We could, for instance, run a x1 Honors English III course for students who are more interested in math/science and want to save more room in their schedule for AP math and science instead of taking two AP English classes.

Likewise, we can offer regular pre-calculus and regular calculus as x1 classes for students who want to save room for English and social studies during the final two years in HS.

Table 5.8 Illustration of an Honors/AP Student Schedule		
<b>9TH</b>	<b>Fall</b>	<b>Spring</b>
	Honors English I	World Language I
	Honors Geometry	Honors Algebra II
	Honors Biology	Honors US History I
	Gym	Elective
	Elective	Elective
<b>10TH</b>	<b>Fall</b>	<b>Spring</b>
	Honors English II	World Language II
	Honors Pre-calculus	Honors Chemistry
	AP US History	AP US History
	Elective	Gym
	Elective	Elective
<b>11TH</b>	<b>Fall</b>	<b>Spring</b>
	AP Comp or Lit	AP Comp or Lit
	AP Calculus AB	AP Calculus BC
	AP Science or History	AP Science or History
	Financial Literacy	Gym
	Elective	Elective
<b>12TH</b>	<b>Fall</b>	<b>Spring</b>
	AP [course]	AP [course]
	AP [course]	AP [course]
	Elective	Elective
	Elective	Gym
	Elective	Elective

## Summary

The general idea of this schedule is that it allows tested subjects to run yearlong classes and provide students who have historically struggled on the test more seat time before PARCC. At the same time, students who are not at-risk of failing the PARCC would be able to take more electives during the back end of their HS career. Basic skills and college prep level students receive year-long classes in preparation for the PARCC. Though this limits the amount of electives they may take outside of English and math, it in theory gives them a greater chance of passing the PARCC during their freshman and sophomore year.

For advanced students, AP courses will be scheduled as yearlong classes. The general assumption is that this type of student will generally be prepared for PARCC by way of the accelerated (x1) classes they take in their freshman and sophomore years.

One consequence is that non-tested classes may see a decrease in total class minutes for their courses, depending on how we ultimately prioritize them. This may give the impression that these courses are not as important as the tested subjects, but in the in the spirit of trying to find a schedule that does the greatest good for the greatest number, this comes as a compromise.

There are some obvious shortcomings in this schedule. Elective classes like art and psychology are seemingly being pushed aside for state requirements. There are still more questions that would have to be ironed out as well. How might we allot credits for x1 and x2 math and English classes? Do they both carry the same weight even though

one is longer? Will we need additional staff to make this schedule a reality? How many additional electives will we need in order to make the schedule work, and what will those electives look like? How costly will this be to staff these courses? All of these would likely be addressed later on, during a pilot year perhaps, or when the staff comes together to review the nuances inherent in a schedule change.

Nevertheless, one of the outcomes of this entire process is that we want to focus more on how we can serve our students, how we can maximize their potential to succeed not just in English and math classes but academically on the whole. The schedule allows for student choice, gives students the opportunity to continue taking classes at Rowan, and allows teachers to hone in on instructing in a reasonably timed block of 60 minutes. It will take some time to realize just how important schedules are to student achievement, but the consensus is that we must do something differently to address instructional problems that have contributed to a decline in student achievement.

### **Implementation Obstacles**

The process of designing a new schedule for Glassboro HS was difficult. Even with a new scheduling design that educators and board members agreed upon, the plan encountered unanticipated obstacles from the teachers' union that had raised costs. Contract language prevented immediate adoption of the schedule and negotiations continue on both sides; but there is consensus among teachers and administrators that the 5X5 hybrid schedule will be adopted for the 2020-2021 school year.

## **Improving Instruction**

In the meantime, Glassboro HS will still employ a 4X4 block schedule. As described in Chapter 1, low academic performance was one of the motivators to examine prospects for changing the master schedule. On the PARCC test, Glassboro HS in all subjects scored below not only state averages, but also our consortium averages – the group of high schools in the state comprising “factor group B” which all serve demographically similar student populations. Only two percent of Glassboro HS students in grades 9-11 exceeded expectations in ELA; “below proficiency” percentages range from 57% to 69% across the different ELA subtests. Mathematics scores were similarly below average. Our concerns about some teachers’ ineffective use of instructional time in long “block classes and about misalignment in the timing of content coverage and testing motivated our inquiry into scheduling remedies, which brings us to our current situation.

While the ultimate plan is changing the master schedule, the immediate concern is improving instruction in the schedule we have now and will for several more years. We have therefore decided to design a two-year professional development plan. Irrespective of the longer-term impacts on achievement of changing our master schedule, we need now to strengthen as much as possible our curriculum and instruction with targeted professional development on how to maximize learning outcomes in the current, block schedule.

Much of the research on block scheduling was conducted during the late 90s. Two books, *Teaching in the Block* (Canady & Rettig, 1996) and *The Block Scheduling Handbook* (Queen 2009), continue to be the most popular for understanding how to teach in the block schedule. Several other literature sources on teaching in block schedules are also used and cited in the “Three Models” section within this chapter.

### **Block Scheduling**

As discussed in Chapter 2, many schools adopted block schedules, or variants of these schedules in the 1990s and 2000s. A common refrain in this literature and from those who have been involved in its implementation, is that block scheduling will not improve learning outcomes without knowledge and committed leadership and extensive professional development; without this support it brings little change in teacher practice. As Queen (2000) noted, “Many veteran teachers complained that the first year of block scheduling was much like being a first year teacher again” (p. 217).

