A STUDY OF DOUBLING CLASS TIME FOR LOW ACHIEVING HIGH SCHOOL ENGLISH AND MATH STUDENTS AND THE IMPACT ON STATE TESTS REQUIRED UNDER NCLB

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A Study of Doubling Class Time for Low Achieving High School English and Math Students and the Impact on State Tests Required under NCLB

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Abstract

The re-authorization of the Elementary and Secondary Education Act in 2002, commonly known as the No Child Left Behind Act (NCLB), increased the accountability of public schools throughout the United States, holding them individually responsible for the education levels attained by their students as measured by high stakes tests developed and administered at the state level. Administrators responded by developing programs targeted at increasing students' test scores. One program considered by administrators is the doubling of class time in math and English for students that are at risk of not succeeding. This study analyzes the viability of such a program as adopted in an urban Northern New Jersey high school. In 2004-2005 the school increased math and English class time from 42 minutes to 88 minutes for low achieving students. This ex post facto study analyzes the impact of the school doubling class time based upon the results of the New Jersey High School Proficiency Assessment (HSPA) required under NCLB for all first time 11^{th} graders. Analysis of variance and effect size are used to determine the success of the program. The period of time covered in the analyses are school years 2003-2004, 2004-2005, 2005-2006, and 2006-2007. The first year is the base year. By the third year, all students in the target population had received the benefit of the double periods of math and English during their entire time in high school. Test scores for the non-low achievers that did not receive the treatment are also analyzed over the same time period to ensure consistency of the test. The study resulted in no significant difference in the means of low achieving English students. However, after one year the means of low achieving math students improved. In the second and third years they declined.

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First and foremost, I want to thank my wife, the Reverend Victoria M. Ney, who is my soul mate and the light of my life. She stood by me and endured me throughout this program, and she provided me support, encouragement, love, and words of hope and faith when I needed them most.

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Dedication

This study is dedicated to the students, faculty and staff of Manchester Regional High School because they never cease to amaze me, and they continually rise to the top. I pray that they truly become beneficiaries of my successful completion of this process.

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A Study of Doubling Class Time for Low Achieving High School English and Math Students and the Impact on State Tests Required under NCLB

CHAPTER ONE: INTRODUCTION

The re-authorization of the Elementary and Secondary Education Act in 2002, commonly known as the No Child Left Behind Act (NCLB), raised the bar and increased accountability for public schools throughout the United States (U.S. Department of Education, 2009). According to Nichols (2005) NCLB has renewed the interest in methods that utilize class time more efficiently. Nichols further provides "Despite renewed interest in experimental and innovative scheduling structures, only limited empirical research explores the impact of block-scheduling structures on potential student academic achievement" (p. 299).

Accountability is provided by means of high stakes standardized tests prescribed at various grade levels. Schools are held accountable for students in these prescribed grades to attain minimum established proficiency levels. Students are tested when they are in the prescribed grade, and the percentage of students required to attain minimum proficiency each year is defined by NCLB as Adequate Yearly Progress (AYP) (N.J.D.E.A., 2007). The specific level of proficiency, as well as the test instrument that is prescribed, are established by each individual state respectively based upon the requirements of NCLB (State of New Jersey, 2008; U.S. Department of Education, 2009). Schools that do not make AYP generally struggle to find the magic formula that will improve student performance. Schools that are successful in meeting or exceeding AYP generally seek to develop strategies that ratchet up performance in anticipation of more stringent requirements (New Jersey, 2009).

According to Nichols (2005) NCLB has renewed interest in methods that utilize class time more efficiently. One such method is the doubling-up of class time in critical subjects for students that are most at risk of not achieving proficient scores (low achievers). Mowen and Mowen (2004, p. 4), identify this "modified block" option as a potential strategy for specific subject areas in need of improvement. This is based upon the generally accepted wisdom that increased "time on task" will result in increased student comprehension and skills. For example, if students taking one period of math consisting of 42 minutes and one period of English consisting of 42 minutes did not score proficient in either or both of math and language arts and the school did not make AYP, perhaps increasing instructional time to 84 minutes or more would improve student performance. Nichols (2005) further provides "Despite renewed interest in experimental and innovative scheduling structures, only limited empirical research explores the impact of block-scheduling structures on potential student academic achievement" (p. 299).

This study analyzes the impact of doubling class times of low achieving students upon the proficiency levels attained by first time 11^{th} grade students who were administered the New Jersey High School Proficiency Assessment (HSPA). The HSPA is the standardized test adopted by the New Jersey Department of Education (NJDOE) in response to the NCLB. It is administered to all first time 11^{th} graders during the first full week of March in the school year, such that the 2004 HSPA was administered in March of the 2003-2004 school year, the base year for this study. It is stipulated that all New Jersey high school students are to score proficient or above as a graduation requirement, however, the State provides an alternative route to graduation

for students that never pass the HSPA.

The students used in the study are the first time 11th graders of a diverse medium-size regional high school serving approximately 800 students from three communities that are in close proximity to the urban center of Paterson, New Jersey. The school reflects the combined demographics of the communities such that there is an increasing diverse population. Of the three communities, community #1 is low income, community #2 is working class, and community #3 is a professional community. The vast majority of students in the school come from communities 1 and 2. Most students from community 3 attend private or parochial school.

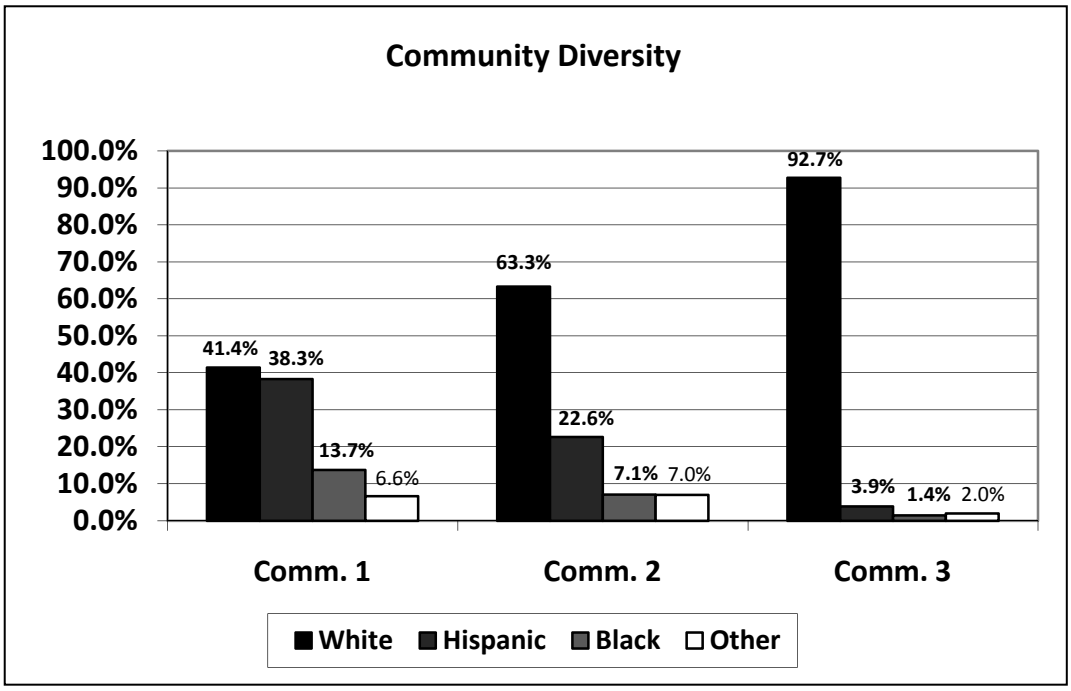

Figure 1.1, Community diversity. This figure shows the diversity among the three communities served by the regional school district.

Source: City-Data.com (2009)

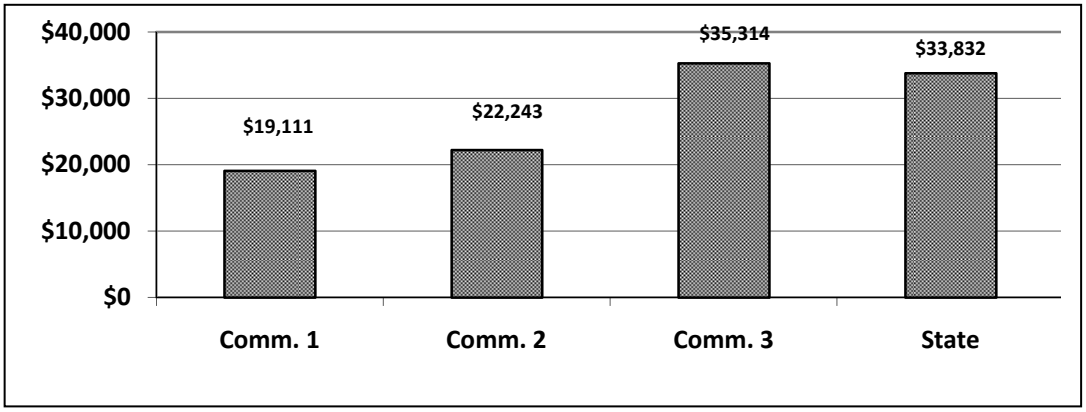

Figure 1.2, Estimated per capita Income of the three communities and the State.

Source: City-Data.com (2009)

The number of free or reduced lunch students as reported on the *New Jersey Department of Education Application for School State Aid* (ASSA) has increased over the past several years such that more than fifty percent now receive free or reduced lunch, representing a growing low-income population.

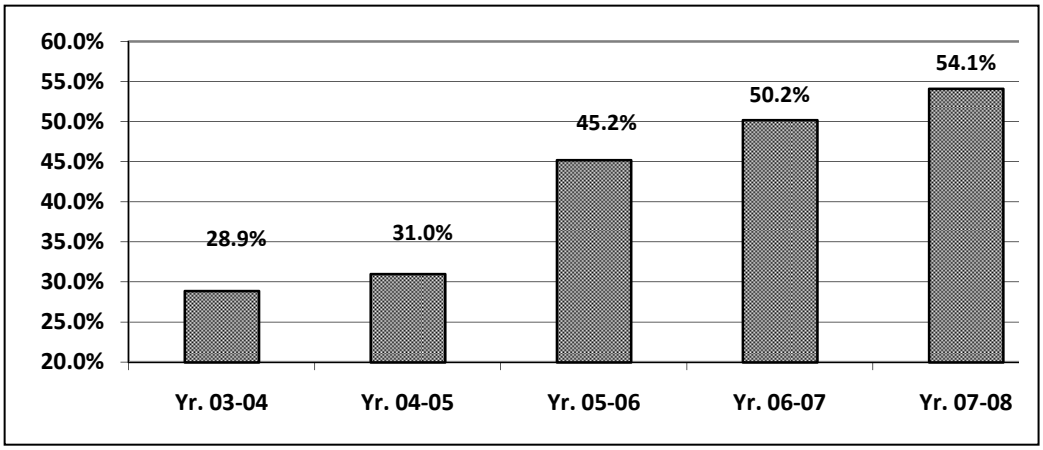

Figure 1.3, Percentage of students receiving free or reduced lunch.