At Glassboro HS, many new teachers, who completed teacher training in a traditional schedule during student teaching, share similar feelings. Teachers at Glassboro HS find it difficult to plan enough material for an 80-minute block, and too often have resorted to less effective methods of instruction. It is evident that the most crucial aspect for the success of block scheduling is extensive lesson preparation, effective classroom management, and multi-dimensional instruction for the entire duration of the 80 to 90-minute block. Glassboro HS must make a concerted effort to train new teachers on best

practices within the block and retrain other teachers who have not had block schedule training in over a decade.

### **Two-Year Professional Development Model for Glassboro HS**

With the superintendent's support, I developed a two-year professional development model for Glassboro HS. The schedule includes goals for school leaders and teachers which will be used in personal professional development plans (PDPs) for all staff members (see Appendix E for more detail).

#### **Year 1**

The first task is to assemble a team of teachers who are willing to serve on a committee designed to provide in-house professional development to teachers. The group will find books and resources for best practice ideas and readings and design activities to span a year-long professional development program including three full in-service days and 10 half in-service days.

Administrators will also explore options for teacher evaluation. The current evaluation tool, which employs Charlotte Danielson's Framework for Teaching, is cumbersome for administrators to use, and teachers contend that its design is punitive. We will explore options for more collaborative teacher evaluation instruments, including those developed by Robert Marzano and used by vendors such as PowerSchool, McRell, and Oncourse. The primary objective of observations should be to aide teachers in professional practice and point out weaknesses without creating an antagonistic relationship or an aversive experience

## **Year 2**

During the second year, the professional development plan will focus on instructional strategies and models (outlined below), combining best practice with a new curriculum. The models will be literature-based, developed by teachers, and focus on how best to structure an 80-minute block. Teachers will be able to design lessons using the models of instruction, below, and the pacing guides outlined in each curricular document.

### **Models and Lesson Designs**

School leaders at Glassboro HS often report from their observations of classroom instruction in the block that it looks like this: 40 minutes of lecture followed by 40 minutes of independent work, sometimes including time to do homework. School leaders also report witnessing teachers lecturing for almost the entire 80-minute period, with the expectation that students complete work based on that lecture after class. From the survey (Chapter 3), teachers indicated that block scheduling allows for more inquiry-based instruction, but observational data show that most teachers employ some variant of lecture followed by independent work. This is not consistent with literature-based prescriptions for best practice in block schedule teaching. The models presented below will serve as a starting point as we embark on our two-year professional development.

for the high school. These models derive from both the literature and my own knowledge of and experience with the staff and programs at Glassboro HS.<sup>5</sup>

### **Direct Instruction**

One of the primary models teachers currently use is direct instruction. Direct instruction “has come to have a number of different meanings” that typically result in a lesson that focuses on the “definition of a task and the analysis of a task” (Queen, 2009 p. 137). In most instances, direct instruction begins when a teacher introduces a task or concept and then challenges students to master that concept. Hattie’s meta-analysis (2009) revealed that direct instruction, used as prescribed, has a statistically significant positive effect on student achievement with an effect size of about .6.

Queen (2009) refers to several different lesson designs in which he assigns the primary participant as either teacher, teacher and student shared, or student focused (Queen, 2009 p. 61). One of these designs (Table 6.1), which he refers to as the Traditional Instructional System, is built around the idea of direct instruction, where the teacher acts as the leader, typically instructs or defines a task and then allows students to participate through inquiry. The student activity can revolve around any number and types of tasks and teachers have the ability to have students work alone or collaboratively to reach mastery. According to Queen (2009), “In successful classrooms (where students

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<sup>5</sup> I was a Glassboro HS English teacher for many years; I taught 9<sup>th</sup> grade English and 12<sup>th</sup> grade literature and composition.

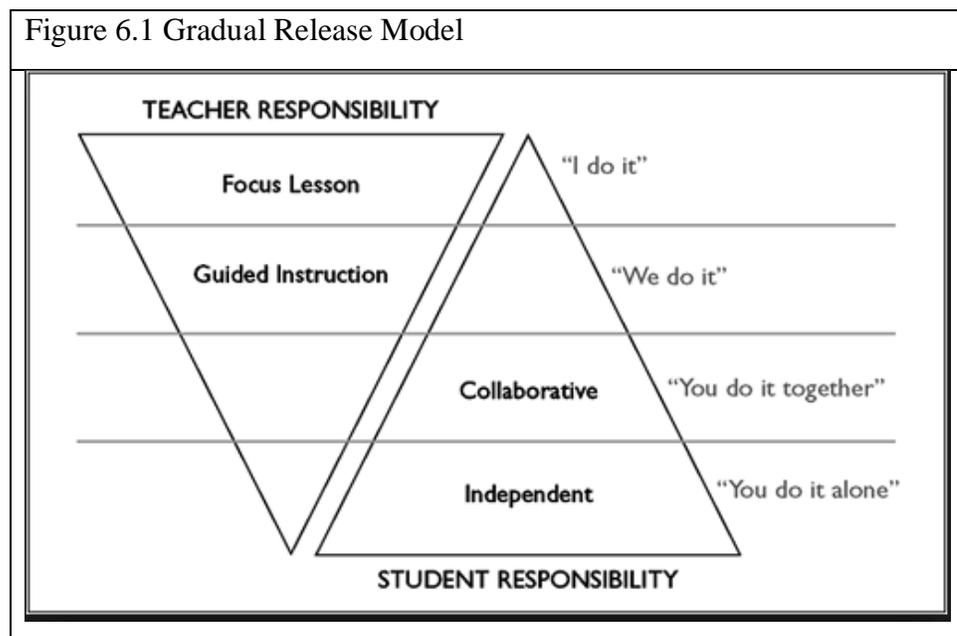
achieve in the top 25% academically and have a positive attitude about learning), about 72% of the teachers use the Traditional Instructional System” (p. 59).