Source: ASSA (2003, 2004, 2005, 2006, 2007)

Results of the HSPA for the years of 2004, 2005, 2006, and 2007 were used for the study. It has been customary at this school that 11th graders, at some point in the

last two years, had been enrolled in algebra I, geometry, ninth grade English, and 10th grade English. These subjects had been taught in single 42 minute periods, five days per week throughout the school year of 180 days until the 2004-2005 school-year.

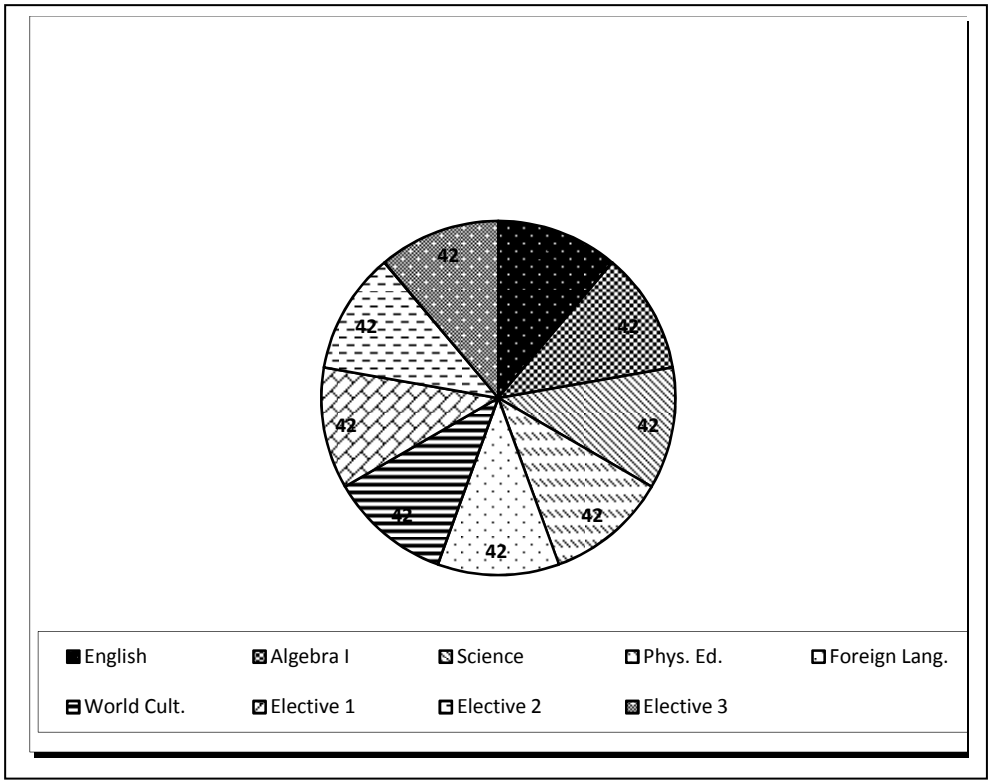

Figure 1.4. Distribution of typical nine period day. This shows that in a single period class format, students would have nine equal periods.

Seeking to improve test results, during school year 2004-2005, administration decided to provide an extra contiguous period of algebra I, geometry, and English for students that were identified as low achievers. The term "low achievers" is used herein to identify those students who entered high school without having passed the Grade Eight Proficiency Assessment, which New Jersey required for eighth grade students under NCLB. The additional 42 minutes of class time would be added to the original 42 minutes of class time and would consume the 4 minute passing period for a total

new class time of 88 minutes devoted to the targeted math and English classes. (By school year 2006-2007, an additional one minute of class time would be added to every single period class, increasing double periods from 88 to 90 minutes.)

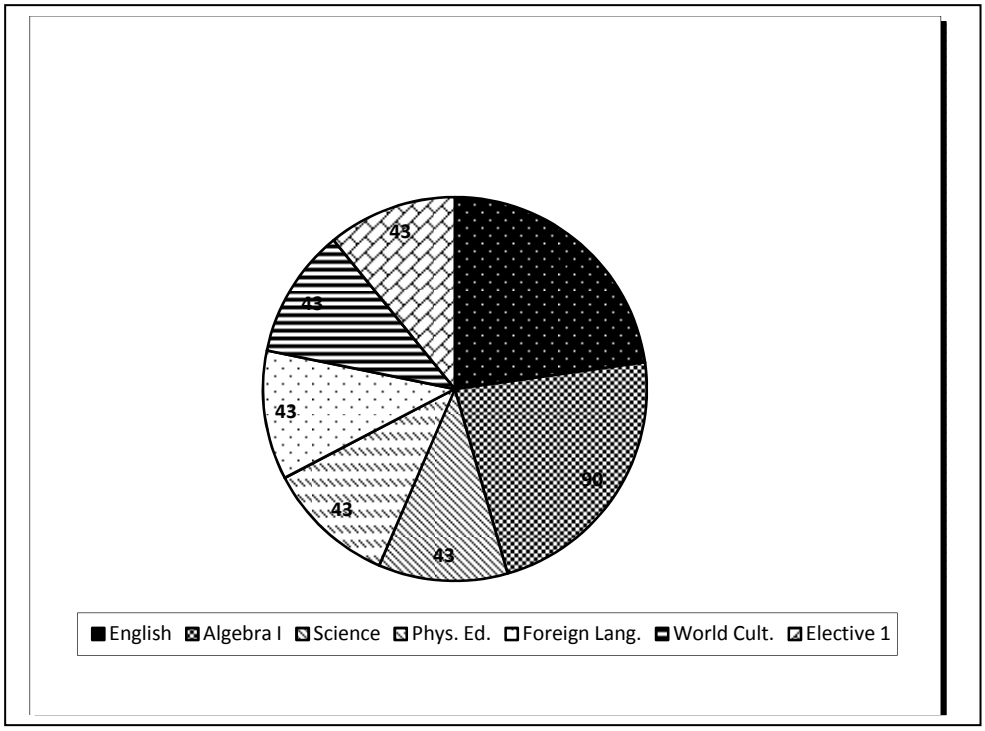

Figure 1.5, Typical distribution of nine period-day schedule conformed to modified block with double periods of English and math.

Figure 1.5 shows that English and math periods are double that of every other period and that electives 2 and 3 have been replaced by the combined periods. In such a scenario, students that might otherwise have selected electives such as art, music and a technology course will be limited to only one of those courses until perhaps the 11th grade after various ninth and tenth grade requirements have been met. Opportunities to increase electives might also occur if students migrate out of lower level classes by earning higher grades.

Statement of the Problem

It is not known to what extent, if any, the doubling of class time in English and math for low achieving students has impacted English (language arts) and math performance on standardized tests such as the New Jersey High School Proficiency Assessment (HSPA).

Therefore, the purpose of this study is to determine if there is a significant impact on the learning of low achieving students as a result of having doubled instructional time in English and math as measured by their outcomes on the HSPA. Due to the high percentage of minority and low-income students in the population, this researcher will also conduct a secondary analysis by demographic. The impact will be measured by the percent of students scoring proficient or better on the HSPA. The percentage of students scoring proficient or better is the dependent variable. The independent variable is the doubling of class time. Doubling instructional time in this case is also similar to adopting a modification of a student schedule design commonly known as Block Scheduling. This will be discussed further in the Review of the Literature.

Hypotheses

This study seeks to test the following null hypotheses:

- Null hypothesis 1 is that the means of the language arts proficiencies as reflected on the HSPA among all low achieving students that were provided one period of English are equal to the mean proficiencies of all low achieving students that received double periods of English each year.
- Null hypothesis 2 is that the means of the language arts proficiencies as

reflected on the HSPA among low achieving Hispanic students that were provided one period of English are equal to the mean proficiencies of low achieving Hispanic students that received double periods of English each year.

- Null hypothesis 3 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving White students that were provided one period of English are equal to the mean proficiencies of low achieving White students that received double periods of English each year.
- Null hypothesis 4 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving low income students that were provided one period of English are equal to the mean proficiencies of low achieving low income students that received double periods of English.
- Null hypothesis 5 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving non-low income students that were provided one period of English are equal to the mean proficiencies of low achieving non-low income students that received double periods of English each year.
- Null hypothesis 6 is that the means of the math proficiencies as reflected on the HSPA among all low achieving students that were provided one period of math are equal to the mean proficiencies of all low achieving students that received double periods of math each year.
- Null hypothesis 7 is that the means of the math proficiencies as reflected on the HSPA among low achieving Hispanic students that were provided one period of math are equal to the mean proficiencies of low achieving Hispanic students

that received double periods of math each year.

- Null hypothesis 8 is that the means of the math proficiencies as reflected on the HSPA among low achieving White students that were provided one period of math are equal to the mean proficiencies of low achieving White students that received double periods of math each year.
- Null hypothesis 9 is that the means of the math proficiencies as reflected on the HSPA among low achieving low income students that were provided one period of math are equal to the mean proficiencies of low achieving low income students that received double periods of math each year.
- Null hypothesis 10 is that the means of the math proficiencies as reflected on the HSPA among low achieving non low income students that were provided one period of math are equal to the mean proficiencies of low achieving non-low income students that received double periods of math each year.

Delimitations and Definitions

This study examines the doubling of English and math class times or establishing a double period instructional format for low achieving students in an effort to improve performance on state mandated tests required under NCLB. Due to the fact that these tests are specifically designed to be taken at a specific point in one's education, the test is administered to a different cohort group passing through the same grade each year. Therefore, the analysis incorporates a between-subjects design. In order to ensure minimal risk to the internal validity of a between-subjects design, this study uses a population limited to a specific public high school in New Jersey that adopted the modified block concept identified by Mowen and Mowen (2004) as a

recommended approach to improving scores of low-achievers in academic areas. The utilization of a specific public high school that adopted this strategy ensures that the populations studied in a between-subjects design are highly similar populations that have also received instruction from the same or similar instructors in the same academic environment. Therefore, the most different variable in the study is the change in treatment, i.e. the doubling of class time.

The following definitions are provided to ensure uniformity and understanding throughout this study.

AYP – Adequate Yearly Progress refers to the state-stipulated percentage of students by subject (math/English) by demographic (race/socio-economic strata) that must pass the HSPA. Schools that do not meet or surpass AYP are subject to sanctions. These may differ by state (U.S. Department of Education., 2009).

GEPA – The Grade Eight Proficiency Assessment required by the New Jersey Department of Education in fulfillment of the requirements of No Child Left Behind (State of New Jersey, 2008).

HSPA – The High School Proficiency Assessment is the New Jersey state mandated test which is required to be administered to all first-year 11^{th} graders in fulfillment of the requirements established by NCLB (State of New Jersey, 2008).

Low-Achievers – Students assigned to lower level math and English classes as a result of entering high school without having passed the GEPA.

NCLB – The No Child Left Behind Act which is the common name for the re-authorization of the Elementary and Secondary Education Act in 2002 resulting in widespread changes in accountability for schools and districts throughout the United

States (U.S. Department of Education, 2008).

Non low-achievers – Students assigned to higher level math and English classes as a result of entering high school having successfully passed the GEPA.

Public Regional High School – A school consisting of grades 9 through 12 serving students hailing from a formal consortium of communities that support and fund the school through their tax dollars (high school, 2009).

CHAPTER TWO: REVIEW OF THE LITERATURE

This review of literature takes a brief look at the history of scheduling and how and why block scheduling was developed. It includes a review of the various types of block schedules, their advantages and disadvantages. It starts with a theoretical review and concludes with a review of related research and summary. It incorporates various online and print resources, both historical and current. Although the literature review is not exhaustive, it includes that literature that is most relative to the study.

Theoretical Background

Like all resources, the time teachers have available to deliver high quality educational services are, by definition, scarce and must be used to its maximum advantage. Prior to the turn of the twentieth century, high schools in the United States were characterized by a high degree of flexibility in terms of class scheduling. A variety of formats had been used to teach various subjects. Different courses used different numbers of days per week and time frames in which instruction had been delivered (Hackmann, 2004). Between 1890 and 1900, enrollment in secondary schools almost doubled. From 1910 to 1920, the number of 14 to 17 year olds in high school increased from 15 percent to 32 percent. The expansion of secondary education also increased the possibility of students enrolling in college. Preparation for college became a key focus for standardizing secondary school education. Standardization focused on various aspects of providing education including curriculum as well as the amount and configuration of time required to master an academic subject. Two committees were appointed in the 1890s by the National Education Association to address these issues; 1) the Committee of Ten on Secondary School Studies and 2) the

Committee on College Requirements. The essence of the committees was to standardize college admissions requirements and prepare secondary school students according to those requirements. "Every subject which is taught at all in a secondary school should be taught in the same way and to the same extent to every pupil. Thus, for all pupils who study Latin, or history, or algebra, for example, the allotment of time and the method of instruction should be the same" (National Education Association, 1894, as cited in Shedd, 2003, p.7). By 1909, the accepted format of class time was described as 120 hours comprised of classroom instruction of 40 to 60 minutes per day, five days per week for 36 to 40 weeks. Although this became defined as a Carnegie Unit, Carnegie had not actually contributed to its formulation. His name became affixed to the concept because he provided pension funding to colleges that adopted the requirements for enrollment (Shedd, 2003). This trend to standardize the educational format was due in large part to influences from the business world where scientific management had been characterized by Taylorism-like approaches that placed a high value of efficiency, mass production, and uniformity in the workplace. It was during this period in American history that the daily period schedule was created as an organizational response to the problem of educating increasingly large numbers of students efficiently (Hackmann, 2004).

Scheduling continued to follow this format almost exclusively until the late 1950s when modular scheduling gained some popularity. "Instructional responsiveness was the hallmark of modular scheduling since class sessions could be structured according to the number of modules (10, 15, or 20 minutes in length) needed to teach a concept" (Trump and Baynham, 1961 as cited in Hackmann, 2004,

p. 699). The modular approach also provided a variety of course formats including classes that met on a daily basis or were staggered throughout the week with different class lengths (Trump & Baynham, 1961, as cited in Hackmann, 2004). The popularity of modular scheduling reached its zenith by the early 1970s and had been represented only in approximately 15 percent of the nation's high schools. The differences in the length of class sessions involved some unexpected problems such as; students that were between classes were left unsupervised during different parts of the school day. This resulted in increased disciplinary problems. Consequently, while flexible modular scheduling continued to be utilized in a few secondary schools, the approach became unpopular, and the majority of the nation's schools reverted to a daily-period scheduling approach (Hackmann, 2004).

Impetus for change continued to gain steam during the 1980s. By the late 1980s, advocates of alternative scheduling models cited the fundamental problems associated with the daily-period models. Among expressed concerns was that these models simply supported teachers relying on the use of lectures as a primary educational tool. Other drawbacks of the daily-period model included an excessive fragmentation of the school day, inhibition of in-depth exploration, and unnecessary constraints to the meaningful integration of curricular offerings (Hackmann, 2004).

The 1984 report, *A Nation at Risk*, (National Commission on Excellence in Education) concluded, among other things, that school administrators and teachers should allocate classroom time more efficiently. In its 1994 report *Prisoners of Time* the National Education Commission on Time and Learning further reinforced the element of "time" as a potential avenue for increasing learning: "No community in the

United States is so small or impoverished that it cannot benefit from an examination of how it uses time-if not in extending the day or year, at least in re-configuring how it uses the time now available" (Develop local action, 1994, p 1).

Suggesting reforms such as block-type scheduling, the Commission went on to advise: "New uses of time should ensure that schools rely much less on the 51 minute period, after which teachers and students drop everything to rush off to the next class (Fix the design flaw, 1994 p.1). One pioneer of block scheduling, Joseph M. Carroll, hypothesized that increasing class time from 45 minutes to 90 minutes per day for fewer days per year per subject would result in a more efficient model (1994). The model would be more efficient because there would be less teacher burnout due to teaching a fewer number of students per day; an improved student/teacher relationship due to the increase in daily quality time; and improved workloads for students and teachers. Other administrators feel that a 50 minute class period encourages a lecture-only environment, whereas a block schedule provides for more flexibility in teaching techniques and enables more in-depth study and detail each day (Coeyman, 2002; Hughes, 2002; Metzger, 2003; Wood, 2002). One high school English teacher who yearns for more time said: "Our schedule does a disservice to good teachers and their students. It never fails – as soon as my students become deeply engrossed in a story or poem, the bell rings, and they're off to their next class" (Black, 2002, p.58).

According to Weller and Mcleskey (2000), ", several alternative scheduling patterns have emerged under the general rubric of 'block scheduling.' Whether called the 'intensive block,' '4x4 block,' 'A/B plan,' or 'modified block,' all the plans for block scheduling reduce the number of classes offered during the school day, thus

increasing the length of time (as long as 90 minutes or more) that is available for instruction in a given subject area" (p. 209).,

During the past 2 decades, several different block formats have been used in the nation's secondary schools, including combination approaches that use both block and daily-period features. "Two approaches have emerged as the most common: the 4x4 semester plan, in which students complete four classes each semester for a total of eight courses per year, and the eight-block alternating-day model, in which students receive instruction in one half of their courses on alternate days and continue in these courses throughout the year" (Hackmann, 2004, p. 697).

Today, block scheduling represents one of the most popular alternatives to traditional scheduling models (Danielson, 2002). While the term "block scheduling" is typically used to describe any alternative arrangement of time within the daily school schedule, there are some differences between the models used in many middle schools and high schools in the United States (Wraga, Hlebowitsh & Tanner, 2000). A number of middle schools, for example, emphasize flexibility in scheduling by providing a large block of time wherein teams of teachers are able to provide instruction to a fixed group of students for academic core subjects as well as their elective and exploratory courses (Wraga et al., 2000).

The 4x4 block scheduling model also assumes its name from the fact that students can enroll in four classes each semester, rather than the traditional six, with more intensive periods of study required for each of the four courses. "The concept was pleasing to parents and students because students could take four courses each semester, thus the name 4 × 4, for a possible total of thirty-two credits over four years.

That would allow students to take more elective courses and perhaps more advanced courses in such areas as science and foreign languages" (Queen, p. 249).

An example of the 4x4 Block schedule is provided in table 2.1.

Table 2.1

Representative 4x4 Block Schedule Model

Period	Semester	Semester 2
1	Course A	Course E
2	Course B	Course F
3	Course C	Course G
4	Course D	Course H

Source: Wraga et al., 2000 p. 337

The 4 × 4 block scheduling model has attracted a number of proponents who point to its numerous benefits over traditional class scheduling regimens. In this regard, Queen et al. (1996) emphasize that, "The 4x4 block is an excellent alternative scheduling model for the modern secondary school, especially for social studies classes. At a time when high-school teachers are in a constant struggle to increase academic achievement and improve test scores, many high-school administrators seem to have found an answer in the form of flexible scheduling" (p. 249). Based on the guidance provided by the National Association of Secondary School Principals (NASSP) contained in its report, *Breaking Ranks: Changing an American Institution*, introduced at the organization's annual conference in San Francisco, J.A. Lammel (1996) cited the growing need for improved scheduling models, a finding that is supported in the report. Based on the increasingly widespread view that more flexible

scheduling arrangements provide teachers with larger blocks of time that can be devoted to actual teaching in order to improve academic outcomes, Lammel also emphasized that student achievement is “the primary goal of a flexible schedule” (as cited in Queen, p. 249). In this regard, two well-known proponents of the block scheduling model assert, “We strongly believe that scheduling is an untapped resource which can serve as a catalyst for school improvement” (Canady & Rettig, 2000 as cited in Hackmann, p. 700)

Some educators, though, have experienced some problems with the use of the 4 × 4 block scheduling model. For example, Queen et al. report, “Teachers found that they had to redesign their courses for a 90-day period, rather than the traditional 180 days. They soon found that even though the time period was extended on a daily basis, the actual class time for the course would drop by 10 percent or more” (p. 249). Likewise, other constraints to the use of the 4x4 block scheduling model have been advanced by high school principals who cited the major adjustments required of many teachers that would be required in order to make such an alternative approach viable; this constraint was found to be particularly true of history teachers who were either unwilling or unable to adapt and who continued to use a lecture format throughout their expanded class times (Queen et al., 1996).

As noted above, other block scheduling approaches include modifications or variations of the above 4x4 approach. Table 2.2 displays the 4X4 model that has been termed the “A/B” approach.

Table 2.2

Representative A/B Block Schedule Model

Period	Day			
	Day1	Day 2	Day 3	Day 4
1	Course A	Course E	Course A	Course E
2	Course B	Course F	Course B	Course F
	Course C	Course G	Course C	Course G
4	Course D	Course H	Course D	Course H

Source: Wraga et al., 2000 p. 337

Some school districts have elected to use this alternate day block scheduling model for different reasons, including the following:

1. A desire to meet with students throughout the year in a particular course; To address the special problems unique to the music department and for upper level courses, particularly advanced placement courses tested in May;
2. To eliminate the lengthy time gaps that can occur between sequential courses;
3. To avoid conflicts with existing teacher contracts; and,
4. To gain many of the benefits inherent in the longer instructional period (Wraga et al., 2000, p. 340).

A number of the benefits that accrue to the use of the 4 x 4 block scheduling model are diminished with the alternate day schedule, or A/B model, including the following:

1. Students failing a course are unable to make it up during the next semester and must attend summer school;
2. Students are still scheduled for six or more courses daily throughout the year;

3. Few opportunities exist for accelerating a student's program, especially for those gifted in one or more areas;
4. Teachers must continue to maintain grades and records for over 100 students;
5. Teachers must prepare for five or six classes each day and attempt to provide the instructional needs for well over 100 students daily; and,
6. Students have six or more subjects to make up following an absence (Wraga et al., p. 340).

Joseph M. Carroll, a former teacher and school administrator, designed another block schedule model that is comparable to the trimester model used by many institutions of higher education and is known as the “Copernican plan” (Wraga et al.). The Copernican block scheduling model is far more intensive in nature than the 4x4 or A/B models. It is comprised of two discrete patterns to deliver educational services: (a) up-to-a-4-hour class each school day for a term of 30 days or (b) two 2-hour classes each day for a total of 60 days (Wraga et al.).