Type	Design	Components/Responsibility/Grouping		Time Focus	Direction	
I	Traditional Pattern in Minutes 10 20 40 10 10	10	Review/Objective (T)	LG	Single Period for One Day	Teacher Directed
		20	Instructional Input (T)	Large Group		
			Lecture			
			Demonstration			
			Directed Discussions			
		40	Student Activity (S)	SG, Pairs, Triads		
			Workbook			
			Experiment			
			Problem Solving			
			Simulation			
10	Debriefing/Assessment (T/S)	LG				
10	Closure (T)	LG				

### Gradual Release of Responsibility Model (GRR)

According to Pearson and Gallagher (1983) the GRR model gets its name from the releasing of responsibility from teacher to student. Teachers begin by introducing a lesson, demonstrating and modeling for the class how they might complete the task. Next, the teacher works with students to perform the task. Then, the teacher *releases* the responsibility to the learners, and students work together collaboratively. Lastly, students are expected to do the task alone, independently, in the hopes of mastering the material. The desired outcome is that, “Every student gets to the point where she is able to accept total responsibility for the task, including the responsibility for determining whether or not she is applying the strategy appropriately” (Pearson & Gallagher, 1983 p. 338).

It would seem fitting for a model such as this to work in a block setting. One could imagine the focus lesson requiring at least 20 minutes of time, followed by 20 minutes for guided instruction, 20 minutes for collaboration, and 20 minutes for independent practice. This fits well in the 80-minute long block at Glassboro HS. School leaders have noted that many teachers who already do well in the block schedule employ this model, perhaps even without the express knowledge of the model.

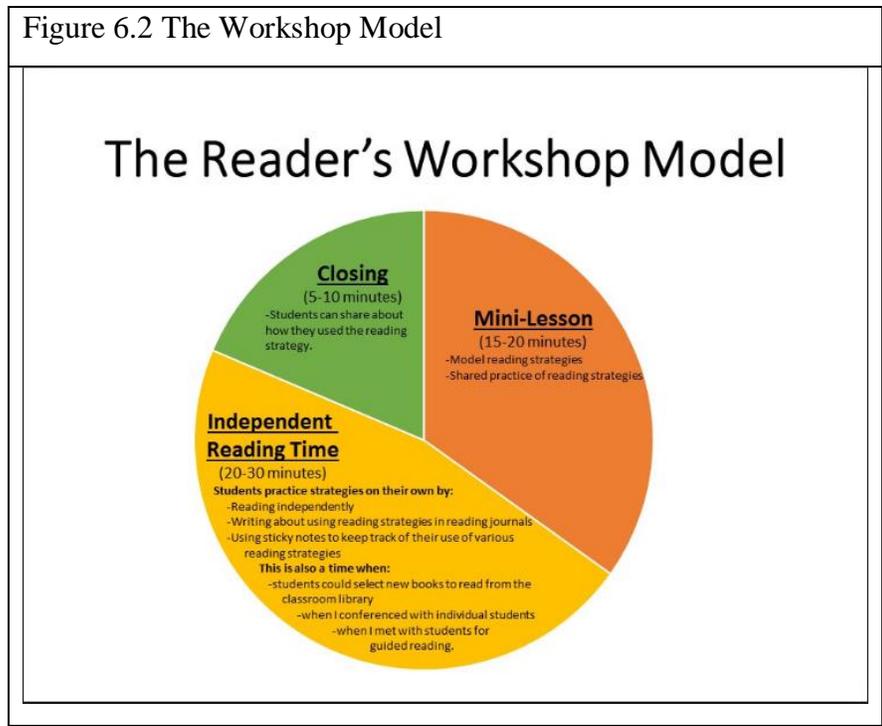


### **The Workshop Model**

Developed by Atwell (1987) to address concerns of student boredom and disengagement, this model can be applied across content areas. The workshop model has come to mean a way to design a lesson. In this model, the lesson begins with a brief mini-lesson, following by a time of independent work whereby the teacher offers his or her time to confer with students, provide timely and purposeful feedback, and evaluate the

student's work. At the end of the lesson, teachers allot the last five to ten minutes to either allow students to share what they learned or to set instructional goals for the unit.

Like the above models, many successful teachers are already using the workshop model in their classroom. In particular, English teachers find it particularly suitable to their needs. Students are often given freedom to independently read novels and complete work and projects suited to their interests. Still, the model could be applied to many classrooms, making work more authentic through project-based instruction. The model lends itself to the kind of inquiry-based teaching that we discovered block is conducive to.



## Re-Designing Curriculum for the Block

Much of the literature on how to best use the 80-minute class period indicates a need to (a) teach using inquiry-based learning (like the workshop model listed above) and (b) design curriculum that has specific pacing guides built in (Queen, 2009). The curriculum will be redesigned around these principles and much of the drafting has already started.

### English

The English curriculum is difficult to write for a block schedule; a student who in a typical 40-week year would read 20 novels cannot read that number of books in half the time (in a block schedule, a course runs only half the year). Instead of packing the curriculum with many lengthy books, we opted for a theme-based approach, designing four units connected with a seminal piece of literature. In Figure 6.2, excerpted from the 12<sup>th</sup> grade curriculum, the theme is *To Be, or Not to Be?* – a nod to *Hamlet* – exploring the idea of indecision, revenge, justice, and suicide. The general idea was to design each unit around one seminal work of literature around which essential questions and lasting understandings could be made. Mentor texts used in each unit consist of shorter pieces that have either overt or tacit connections to the main work. For instance, in the below unit, after reading *Hamlet* students read *Rosencrantz and Guildenstern are Dead*, a play which expands the narrative of two characters from *Hamlet*.