Notwithstanding the more intensive nature of the Copernican model, its author points out that it allows high schools to reduce their class sizes by as much as 20 percent. This block scheduling approach also might reduce the teacher’s average student load by between 60-80 percent and increases the number of sections offered by high schools in the master schedule by a full 20 percent (Wraga et al., 2000).

A representative Copernican model schedule is shown in Figure 2.1.

Period Length*	Option A (60-Day Period)	Period Length*	Option B (30-Day Period
8:00-10:00 a.m.	Class I	8:00 a.m.- 12:00 p.m.	Class I
10:00 a.m.-12:00 p.m.	Class II	12:00 p.m.-12:30 p.m.	Lunch
12:00 p.m.-12:45 p.m.	Interdisciplinary Seminar, Elective or P.E./Health	12:30 p.m.-1:15 p.m.	Interdisciplinary Seminar, Elective or P.E./Health
12:45 p.m.-1:15 p.m.	Lunch	1:15 p.m.-2:15 p.m.	Elective, P.E./Health, Study or Tutorial
1:15 p.m.-2:15 p.m.	Elective, P.E./Health, Study or Tutorial	2:15 p.m.-5:00 p.m.	Activities/Sports
2:15 p.m. – 5:00 p.m.	Activities/Sports		

* Schools determine passing time allotments based on building characteristics and local needs. Source: Wraga et al., 2000, p. 340

Figure 2.1, Representative Copernican Block Schedule Model

Whatever block scheduling model approach is selected for a school's individual needs, specific implementation techniques tend to vary from region to region. The implementation of an intensive or block scheduling approach at the high

school level generally results in the following changes being made to the traditional operation of the high school:

1. Students are enrolled in four periods per day, instead of six or seven.
2. Teachers teach three periods daily, with one preparation period.
3. There are no study halls for students because they are fully scheduled.
4. Students take eight courses yearly, for a possible total of 32 by graduation.
5. Additional faculty members may be needed for proper implementation (Wraga et al., 2000).

Table 4 is an example of a modified block schedule. In this example, a modified block schedule modifies a standard daily-period model combining two periods for the purpose of providing extended instructional time to targeted populations. As shown here, it can be used to double the amount of instructional time in English and mathematics if it is desired for more intensive instruction in these academic courses. Meanwhile, electives and other courses continue to be provided within the daily-period structure. There is no set formula for applying a modified block schedule, and there is no set period for doubling up of class time. The modified block schedule doubles classes where needed in the class day as the daily-period schedule permits. One student, as shown in table 2.3, might combine periods two and three for English, while another student with another English teacher might combine periods one and two for the modified block. The periods where the modified blocks are created remain in those established time frames throughout the week and throughout the school year.

Table 2.3

Representative Modified Block Schedule Model for Math and English

Period	Day
	Monday –Friday
1	Elective
2	English
3	English
4	Science
5	Phys. Ed.
6	Lunch
7	Social Studies
8	Math.
9	Math.
10	Foreign Language

A key benefit of the modified block schedule is the flexibility within which it can be implemented without disrupting the pre-established daily-period schedule. As a result of NCLB, there is renewed interest in methods that utilize class time more efficiently. “Despite renewed interest in experimental and innovative scheduling structures, only limited empirical research explores the impact of block-scheduling structures on potential student academic achievement” (Nichols, 2005, p. 299).

However, the organization of time and how it accommodates the learning process is a subject that is controversial, and perhaps, not well addressed from an empirical perspective. For example, Lawrence and McPherson suggest that there is a

"lack of scientific support regarding the effect of block scheduling on academic achievement" (2000, p. 171).

Advocates of block scheduling regimens suggest that this alternative approach enhances student learning, provides superior working conditions for teachers, and makes the transition to higher education and the world of work smoother for many students today (Edwards, 1995). Other benefits cited by Mowen and Mowen, (2004) include increased content emphasis and increased time on task. Some real-world examples of these benefits can be found as well. For instance, Maryland high school students experienced significantly improved academic outcomes as measured by tests, while student behavior problems decreased dramatically after some school districts adopted block scheduling (Bukowski & Stinson, 2000). Yet still other schools may not experience that same success. It was reported in the *Pittsburgh Post-Gazette*, on April 4, 2004 that the Coatesville, Pennsylvania school officials abandoned their block schedule (in place since the 1990s) because students' test results did not meet the *NCLB* guidelines (as cited in Way, A.S., 2006, p.4). Approximately 20 to 30 percent of the schools in the United States already have some type of block scheduling arrangement in place, but the rates go much higher in some states (Bukowski & Stinson, 2000; Hackmann, 2004). For example, in North Carolina and Florida, three-quarters of the schools used block scheduling and Wisconsin has 69 public high schools that use block scheduling (Bukowski & Stinson).

Although block scheduling has become an established practice in many American high schools, some educators remain at a loss to explain why this approach is superior to traditional daily-period formats and what academic outcomes block

scheduling is intended to provide (Hackmann, 2004). As noted above, there remains a paucity of timely and relevant studies concerning the precise impact that block scheduling has on academic outcomes, as well as other factors such as job satisfaction and morale levels among teachers using this alternative but more intensive scheduling model (Loertscher & Woolls, 1999, as cited in Huffman, 2005). Still, today, there remains a lack of theoretical foundational support for block scheduling, and there remains a limited amount of timely and relevant research concerning its effectiveness in improving academic outcomes (Bowman, 1998). According to Hackmann, "Many teachers have struggled to make effective use of the longer time blocks because they lack a conceptual understanding of the purpose for these extended time frames and of how they may facilitate learning" (2004, p. 697).

As with any substantive reformation effort in the schools, block scheduling has both strengths and weaknesses that must be taken into account when considering its appropriateness for a given classroom setting.

Time in its various forms; increased time, maximized time, time needed, actual instructional time, and actual time-on-task; all tend to impact academic achievement. However, there exists a multiplicity of other factors that impact on learning. In any single environment, one must be aware of the potential impact of socio-economic status (SES), ethnicity, and even the security of the environment.

For example, students tend to develop perceptions of what they are and frame themselves within those perceptions. This has been largely observed in minority students who often struggle between establishing homogeneity with the general society or embracing their cultural diversity.

Nasir and Saxe (2003) posit that minority students often negotiate with themselves and with others some degree of maintaining cultural identity and level of academic achievement. While the focus of this paper is the impact of time on learning as measured by the New Jersey HSPA, it cannot escape the potential impact of ethnicity in a diverse population. Nasir and Saxe site findings that indicate that some students will try to appear "raceless" in their effort to succeed academically (p.14).

These findings were the results of empirical studies in which ethnic students were interviewed with respect to ethnic identification and the results were correlated to measures of academic achievement. They suggest a three-stranded approach for the analysis of emerging tensions between ethnic and academic practices. The three-stranded approach suggests observation or analysis of the following: 1) positioning in local interactions (face to face interactions); 2) positioning over developmental time (how individuals change in their ethnic identity and practices over time); and 3) positioning and social history (identifying emerging and shifts in cultural capital associated with the social history of communities) (Nasir & Saxe, 2003, pp. 15 & 16).

The analysis of how students manage the resultant tensions of ethnic identity and perceptions in the academic environment might impact the educational system. The authors suggest that understanding these tensions might move schooling to mitigate these tensions in the classroom, and thus make education more accessible to students regardless of ethnic perceptions. Students should not feel as if they have to give up or mask cultural practices in order to be successful in school.

Urban areas tend to have high levels of ethnic diversity. The experience of this writer is that schools in urban areas also experience low levels of parental involvement. Urban areas also have greater concentrations of economically challenged students, single parent families, and the frustrations that emanate from such conditions. These conditions tend to foster an environment that includes negative behaviors such as bullying, harassment, and fighting; which are a problem for schools and disrupt the educational process (Gladden, 2002). According to Gladden, schools generally respond to this kind of violence with prevention strategies that have not been effective, including surveillance, security, and punishment. He cites the lack of effectiveness due to lack of involvement by teaching staff, both in developing discipline policy and execution. Consequently, schools in urban areas lack sufficient parental involvement and sufficient teacher involvement.

Goddard (2003) conducted a study that supports a widely held belief that increased parental or community involvement results in higher academic achievement. It was hypothesized that such social capital is significantly and positively related to differences among schools and the odds that their students would pass state-mandated achievement tests (p. 62).

The study used 45 randomly selected elementary schools in an urban mid-western city, and it included 444 teachers who participated in surveys and tests from 2,429 third grade students. Upon completion of the data gathering, the social capital survey results were submitted to a principal-axis factor analysis. Hierarchical generalized linear modeling (HGLM) was used for the pass/fail results of the student tests subject to a Bernoulli distribution. The principal-axis factor analysis resulted in

an eigenvalue of 8.31 which indicated high reliability on the social capital surveys. The HGLM analysis indicated that a one standard deviation increase in social capital is associated with a 39 percent increase in students' odds of passing the math test and a 35 percent increase in odds in passing the writing test (Goddard, 2003, p.68).

Gladden (2002) suggests that the safety factor in schools will improve with "strong relationships between teachers and students; a broad commitment to teaching nonviolent behavior, a strong academic program, and responsiveness to students' community and culture" (p.292).

Ultimately, this analysis seeks to understand the relationship between allocation of time for classroom instruction and academic achievement as measured by student success on the HSPA. However, Kuper (2006) criticizes the use of such minimum competency tests (MCT) required for states to develop and administer as part of the No Child Left Behind Act of 2001 (NCLB). He cites a number of underlying reasons for its ineffectiveness. Among the reasons are the following: One is that the tests, while required to measure three levels of proficiency, only require an established minimum level of proficiency, and the required level (established independently by states) is generally unworkable. Also, while it is required to pass the high school test in order to graduate, there are usually other means to graduate circumventing the requirement to score proficient on the test. Therefore, it is not, what the author calls, a high stakes test for the student. The author cites high school exit exams required by 19 states as high stakes test that hold students primarily responsible for learning. The NCLB is two-tiered in that both the student and the school are assessed in their success in meeting Adequate Yearly Progress (AYP). Due

to the students' ability to circumvent their performance on the test and the potential repercussions for schools not making AYP, much of the accountability for performance has shifted from the student to the school. The author also expresses concern that the NCLB's focus on math and language arts might cause schools to narrow their curricula (Kuper, 2006).

The author identifies several issues. The first issue concerns what achievement is valued. The NCLB currently values achievement only in the areas of math and language arts proficiency, and possibly science at some future date. A second issue is the cut scores, which are widely seen as "unworkable" (2006, p. 6). The author suggests that other acceptable standards that work include the Armed Forces Qualification Test and the GED. A third issue concerns who should be responsible for meeting performance standards. In terms of accountability, Kuper feels that motivation can be high if both students and teachers are held accountable. However, even though teachers can help students realize their potential, they cannot be held responsible for specific levels of performance (Kuper, 2006, p. 9).

Related Research

Based on his hypothesis that increasing class time from 45 minutes to 90 minutes per day would result in a more efficient model due to improved workloads for teachers and students, Carroll (1994) conducted a study with the following results: A study of 650 students in grades 10 through 12 in 1991 showed that the reconfigured class time resulted in an increase in students attaining honor roll by 50 percent (p. 32).

In their effort to bolster research in this area, Lawrence and McPherson (2000) conducted a study in two southeastern North Carolina schools. The two

schools were in the same district. One school was using block scheduling; the other was using traditional scheduling. Students' scores on the North Carolina End-of-Course Assessments in the subject areas of Algebra I, Biology, English I, and U.S. History were collected during the school years of 1992-93, 1993-94, fall semester 1994-95, spring semester 1994-95, and fall semester 1995-96 (p. 179).

The mean proficiency scores for each of the four subject areas were higher for students who were in the traditional schedule compared to those students for whom the block schedule had been adopted. The findings indicated that the higher scores for students with the traditional schedule were not due to chance alone. (Lawrence & McPherson, 2000).

Nichols conducted a study of five high schools in a large metropolitan area. While the overall student demographic was comprised of 72 percent White, 23 percent African American, and five percent Hispanic, Native American and Asian, the schools varied in terms of ethnicity and socio-economic status (SES). Two schools converted to block scheduling in 1994, one in 1995, and two in 1996. Nichols collected Grade Point Average (GPA) data for each of the school years by individual school, ethnicity, and SES for the years 1992-1993 through 1998-1999. Therefore, data was collected prior to the schools converting to block scheduling and after. After conducting ANOVA, Nichols determined that "one can observe longitudinally small gains in student achievement for each school following its block conversion" (2005, p.308). However, the study also indicates that lower SES and minority students experienced few gains after their schools converted to block scheduling.

Hawkins Hughes (2008) conducted a three year study of the impact of block scheduling and traditional scheduling in three high schools in Tennessee from 2005 to 2008. Among other things she tested the impact of end of course grades of algebra II students. The dependent variables were algebra II students in a one semester 4X4 block schedule, algebra II students in a two semester 4X4 block schedule, and algebra II students in a traditional year long schedule. According to Hughes, "The null hypothesis was rejected when results showed a significant difference, and showed that students who took algebra II on a traditional schedule earned higher grades (p. 78)."

A study conducted by Karweit and Slavin (1981) indicates that the variable "time" and its impact on learning is further complicated by such variables as scheduled time versus actual minutes of instruction and number of minutes students are engaged. Pre-test scores and post-test scores were plotted and regression analysis was applied to determine a correlation between time-on task and change in learning. Observations were conducted to evaluate scheduled minutes of instruction, actual minutes of instruction, and number of minutes students were engaged. Pre-test scores and post-test scores were plotted and regression analysis was applied to determine a correlation between time-on task and change in learning. The analysis of the two third grades indicated that an increase from a 3.2 to a 3.8 grade point average could result from a 13 minute increase in instructional time from 37 minutes to 50 minutes. The analysis of the three fourth grades indicated that there would be no significant change (1981, p. 169). Results were non-conclusive as one group showed a significant increase and the second group showed no significant change. But, it does provide support that there could be maximum and minimum perspectives to time and learning.

The concept of maximizing time available and minimizing time needed for learning was studied by Gettinger (1989). In this study, Carroll's model regarding the relationship between time spent learning and time needed for learning was tested. The sample was comprised of 118 third-grade children from six classrooms in three elementary schools in southern, rural Wisconsin. Instruments included Group-administered experimental learning tasks composed of two parts: (a) a unit, or passage, of school-related material to be read and learned, and (b) a 10-item, multiple-choice criterion-test. The experiment was divided into two phases. The first phase was to establish a baseline for "time-needed-for-learning (TNL)." The second phase established incentives for learning that were to be compared against the baseline to determine if the incentives would maximize TNL. The mean number of times required to achieve 100 percent accuracy in the baseline phase was 4.91. The effects of the various incentives resulted in 4.72 and 3.85 respectively, reducing the TNL (1989, p. 84). The findings support theoretical assumptions surrounding student learning time and achievement, especially as relates to incentives**.**

Summary

The National Commission on Excellence in Education decried in its 1984 report, *A Nation at Risk* that school administrators should allocate time more efficiently. This was echoed again in 1994 by the National Education Commission on Time and Learning in its report, *Prisoners of Time*. This report further defined block scheduling as a possible alternative. There are a number of variations of block scheduling. However, for this analysis, the only element of importance relative to block scheduling is the element related to time. Time is the one element that is

consistent among all variations of block scheduling. Block scheduling generally incorporates the practice of increasing time for a class, usually doubling the time of a traditional single period class. Block scheduling increased opportunities for more flexible teaching techniques providing greater opportunities to learn greater subject detail on a daily basis, improve student/teacher relationships, and reduce teacher burn-out are the ultimate goals of block scheduling.

The No Child Left Behind Act (NCLB) has increased schools' accountability for the amount and quality of learning of their students. This has caused renewed interest in block scheduling as one element, among many others, that might increase student performance, especially as it relates to student performance on state-mandated tests required under NCLB. The impact of ethnicity and socio-economic factors on the use of class time is another category which must be considered. Administrators need to provide the most effective classroom environment that is conducive to learning. Providing effective class time has been a major focal point for a number of decades, yet the amount of empirical data relative to efficient use of time continues to be sparse.

Research that has been conducted has yielded mixed results leaving the educational world still questioning how to use time effectively to improve learning. Karweit and Slaven (1989) tested time-on-task and change in learning and found that increasing class time from 37 to 50 minutes resulted in an increase in GPA for third graders, but not for fourth graders. Carroll's 1992 study indicated that block scheduling led to a 50 percent increase in students attaining honor role status. Yet, Lawrence and McPherson (2000) found that students with a traditional schedule

performed better than students provided a block schedule.

This ex-post facto study seeks to provide further understanding of the relationship of re-organizing class time to provide more quality time for instruction, and it seeks to measure its impact on state tests, such as the HSPA, required under NCLB.

CHAPTER THREE: METHODOLOGY

Overview of the Study

This study examines the doubling of math and English class times or establishing a double period instructional format for low achieving students in an effort to improve performance on state mandated tests required under NCLB. Due to the fact that these tests are specifically designed to be taken at a specific point in one's education, the test is administered to a different cohort group passing through the same grade each year. Therefore, the study incorporates a between-subjects design. In order to ensure minimal risk to the internal validity of a between-subjects design, this study uses a population limited to a specific public high school in New Jersey that adopted the modified block concept identified by Mowen and Mowen (2004) as a recommended approach to improving scores of low-achievers in academic areas. The utilization of a specific public high school that adopted this strategy ensures that the populations studied in a between-subjects design are highly similar populations that have also received instruction from the same or similar instructors in the same academic environment. Therefore, the most different variable in the study is the change in treatment, i.e. the doubling of class time.

The population of interest is the first time 11th grade students enrolled in a medium-size regional high school in northern New Jersey during the years 2003-2004, 2004-2005, 2005-2006, and 2006-2007. This study includes the entire population of interest for each year, which is comprised of the first time 11th graders for the years designated above. The significance of the population of first time 11th graders is that it is the population that is required to take the New Jersey High School Proficiency

Assessment (HSPA) the first week of March each year. Adequate Yearly Progress (AYP) for each school as required by NCLB is measured by the HSPA results of first time 11th graders. The school is comprised of grades nine through 12, and it serves three diverse partially urban communities neighboring a large northern New Jersey urban center. The total in-district school population ranges between 750 and 800 students during any given year.

Table 3.1

Total Enrollment and 11th Grade Enrollment by School Year

School Year	Enrollment	
	Total Enrollment	11th Grade Enrollment
2006-07	793	207
2005-06	767	180
2004-05	769	181
2003-04	784	162

Source: State of New Jersey Department of Education (2008)

The number of students in the 11th grade can range from 160 to a little over 200 during any given year. Approximately 45 percent of the students are Hispanic, approximately 15 percent are African American, and approximately 40 percent are White during the years of interest. The school reflects the demographics of the communities such that there is an increasing diverse population. Of the three communities, community #1 is low income, community #2 is working class, and community #3 is a professional community. The majority of students are from communities 1 and 2. Most students from community 3 attend private or parochial.

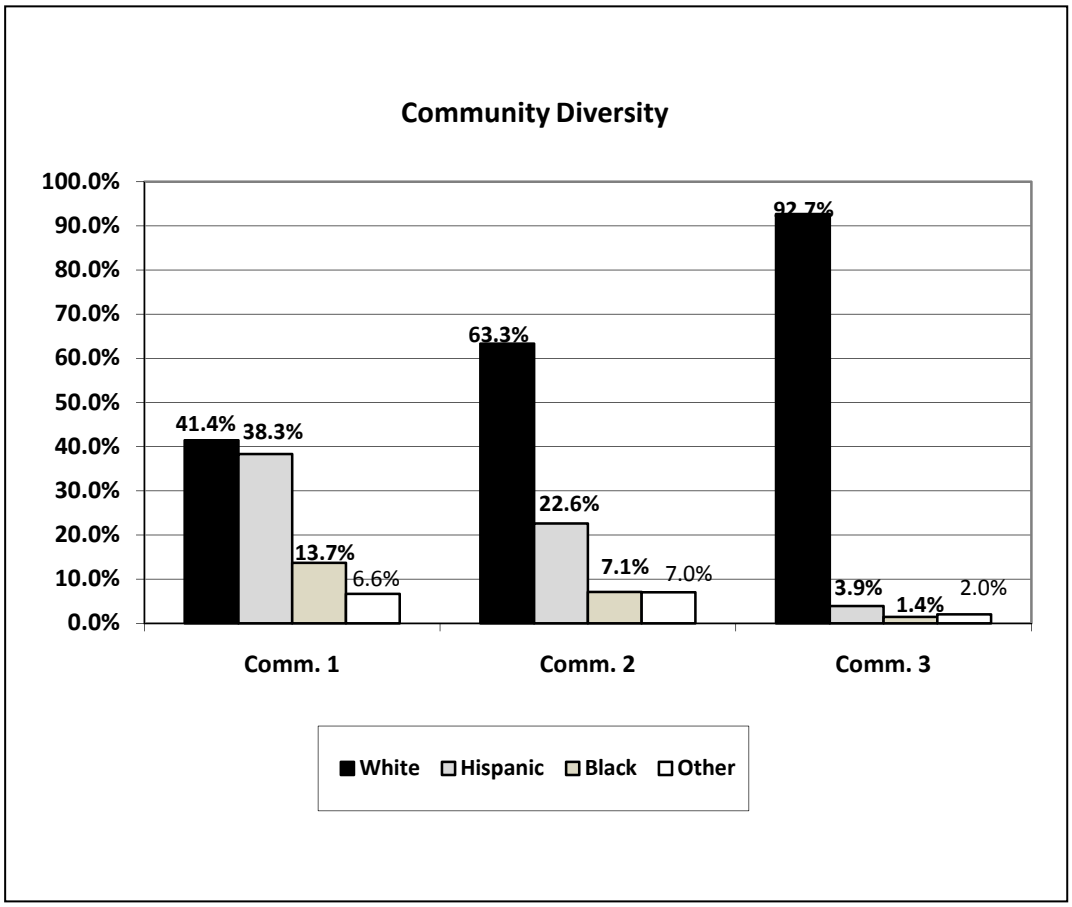

Figure 3.1, Community diversity.