Figure 6.3 Sample English IV Curriculum Revision

Unit 2 Grade 12: To Be, or Not to Be?	
Enduring Understandings/Skill Focus	Assessment Plan
<p>In this unit, students will explore the heavy themes of life and death, right and wrong, and good and evil by reading William Shakespeare’s iconic tragedy Hamlet; then, they will take a differing look at Tom Stoppard’s satirical tragicomedy “Rosencrantz and Guildenstern are Dead.” The latter explores the philosophy of existentialism, which argues that: 1) Life is meaningless, so humans must create their own meaning. 2) There is no “human nature”—our choices define who we are, and each individual is responsible for his or her choices. 3) We should focus on our individual actions, not on trying to find some larger meaning or order, because there isn’t one. Students will be charged with seeking meaning, motivation, and justice in both of these plays, as well as exploring those themes in modern America. Under what circumstances is a person not responsible for their actions and how do these two playwrights explore such difficult questions?</p> <p><b>Essential Questions:</b> To what extent does religious/spiritual/supernatural beliefs motivate our choices? When is the quality of indecision a valuable/not valuable trait in achieving one’s goals? To what extent do revenge and vengeance provide satisfaction? Is justice an unattainable ideal in the real world? How do humans deal with the conflicting elements within their personalities? (i.e. good vs. evil) Can excessive desire/wants lead us to act against our nature? To what extent does the role of information (or dis-information) impact the actions of people? How do family dynamics affect our politics? Is morality a relative or absolute term? How might some other course of action (other than Hamlet’s pretended madness) give Hamlet the effect he desires? When is loyalty to oneself (and one’s values) more important than loyalty to a friend? Can someone have all the right information and make the wrong decisions?</p>	<p><b>Summative Assessment:</b> Students will compose a literary analysis in the form of a compare and contrast essay. The essay will include textual evidence from both plays, with the potential for additional outside commentary. Essays will demonstrate advanced vocabulary proficiency in the</p> <p><b>Formative Assessments:</b></p> <ol style="list-style-type: none"> <li>1. Tier 2 Vocabulary Quizzes</li> <li>2. Assertion Journals</li> <li>3. Socratic Discussions</li> <li>4. Research Simulation Tasks</li> <li>5. CommonLit.Org Comprehension and Analysis Questions</li> <li>6. Character Sketches</li> <li>7. EdConnect Benchmark Assessments</li> </ol>

The pacing guides (Figure 6.3) include concise, easy-to-follow lesson plan outlines. They are not excessively prescriptive and respect teacher discretion. While the guides provide a scope of the work within each week, they are not a detailed script and do not impede a teacher’s creativity. So long as teachers are guided by the goals and activities for the week, they would satisfy the requirements laid out in the curriculum pacing guide.

Figure 6.4 Sample English IV Pacing Guide

Learning Map (Pacing Guide)	
Text	Learning Outcomes, Topics, and Suggested Activities
Hamlet  Image Grammar	<p>In this week’s lessons, students will be introduced to Elizabethan Tragedy. Students should review dramatic terminology only in as much as it is necessary for basic comprehension of the play. Tier 2 vocabulary terms will be presented for each scene and act, and side-by-side translations are available for scaffolding. This week, students should focus on the protagonist’s primary conflict, as well as burgeoning motivations for each character so as to predict and/or justify their future actions. Assertion journals are gleaned from the dramatic text and example prompts are presented below.</p> <p><b>Suggested Activities:</b> Annotation through Double Entry Journals or Post-It notes; Socratic Discussion; Live Readings and Performances; Targeted Questioning; Tier 2 Vocabulary; Task Rotation Worksheets; Close Reading Activities of Important Passages; Research Dramatic Representations of Hamlet over Time – How can a cultural or historical moment be expressed in its rendition of a Shakespearean drama?; Online Discussion Board.</p> <p><b>Assertion Journals:</b></p> <ol style="list-style-type: none"> <li>1. "This above all: to thine own self be true." (1.3)</li> <li>2. "Give every man thine ear, but few thy voice; Take each man's censure, but reserve thy judgment." (1.3)</li> </ol> <p><b>Image Grammar</b></p>

## Math

The math curriculum revision was not as complex. The units were designed around the Eureka math template, which had sensible pacing guides. The challenge was adapting its pacing guide to our block schedule, where classes meet for only one semester a year. Figure 6.4 includes a sample of the curriculum revision.

Figure 6.5 Sample Algebra I Curriculum Revision

Expressions, Equations, and Functions						
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Evaluate Expressions	Write Expressions	Write Equations and Inequalities	Use a problem solving plan	Represent Functions as Rules and Tables	Mixed Review of Problem Solving	Chapter Test
Apply Order of Operations		Mixed Review of Problem Solving	Optional Assessment – Quiz	Represent Functions as Graphs	Chapter Review	Standardized Test Preparation and Practice

While math and English curriculum have taken precedence because of the state audit requirements, more work needs to be done on writing other curriculum, tailoring it to the models that fit best within a block schedule. This will all be part of the professional development plan and goals moving forward.

### Conclusion

The focus of the professional development will be on enhancing learning outcomes among our students by eliminating weak instruction and implementing with greater fidelity the instructional principles described above. By equipping teachers with the necessary tools to teach more effectively in the block setting, the ultimate aim is to increase student achievement, specifically on the PARCC assessment. Though the adoption of the new schedule will take longer than we had hoped, there is plenty of work to be done now to increase achievement. This will take a great deal of support and ongoing professional development and improving how many teachers teach and use time during the block class period.