Source: City-Data.com (2009)

The number of free or reduced lunch students as reported on the *New Jersey Department of Education Application for School State Aid* (ASSA) has increased over the past several years such that more than fifty percent now receive free or reduced lunch, representing a growing low-income population. During the specific years included in the research, the percentage of free or reduced students almost doubled. In school-year 2003-2004, the percentage of students receiving free or reduced lunch was 28.9 percent. By school year 2006-2007, the percentage of students receiving free or reduced lunch had grown to 50.2 percent, as reflect in Figure 3.2 .

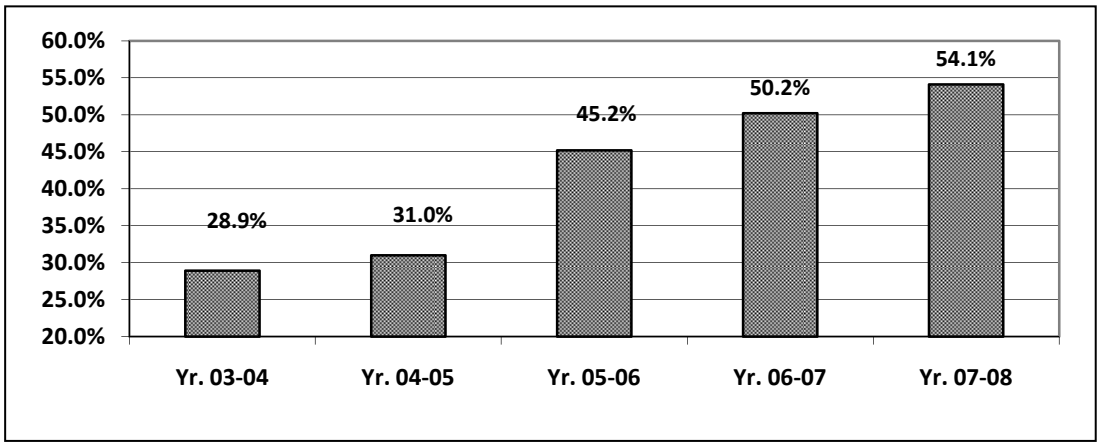

Figure 3.2, Percentage of students receiving free or reduced lunch.

Source: ASSA (2003, 2004, 2005, 2006, 2007)

This also reflects in the 2007 estimated income for the two lower class communities. Community #1's estimated per capita income is $19,111 which is 42.5 percent less that the state's estimated per capita income of $33,832. Community #2's estimated $22,243 is 34.3 percent less than the state's estimate.

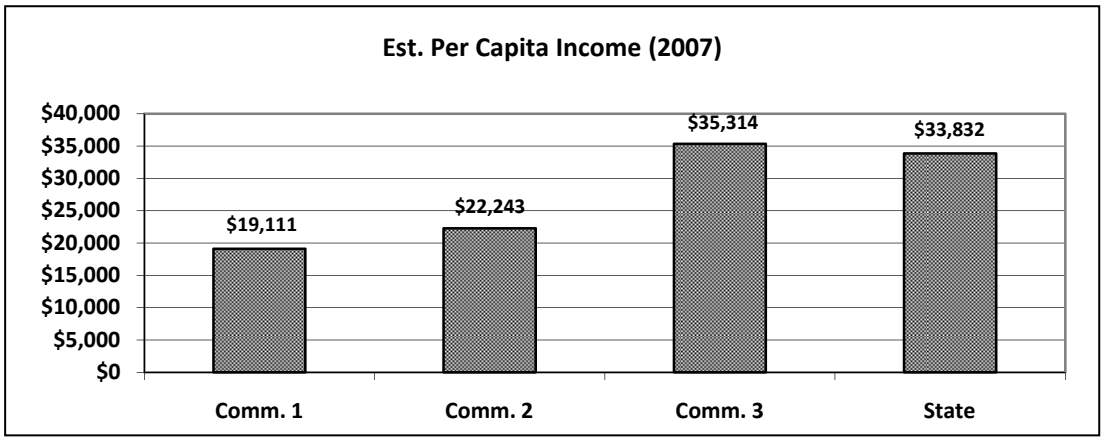

Figure 3.3, Estimated per capita income for each community served by the regional high school and the State.

Source: City-Data.com (2009)

Design of the Study

This study examines the doubling of English and math class times for low achieving students in an effort to improve performance on state mandated tests required under NCLB. Due to the fact that these tests are specifically designed to be taken at a specific point in one's education, the test is administered to a different cohort group passing through the same grade each year. Therefore, the study incorporates a between-subjects design. In order to ensure minimal risk to the internal validity of a between-subjects design, this study used a population limited to a specific public high school in New Jersey that adopted the modified block concept identified by Mowen and Mowen (2004) as a recommended approach to improving scores of low-achievers in academic areas. The utilization of a specific public high school that adopted this strategy ensures that the populations studied in a between-subjects design are highly similar populations that have also received instruction from the same or similar instructors in the same academic environment. Therefore, the most different variable in the study is the change in treatment, i.e. the doubling of class time.

Data Gathering Methods

Students' scores from the administration of the New Jersey High School Proficiency Assessment (HSPA) for the years 2004, 2005, 2006, and 2007 were collected and used for the statistical analysis. The HSPA was administered during the first week of March each year, and it was administered during the first week of March for the years that are of interest for this study. The HSPA was developed to replace the previously administered New Jersey High School Proficiency Test. It is administered to all first time 11^{th} graders in public schools throughout the state of New Jersey. It is

one of the battery of tests developed to satisfy the requirements of the No Child Left Behind Act of 2001 (NCLB). The HSPA is used to test student proficiency in all areas of the New Jersey Core Curriculum Content Standards for mathematics and language arts. All public school students in New Jersey must achieve a minimum level of proficiency on the HSPA or pass the Special Review Assessment (SRA) as a graduation requirement. The HSPA was field tested in 2002 for reliability. Each year during the administration of the HSPA there are questions and problems that are field tested to be used in subsequent applications of the test.

The test of the null hypotheses consists of five independent control groups and three independent experimental groups. The dependent variables are the mean scores on the HSPA that was administered to first time 11th graders in March of the years 2004, 2005, 2006, and 2007. The independent variable is the expansion of instructional time from 42 minutes to 88 minutes in 2005 and to 90 minutes in 2006 and 2007 (resulting from doubling the instructional period) for students that were identified as low-achievers and qualify as candidates for one of the lower-functioning algebra, geometry, and/or English courses. Therefore, one control group is the low achieving 11th graders who received instruction in algebra I, geometry, and/or English for only 42 minutes prior to taking the HSPA in 2004. The experimental groups are the low achievers in the 11th grade who benefited from the expanded instructional time (doubling of the instructional period) prior to taking the HSPA in 2005, 2006, and 2007. The additional four control groups are all other students (non-low achievers) in the 11th grade that participated in the HSPA in years 2004, 2005, 2006, and 2007, and had not received the treatment of the expanded instructional time. The purpose of

these control groups is to determine if there is any variance from year to year without the doubling of class treatment as a result of different applications of the test or differences in populations from year to year.

Instrumentation

The results of the HSPA were collected for each of the years of interest, 2004, 2005, 2006, and 2007. Scores for each of the first time eleventh graders from the designated populations of interest for each year in the study were analyzed to determine if there was a significant change in performance from 2004 to 2005; 2004 to 2006; and 2004 to 2007 as well as year to year. The low achieving population of 11th grade students in 2004 constitutes one control group while the experimental groups are comprised of the 11th grade low achievers in 2005, 2006, and 2007. The experimental group in 2005 had the benefit of one year of the double periods of English and algebra or geometry. The experimental group in 2006 had the benefit of two years of double periods of English, algebra and/or geometry. The experimental group in 2007 had the benefit of three years of double periods of English, algebra and/or geometry. HSPA scores for the non-low achievers will also be collected for the years 2004, 2005, 2006, and 2007. The non-low achievers for those years will constitute another set of control groups. These groups will not have received any double period instruction in English, algebra, and/or geometry. The means of their scores from each year will be used to provide additional validation to the test.

The study had to negotiate an anomaly that prior to 2006; students remained in their cohort class regardless of number of credits successfully completed. In 2006, a decision had been made to limit testing to students who successfully completed 60

credits, the number of credits required to have been completed prior to entering the 11th grade. Consequently, the population of study of all groups will be those 11th graders that have successfully completed 60 credits or more. Students that have not completed 60 credits will not be included in the population of study. This is to ensure that the population for each year is similar to the population of any other year in the study.

The HSPA provides separate scores for math and for language arts. Therefore, the collection of data and analysis is separate as relates to math and language arts respectively, just as the null hypotheses are also stated separately for math and for language arts.

The experiments are a between-subjects design because the control groups and the experimental groups are from similar but different populations. The populations are similar in that each population consists of first time 11th graders from the same school. Many have been taught by the same teachers using the same curriculum. In some cases students of one population might even be siblings of students in the other populations in the study. They are different in that each population belongs to a distinctive cohort, such that one population is comprised of low-achievers who are first time 11th graders during school year 2003-2004, and another population is comprised of first time 11th graders during school year 2004-2005, and so forth. Advantages of the between-subjects-design include the following: The individual scores are independent of other scores, and scores are not influenced by such factors as experience gained in prior administration of the test, fatigue or boredom due to participating in a series of treatments, and contrast effects resulting from comparing

one treatment to another. According to Rybarova (2006), disadvantages of the design include individual differences i.e. characteristics that differ from one population to another. These can become confounding variables or can produce high variability in the scores.

The study incorporates three types of statistical analyses. One proposed statistic is to test the effect size to assess the direction and the strength of the difference between two means. The second statistic proposed is the Analysis of Variance (ANOVA) recommended for a between-subjects design.

Threats to internal validity might include the following:

Selection: Because the control and experimental groups do not come from the same population, there is a greater risk of dis-similarity in the groups.

Experimenter: Knowledge of test elements and a need to incorporate other means to improve the skill level of the experimental group will have an added impact. Other factors that might impact the outcome of test scores include changes in socio-economics, demographics, absenteeism, and increasing mobility.

Comparability of Groups

As stated earlier, this is a between subjects design, comprised of four independent groups. Therefore, the groups are different, but similar.

This section delineates the factors that indicate the similarities and differences between four independent groups in the study. Each group consists of first time 11th graders. The first group is the control group and consists of first time 11th graders during the academic year of 2003-04. The first time 11th graders in the subsequent academic years of 2004-05, 2005-06, and 2006-07 comprise the experimental groups.

The independent variable is the doubling of class time for low achievers, such that the control group was provided English and math instruction in the single period format, and the experimental groups were provided English and math instruction in the double period format commencing academic year 2004-05. The 11th grade cohort in academic year 2004-05 had received instruction in the double period format for one year prior to the administration of the HSPA test. The 11th grade cohort in academic year 2005-06 had been provided instruction in the double period format for two years, and the 2006-07 cohort had received double period instruction for three years prior to the administration of the HSPA test in their respective years.

The comparability factors are as follows:

- The 11th grade cohort groups are all from the same school.
- Prior to the administration of the HSPA, delivery of instruction was by many of the same English and math teachers for each cohort at each grade level.
    - Ten of 12 English teachers were the same for all four years of the study; 11 were the same for three years of the study.
    - Eight of 10 math teachers were the same for all four years of the study; nine were the same for three years.
- Students with less than one year in the school were excluded.
- Curriculum content for both English and math had been revised in 2001 to comply with the required New Jersey Core Content Standards and remained in effect throughout the period of this study.
    - Therefore, each cohort had received three years of instruction from virtually the same teachers using the same curriculum

  - The only change in delivery was the implementation of the double period instructional format that is the dependent variable of the study.
- Upon entering the 11th grade, students in each group had attained a minimum of 60 credits.
- The three-year class grade point average (GPA) at the conclusion of each cohort's 11th grade year was similar; 2.05, 2.04, 2.02, and 2.20 respectively.
- Each cohort group included more than 30 percent of low-income students.
- Each cohort group included more than 40 percent of minority students of which Hispanic comprised the dominant group with more than 30 percent.

Table 3.2

Group Comparability Factors

Cohort Year	2003-04	2004-05	2005-06	2006-07
GPA	2.05	2.04	2.02	2.20
Low Income	31.2%	41.9%	54.8%	48.9%
White	58.4%	42.6%	41.1%	39.3%
Hispanic	32.8%	46.6%	45.2%	45.9%
Black	6.4%	8.1%	7.3%	10.4%
Other	2.45%	2.7%	6.5%	3.7%

Data Analysis Procedures

Data collection will consist of obtaining HSPA scores for each control group as indicated by the table below separately for math and for language arts results. Means will be calculated for each group and inserted into the statistical models. The experiments will be a between-subjects design because the control groups and the

experimental groups are from similar but different populations.

The HSPA provides separate scores for language arts and math. Therefore, the collection of data and analysis will be separate as relates to math and language arts, respectively.

This study will test the following null hypotheses:

- Null hypothesis 1 is that the means of the language arts proficiencies as reflected on the HSPA among all low achieving students that were provided one period of English are equal to the mean proficiencies of all low achieving students that received double periods of English each year such that: $\mathbf{H_0}$: $\mu_{CE} = \mu_{EE1} = \mu_{EE2} = \mu_{EE3}$ where CE is the English control group and EE is the English experimental groups for years 1, 2, and 3.
- Null hypothesis 2 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving Hispanic students that were provided one period of English are equal to the mean proficiencies of low achieving Hispanic students that received double periods of English each year.
- Null hypothesis 3 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving White students that were provided one period of English are equal to the mean proficiencies of low achieving White students that received double periods of English each year.
- Null hypothesis 4 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving low income students that were provided one period of English are equal to the mean proficiencies of low achieving low income students that received double periods of English.

- Null hypothesis 5 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving non-low income students that were provided one period of English are equal to the mean proficiencies of low achieving non-low income students that received double periods of English each year.
- Null hypothesis 6 is that the means of the math proficiencies as reflected on the HSPA among all low achieving students that were provided one period of math are equal to the mean proficiencies of all low achieving students that received double periods of math each year.

  H_0: $\mu_{CM} = \mu_{EM1} = \mu_{EM2} = \mu_{EM3}$ where CM is the math control group and EM is the math experimental groups for years 1, 2, and 3.
- Null hypothesis 7 is that the means of the math proficiencies as reflected on the HSPA among low achieving Hispanic students that were provided one period of math are equal to the mean proficiencies of low achieving Hispanic students that received double periods of math each year.
- Null hypothesis 8 is that the means of the math proficiencies as reflected on the HSPA among low achieving White students that were provided one period of math are equal to the mean proficiencies of low achieving White students that received double periods of math each year.
- Null hypothesis 9 is that the means of the math proficiencies as reflected on the HSPA among low achieving low income students that were provided one period of math are equal to the mean proficiencies of low achieving low

income students that received double periods of math each year.

- Null hypothesis 10 is that the means of the math proficiencies as reflected on the HSPA among low achieving non low income students that were provided one period of math are equal to the mean proficiencies of low achieving non-low income students that received double periods of math each year.

2004 HSPA Language Arts Pre-test	2005 HSPA Language Arts Post-test	2006 HSPA Language Arts Post-test	2007 HSPA Language Arts Post-test
CE_1 (Non-low Achievers)	CE_2 (Non-low Achievers	CE_3 (Non-low Achievers	CE_4 (Non-low Achievers
CE_{LA} (Low Achievers)	EE_1 Low Achievers)	EE_2 Low Achievers)	EE_3 Low Achievers)

Figure 3.4, Design of Language Arts Data Collection Substituting Labels for Groups

Where:

CE_1 = Control Group Non-Low Achieving 11th graders; 2004 HSPA-language arts

CE_2 = Control Group 2 Non-Low Achieving 11th graders; 2005 HSPA-language arts

CE_3 = Control Group 3 Non-Low Achieving 11th graders; 2006 HSPA-lang. arts

CE_4 = Control Group 4 Non-Low Achieving 11th graders; 2007 HSPA-lang. arts

CE_{LA} = Control Group Low Achieving 11th graders; 2004 HSPA-language arts

EE_1 = Experimental Group 1 Low Achieving 11th graders; 2005 HSPA-lang. arts

EE_1 = Experimental Group 1 Low Achieving 11th graders; 2005 HSPA-lang. arts

EE_2 = Experimental Group 2 Low Achieving 11th graders; 2006 HSPA-lang. arts

EE_3 = Experimental Group 3 Low Achieving 11th graders; 2007 HSPA-lang.arts

2004 HSPA Math Pre-test	2005 HSPA Math Post-test	2006 HSPA Math Post-test	2007 HSPA Math Post-test
CM_1 (Non-low Achievers)	CM_2 (Non-low Achievers	CM_3 (Non-low Achievers	CM_4 (Non-low Achievers
CM_{LA} (Low Achievers)	EM_1 (Low Achievers)	EM_2 (Low Achievers)	EM_3 (Low Achievers)

Figure 3.5, Design of the Math Data Collection Substituting Labels for Groups

The following defines the labels and groupings:

CM_1 = Control Group Non-Low Achieving 11th graders; 2004 HSPA-math

CM_2 = Control Group 2 Non-Low Achieving 11th graders; 2005 HSPA-math

CM_3 = Control Group 3 Non-Low Achieving 11th graders 2006 HSPA-math

CM_4 = Control Group 4 Non-Low Achieving 11th graders 2007 HSPA-math

CM_{LA} = Control Group Low Achieving 11th graders; 2004 HSPA-math

EM_1 = Experimental Group 1 Low Achieving 11th graders; 2005 HSPA-math

EM_2 = Experimental Group 2 Low Achieving 11th graders 2006 HSPA-math

EM_3 = Experimental Group 3 Low Achieving 11th graders 2007 HSPA-math

The study proposes also to use a secondary statistical measure, the effect size to assess the direction and the strength of the difference between two means. Of particular interest is the difference between the means of the control group in 2004 and

the experimental group in 2007 when all students in the experimental group had benefited from the maximum exposure of three years of double classes.

The effect size formula is as follows:

d = (M of EE_{LA1}) - (M of CE_{LA}) / (SD of CE_{LA})

where

d = effect size for the difference between the means

(M of E)= mean of the experimental group

(M of C)= mean of the control group

(SD of C)= standard deviation of the control group

Summary

This ex post facto study examines the doubling of class time for low achieving English and math students and the resultant impact on their performance on the NCLB required New Jersey High School Proficiency Assessment (HSPA) which is administered to all first time 11th graders in New Jersey. The study analyzes the HSPA results of four separate low achieving 11th grade cohorts for each of the four years from school year 2003-04 through 2006-07. The primary statistical test is the repeated measures one-way analysis of variance (ANOVA), because the study is a between subjects design. The pre-test, or control group, is comprised of low achieving English and math students that received instruction in these subject areas in the single period instructional format prior to their taking the HSPA in the 11th grade. There are three treatment or experimental groups comprised of similarly low achieving students in subsequent three 11th grade cohorts that received instruction in English and math in the double period instructional format or modified block schedule; one having

received one year, the second having received two years, and the third having received three years of the doubled class time instruction. A significant difference in the HSPA results between the groups as measured by the ANOVA might indicate a possible impact of having implemented the modified block schedule. No significant difference in the HSPA results might indicate that the modified block had no impact. In the event that a significant difference exists, a post hoc study of multiple comparisons is applied to determine where significant differences exist between groups. A measure of the effect size is also applied for the purpose of determining direction and strength of the difference between two groups. Another level of validity is added by analyzing the HSPA results of non-low achieving students that received instruction in the single period format only for each of the four years. A significant difference between these groups might offset a significant difference in the low-achieving post treatment experimental groups. The study looks at all low achieving 11^{th} grade English and math students, and it also looks separately at Hispanic and White ethnic groups and low income and non-low income socio-economic levels.

CHAPTER FOUR: RESULTS OF THE STUDY

As stated in Chapter 1, this study analyzes the impact of doubling class times of low achieving students upon the proficiency levels attained by first time 11th grade students that were administered the New Jersey High School Proficiency Assessment (HSPA). This chapter discusses the process used in obtaining data, identifies the data that was obtained, and presents the results as relates to the null hypotheses:

- Null hypothesis 1 is that the means of the language arts proficiencies as reflected on the HSPA among all low achieving students that were provided one period of English are equal to the mean proficiencies of all low achieving students that received double periods of English each year such that: **H_0:** $\mu_{CE} = \mu_{EE1} = \mu_{EE2} = \mu_{EE3}$ where CE is the English control group and EE is the English experimental groups for years 1, 2, and 3.
- Null hypothesis 2 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving Hispanic students that were provided one period of English are equal to the mean proficiencies of low achieving Hispanic students that received double periods of English each year.
- Null hypothesis 3 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving White students that were provided one period of English are equal to the mean proficiencies of low achieving White students that received double periods of English each year.
- Null hypothesis 4 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving low income students that were provided one period of English are equal to the mean proficiencies of low

achieving low income students that received double periods of English each year.

- Null hypothesis 5 is that the means of the language arts proficiencies as reflected on the HSPA among low achieving non-low income students that were provided one period of English are equal to the mean proficiencies of low achieving non-low income students that received double periods of English each year.
- Null hypothesis 6 is that the means of the math proficiencies as reflected on the HSPA among all low achieving students that were provided one period of math are equal to the mean proficiencies of all low achieving students that received double periods of math each year.

  $\mathbf{H_0}$**:** $\mu_{CM} = \mu_{EM1} = \mu_{EM2} = \mu_{EM3}$ where CM is the math control group and EM is the math experimental groups for years 1, 2, and 3.
- Null hypothesis 7 is that the means of the math proficiencies as reflected on the HSPA among low achieving Hispanic students that were provided one period of math are equal to the mean proficiencies of low achieving Hispanic students that received double periods of math each year.
- Null hypothesis 8 is that the means of the math proficiencies as reflected on the HSPA among low achieving White students that were provided one period of math are equal to the mean proficiencies of low achieving White students that received double periods of math each year.
- Null hypothesis 9 is that the means of the math proficiencies as reflected on the

HSPA among low achieving low income students that were provided one period of math are equal to the mean proficiencies of low achieving low income students that received double periods of math each year.