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## APPENDIX A

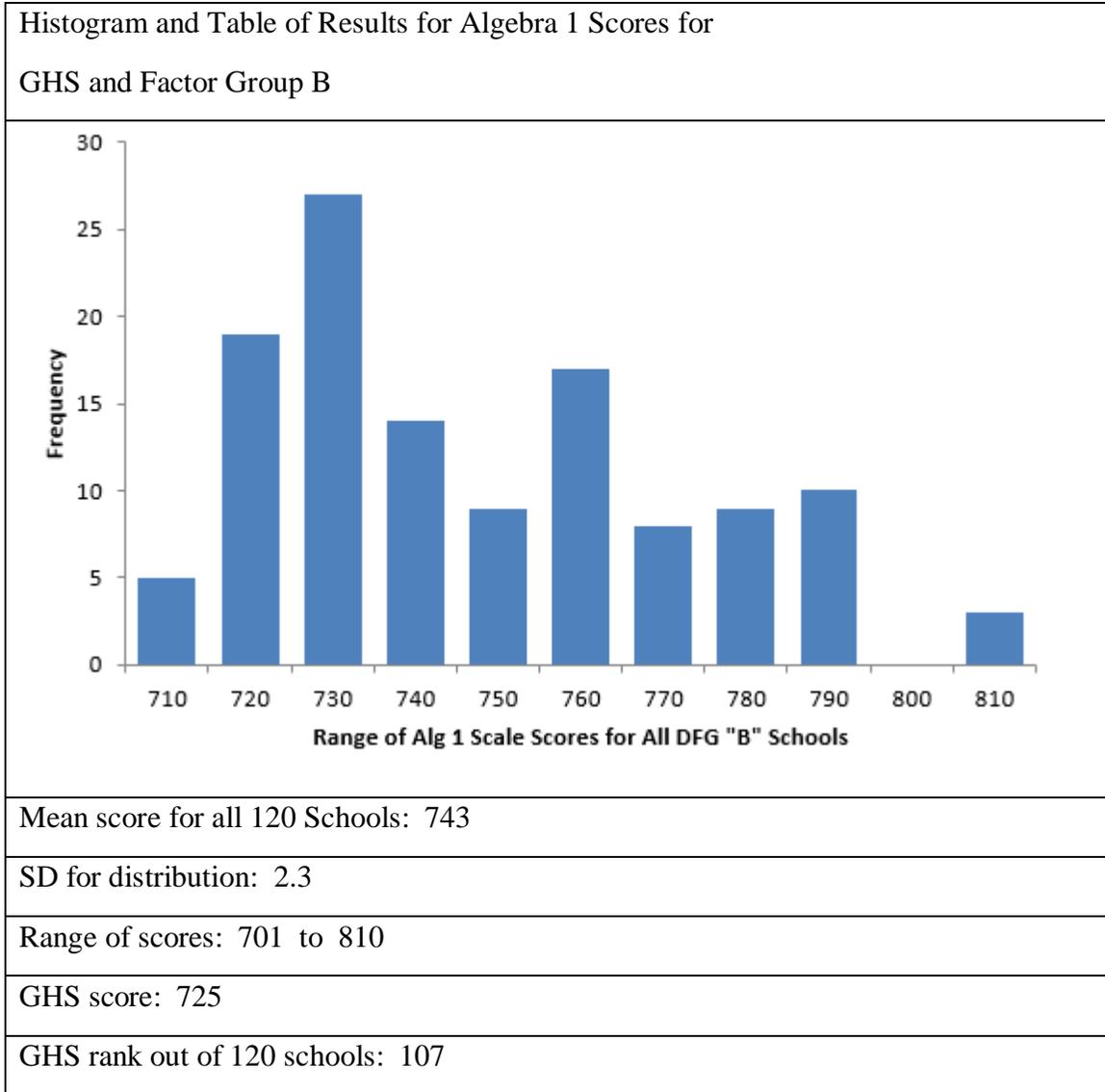
### 2017 PARCC School Level Data Analyses

The data used here became available from the NJ DOE PARCC reports website in Fall 2017. These results indicate that the pattern of low PARCC 2016 scores at Glassboro HS described in Chapter 1, continued through 2017. The 2016 PARCC reports available from NJ Department of Education do not show school-level results in “factor groups” – these are groups of schools with similar demographic characteristics; the demographic variables used in the construction of the factor groups is explained below.

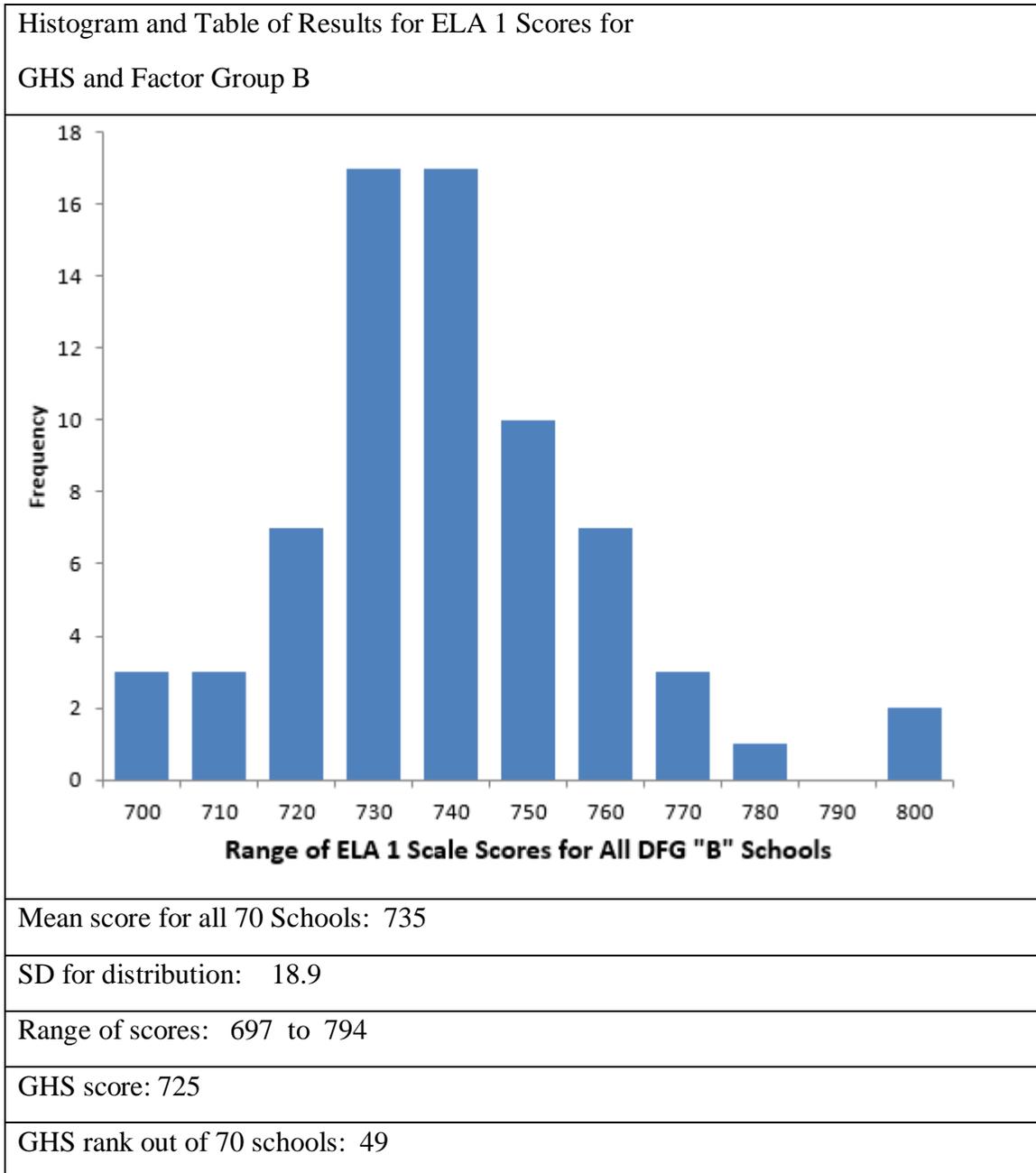
The analyses reported here involved downloading “csv” files from the state website, extracting selected fields (school name, mean scale score, factor group, number of test-takers) from the downloaded data, filtering the data to sort schools into factor groups and then removing schools with no. Then, the schools remaining in the Glassboro HS’s factor group “B” were isolated to enable sorting these data to determine where GHS stood in the distribution of all factor group “B” schools.

The main finding is that the pattern of results reported in Chapter 1, at the time of its writing, continued into 2017. The 2017 data analyses with the school level data set and with factor group identifiers allowed for comparing Glassboro HS to the other demographically similar schools. In these results, Glassboro HS still performed significantly below average. GHS ranked 107<sup>th</sup> out of 120 schools reporting Algebra 1 scores. GHS performed somewhat better in ELA, ranking 49<sup>th</sup> out of 70 schools.

### Algebra 1 Scores: GHS and Factor Group B



## English Language Arts 1 Scores: GHS and Factor Group B



## Construction of NJ School “Factor Groups”<sup>6</sup>

The District Factor Group (DFG) is an indicator of the socioeconomic status of citizens in each district and has been useful for the comparative reporting of test results from NJ's statewide testing programs. The measure was first developed in 1974 using demographic variables from the 1970 United States Census. A revision was made in 1984 to take into account new data from the 1980 United States Census. The DFG designations were updated again in 1992 using the following demographic variables from the 1990 United States Census.

- A. Percent of adult residents who failed to complete high school
- B. Percent of adult residents who attended college
- C. Occupational status of adult household members:
  - 1 = laborers
  - 2 = service workers (except private and protective)
  - 3 = farm workers
  - 4 = operatives and kindred workers
  - 5 = protective service workers
  - 6 = sales workers
  - 7 = clerical and kindred workers
  - 8 = craftsmen, foreman, and kindred workers
  - 9 = quasi-professionals
  - 10 = managers, officials, and proprietors
  - 11 = old and new professionals
- D. Population Density:
- E. persons per square mile
- F. Income:
- G. median family income
- H. Unemployment:
- I. percent of those in the work force who received some unemployment compensation

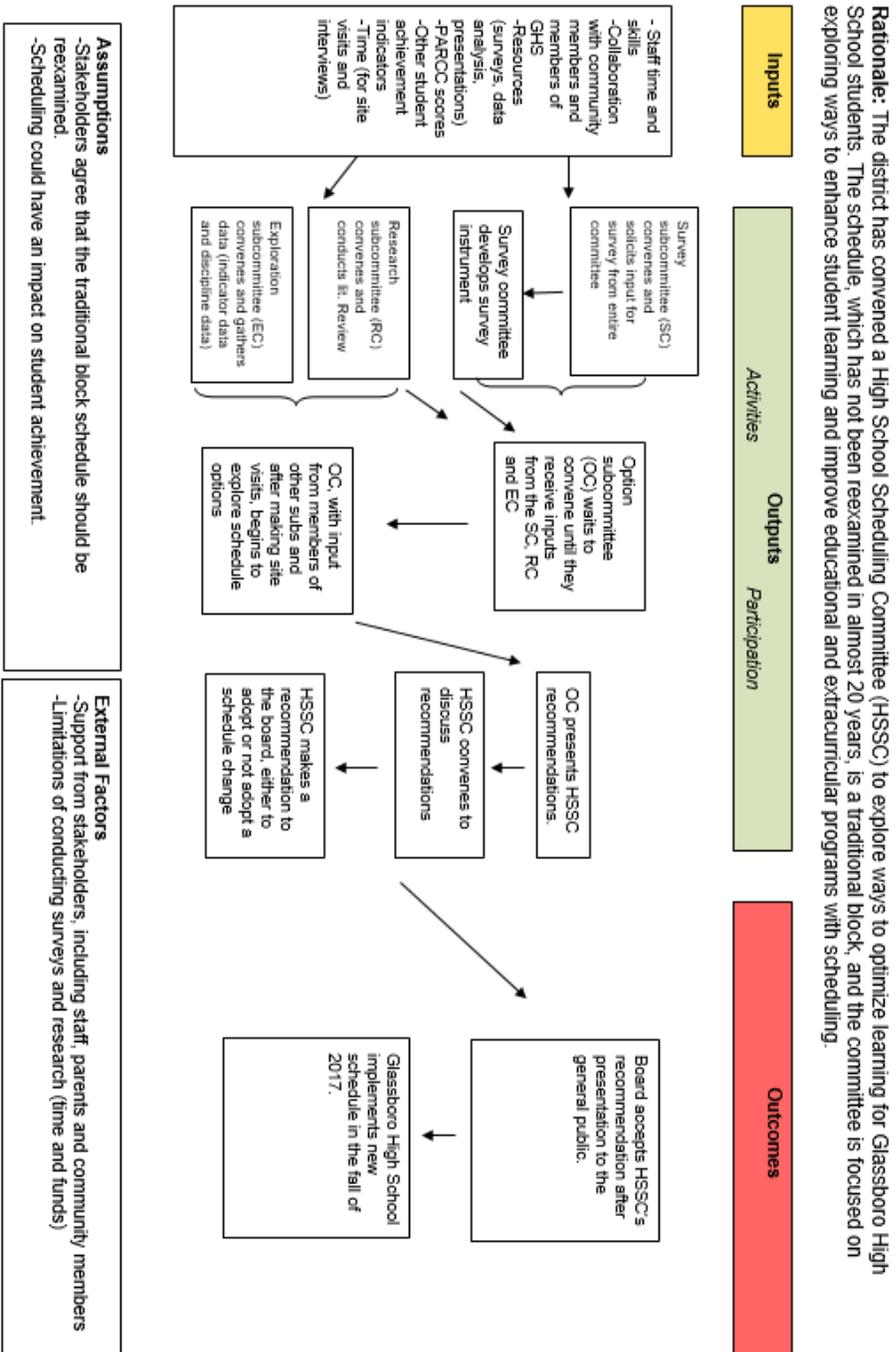
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<sup>6</sup> Source: NJ DOE <http://www.state.nj.us/education/schools/achievement/dfg.htm>

Poverty: percent of residents below the poverty level The variables described above were combined using a statistical technique called principal components analysis, which resulted in a single measure of socioeconomic status for each district. Districts were then ranked according to their score on this measure and divided into eight groups based on the score interval in which their scores were located. Eight DFGs have been created based on the 1990 United States Census data. They range from A (lowest socioeconomic districts) to J (highest socioeconomic districts) and are labeled as follows: A, B, CD, DE, FG, GH, I, J. Updating the DFGs has not changed any district's designation as Special Needs or not Special Needs.

## APPENDIX B

### Scheduling Revisions Logic Model



## APPENDIX C

### Glassboro HS Scheduling Survey – Teacher Survey

Q1 Please rate your agreement with the following statements.

Q2 What subject do you currently teach?

- Math (1)
- Science (2)
- English (3)
- Social Studies (4)
- Business/World Language/Health and PE/ Music and Art (5)

Q3 Please add any concerns you have with our current schedule or with a possible schedule revision.

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
Block scheduling improves student learning outcomes (1)	<input type="radio"/>				
Longer lasting periods make it challenging to sustain student interest for the entire duration of class (2)	<input type="radio"/>				
Block scheduling reduces student workload (4)	<input type="radio"/>				
Block scheduling contributes to loss of content retention in students (5)	<input type="radio"/>				
Unit lunch is an integral part of our students' experience (18)	<input type="radio"/>				
Block scheduling allows for deeper content studies (6)	<input type="radio"/>				
Block scheduling is conducive to our academies and AP courses (7)	<input type="radio"/>				
Block scheduling allows for more student-centered, inquiry-based and/or project based learning (11)	<input type="radio"/>				
Block scheduling reduces discipline infractions (8)	<input type="radio"/>				
Block scheduling reduces teacher workload (9)	<input type="radio"/>				
Block scheduling makes the administration of standardized tests easier (16)	<input type="radio"/>				
GHS should seek an alternative to block scheduling (26)	<input type="radio"/>				

## APPENDIX D

### Glassboro HS Scheduling Survey – Student Survey

Q1 There are different ways high schools organize their course schedules. Some high schools have classes about 50 minutes long, with seven class periods a day. Glassboro HS has what is called “block scheduling” – four 80 minute periods each day. Would you rather have seven 50 minute periods every day?

- Yes, I would prefer a seven period day (1)
- Not sure (2)
- No, I like our current schedule the way it is (3)

Q2 In our current schedule, class lasts for an hour and 20 minutes. In a different kind of schedule, classes would last approximately 50 minutes. Do you think you would learn more overall with a school day that covered more subjects, but each one for a shorter period (50 minutes)?

- Yes, I think more periods, but shorter ones, would be better for my learning (1)
- Not sure (2)
- No, I like our current schedule the way it is (3)

Q3 Do you think a shorter class period would help you maintain focus?

- Yes, definitely (1)
- Not sure (2)
- No, I can focus more during longer class periods (3)

Q4 In our current schedule, we have a 45 minute unit lunch. Do you think most students use this time as it was intended – catching up on work, receiving extra help, attending club sessions?

- Yes (1)
- Not sure (2)
- No (3)

Q5 During the unit lunch period, about how many days per month do you usually spend either studying or doing extra-curricular (club) work?

- More than 10 days per month (1)
- 7-10 days per month (2)
- 4-6 days per month (3)
- 1-3 days per month (4)
- None at all (5)

Q6 Please list any concerns you have with our current schedule or with the new schedule the district is contemplating.

## APPENDIX E

### School Professional Development Plan (PDP)

District Name	School Name	Principal Name	Plan Begin/End Dates
Glassboro Public Schools	Glassboro High School		Sept. 2018-Sept. 2020

#### 1: Professional Learning Goals

No.	Goal	Identified Group	Rationale/Sources of Evidence
1	Build capacity of all teachers in instructing during the block schedule, using all 80-minutes efficiently and increase collaboration between teachers and school leaders	Teachers Supervisors Principals	<ul style="list-style-type: none"> <li>• Improving instruction in the block schedule will be the primary focus of professional development over the next two years.</li> <li>• Review of anecdotal observation data reveals a need to enhance instructional practice during the block.</li> <li>• The current evaluation instrument is</li> </ul>
2	Support teachers in creating and implementing models of instruction that are most conducive to block schedule	Teachers Supervisors Principals	<ul style="list-style-type: none"> <li>• Some models of instruction are more effective in the block schedule.</li> <li>• Many staff currently use lecture method as primary instructional delivery method.</li> </ul>
3	Increase PARCC scores	Teachers Supervisors Principals	<ul style="list-style-type: none"> <li>• A two-year study of PARCC scores indicated students at Glassboro HS are underperforming.</li> <li>• Some attribute the poor performance to the block schedule.</li> </ul>

## 2: Professional Learning (PL) Activities

PL Goals (list all that apply)	Initial Activities	Follow-up Activities (as appropriate)
1	<ul style="list-style-type: none"> <li>• Content supervisors will provide training for all teachers in instructing in the block.</li> <li>• Principals and supervisors will facilitate discussions on best practices in the block schedule.</li> <li>• All teachers will align instructional units to the NJSLs via new curriculum.</li> </ul>	<ul style="list-style-type: none"> <li>• Teachers will invite “critical friends” (e.g., coach, colleague, supervisor) to critique their aligned instructional units.</li> <li>• In collaborative teams, teachers will create common assessments that align with NJSLs.</li> <li>• Content supervisors will continue to support teachers in the application of best practice in the block schedule.</li> </ul>
2.	<ul style="list-style-type: none"> <li>• Teachers and supervisors will explore models of instruction.</li> <li>• Teachers will participate in full day professional development activities whose aim are to help teachers maximize the use of the long instructional block.</li> </ul>	<ul style="list-style-type: none"> <li>• Principals and supervisors will examine which models are most effective through classroom observation.</li> <li>• Content supervisors will provide follow-up support as needed for individual teachers and teams.</li> </ul>
3	<ul style="list-style-type: none"> <li>• Teachers will create common assessments that align to PARCC</li> <li>• Teachers will monitor and report scores on common assessments to content supervisors and/or principal</li> <li>• Principals will compare achievement data on new assessments to past achievement data</li> </ul>	<ul style="list-style-type: none"> <li>• Teams will reflect on the quality of other pre-existing assessments and revise as necessary to align with new curriculum and PARCC.</li> <li>• Principals will present test data to the board of education.</li> </ul>

### 3: Essential Resources

PL Goal No.	Resources	Other Implementation Considerations
1	<ul style="list-style-type: none"> <li>• Content supervisors to provide training and follow-up support.</li> <li>• Three teacher PD days dedicated to training and alignment work.</li> <li>• Dedicated time for teachers to work</li> </ul>	<ul style="list-style-type: none"> <li>• Timely feedback to teachers</li> <li>• Collaborative evaluation</li> </ul>
2	<ul style="list-style-type: none"> <li>• Books</li> <li>• Time for teachers to attend training at FEA center</li> <li>• Funding for possible trainer to provide in-house professional development</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of content supervisors to support teachers.</li> <li>• Principals collaborate with teachers</li> </ul>
3	<ul style="list-style-type: none"> <li>• Dedicated time for collaborative teams to reflect on test scores and perform data analysis</li> <li>• Timely access to test data</li> </ul>	<ul style="list-style-type: none"> <li>• Supervisors to make sense of PARCC data</li> <li>• Principals/evaluators collaborate with teachers and allow teachers to model to teachers in need of intensive training.</li> </ul>

**4: Progress Summary**

PL Goal No.	Notes on Plan Implementation	Notes on Goal Attainment
1		•

PL Goal No.	Notes on Plan Implementation	Notes on Goal Attainment
2		
3		

Signature: \_\_\_\_\_  
Principal Signature

\_\_\_\_\_  
Date