- Null hypothesis 10 is that the means of the math proficiencies as reflected on the HSPA among low achieving non low income students that were provided one period of math are equal to the mean proficiencies of low achieving non-low income students that received double periods of math each year.

The dependent variable is the mean scores obtained from the results of HSPA tests administered to first time 11th graders in March each of the years 2004, 2005, 2006, and 2007. The independent variable is the doubling of class time from 42 minutes to 88 minutes in 2004-05 and to 90 minutes in the subsequent two years for low-achievers in English and math. The primary control group is the low achieving 11th grade population in academic year 2003-04, the last year in which low achieving students received instruction delivered in the single period format comprised of 42 minute periods in each of the subjects of interest, English and math. There are three experimental groups that received the treatment of the doubling of class time instruction or double period format such that at the time of the administration of the HSPA test, the 2004-05 cohort group had received the benefit of one year of the double period instructional format, the 2005-06 cohort group had received the benefit of two years of the double period format, and the 2006-07 cohort group had received the benefit three years of the double period format. An analysis of variance (ANOVA) was conducted because this is a between groups analysis. A post hoc Tukey's HSD analysis was conducted in cases where the ANOVA indicated a significant difference

in the means to identify specific paired comparisons that included a significant difference in the mean. An additional post hoc test consisting of the effect size was conducted to assess the direction and the strength of the difference between two means. Of particular interest is the difference between the means of the control groups in 2003-04 and the means of the experimental groups in 2006-07, the year by which time all students in the experimental groups had benefited from the maximum exposure of three years of the double period format.

Data was collected for four supplemental control groups consisting of the non-low achievers that had not received the benefit of the treatment of the double period format during the years covered by the study. In other words, the non-low achievers only had the benefit of a single period of English and a single period of math during the same years that the low achievers benefited from the double period format. In the event that a null hypothesis was rejected, the non-low achievers that had not received the benefit of the double period format were analyzed to determine any difference in their means. For example, if the analysis indicated a significant difference in the means of the non-low achievers, it might nullify any perceived impact of the double period format.

Data consisting of raw scores achieved by 11th graders on the HSPA were collected from the New Jersey High School Proficiency Assessment All Sections Roster Grade 11 for the March administration for each of the years 2004, 2005, 2006, and 2007 as provided by Measurement Incorporated, the company that produces and scores the HSPA. Data includes each student's name, date of birth, sex, ethnicity, socio-economic status, other pertinent data, language arts literacy and math scores.

This data was transferred to a spread sheet to accommodate additional data collection. Other data collected and inserted into the spreadsheet include each student's current math and English course, date of initial enrollment, and number of credits successfully attained by the 11th grade. This information was obtained from the school's Student Information Record System (SIRS). During the 2006 and 2007 administration of the HSPA, only 11th graders that had successfully completed 60 credits were permitted to sit for the test. This was prescribed by school policy which states that students must complete 60 credits in order to be eligible to proceed to the 11th grade. As was the custom in many schools, this school had heretofore ignored the 60 credit rule; students had been socially promoted in order to maintain cohort age groups. Therefore, in order for this study to achieve greater homogeneity between the groups, HSPA scores for students with fewer than 60 credits were eliminated from the database for the 2004 and 2005 test cohorts. Further refinement of the databases included the elimination of scores for students that had not participated in the math and English courses that were the target of the study. These included students with less than one year of enrollment, students with disabilities that had been enrolled in resource and/or remedial English and/or math courses (as applicable), and Limited English Proficiency students who had been enrolled in English as Second Language classes. Figures 4.1 and 4.2 compare 11th grade enrollment by year, total valid 11th grade HSPA scores each year and net number of scores used each year after refining data.

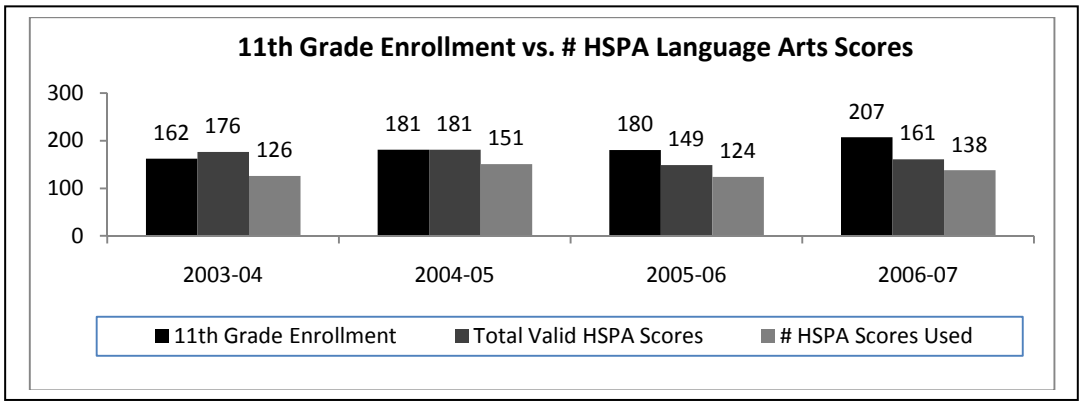

Figure 4.1, Eleventh grade enrollment vs. number of HSPA language arts scores. This figure shows the number of students enrolled in 11th grade, the actual number of valid HSPA language arts scores, and the number of language arts test scores actually used.

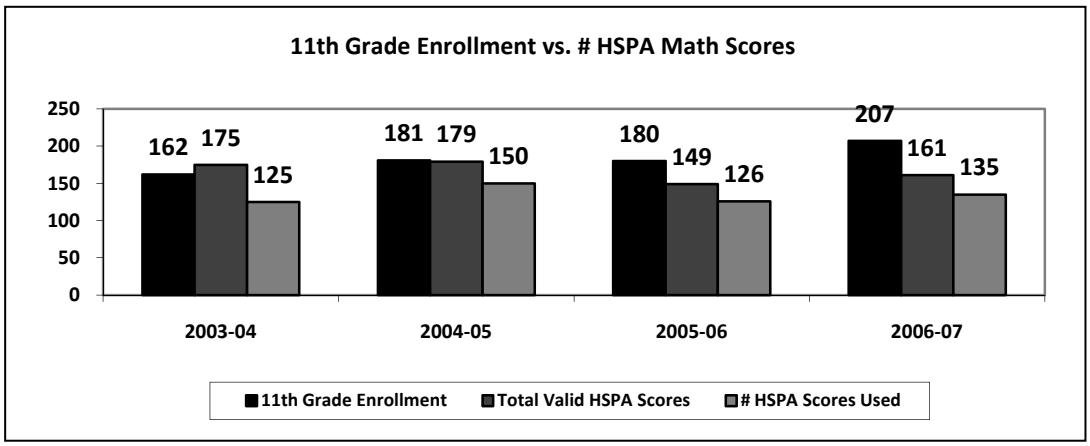

Figure 4.2, Eleventh grade enrollment vs. number of math scores.

Figure 4.2 shows the number of students enrolled in 11th grade, the actual number of valid HSPA math scores, and the actual number of math test scores used.

It is important at this point to note that Figures 4.1 and 4.2 indicate in some instances that the total number of valid test scores is greater than the number of students shown as enrolled in the 11th grade. These anomalies occur because enrollment is reported as of October 15 each year, and the subsequent transfer of

students in and out of the school by the time of the administration of the HSPA exam in March of each year may result in an increase or decrease in net number of students.

The HSPA scores for low achievers were separated from the HSPA scores of non-low achievers by identifying the specific English and math courses in which students were enrolled. For example, low achiever English students are those students that were enrolled in English III, Level II; and low achiever math students were enrolled in either plane geometry or algebra II, Level II. Figure 4.3 indicates the distribution of 11th grade English students between low and non-low achievers.

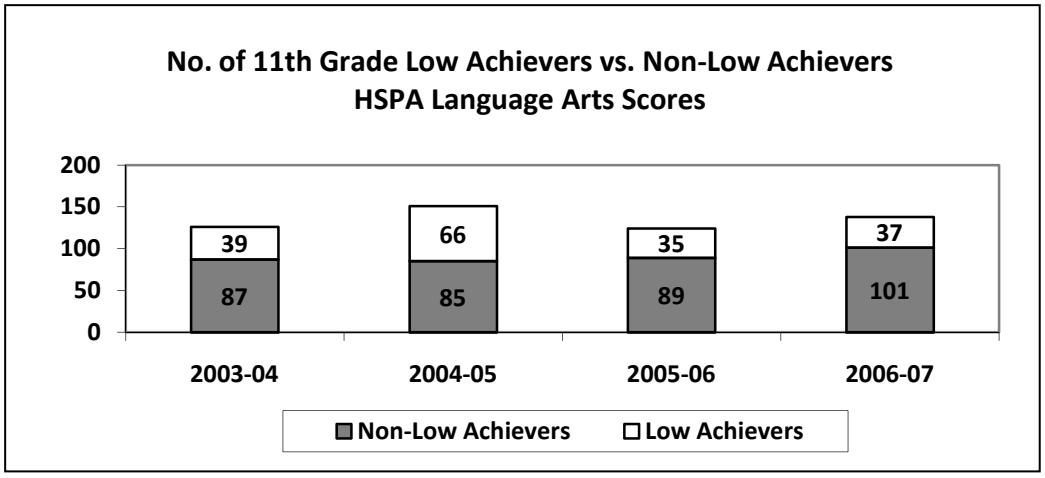

Figure 4.3, Number of eleventh grade low achievers vs. non-low achievers according to HSPA language arts scores.

Analysis of English Students (HSPA Language Arts Scores)

As noted earlier, the population of interest is that of 11th grade low achievers that benefitted from the double period format during the 2004-05, 2005-06, and 2006-07 school years and the impact on their English and math skills as measured by their language arts and math scores on the HSPA administered in March of 2005, 2006, and 2007. Therefore, the English class population of interest is as represented in figure 4.3

above and includes 39, 66, 35, and 37 valid HSPA language arts scores respectively in the years, 2003-04, 2004-05, 2005-06, and 2006-07. The results are reflected in the descriptive as represented in Table 4.1.

Table 4.1

English Low Achievers Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CE_{LA} Single Period	39	206.54	18.62	166	239
2004-05 EE_{LA1} Double Period	66	213.59	19.41	148	245
2005-06 EE_{LA2} Double Period	35	207.43	21.08	129	235
2006-07 EE_{LA3} Double Period	37	205.67	17.96	160	242
Total	177	209.16	19.44	129	245

Table 4.1 reflects what appears to be very little change in the means from year to year. Of the four years of data, the year 2004-05, the first year of the double period format for English classes of the low achievers, appears to reveal the greatest change in the mean HSPA scores. A repeated measures one-way analysis of variance was used to test for differences in the mean HSPA scores of the low achieving control population and the three low achieving experimental populations. The analysis indicates that there is not a significant difference in the mean scores of the four populations, F (3, 173) = 1.898, p >.05. Therefore, null hypothesis number one is accepted. The effect size was calculated using Cohen's *d*. As stated in Chapter 3, the population of most interest is the population of students which had received the benefit of three full years of the double period format; those students that were administered the HSPA in the 2006-7 school year. In this case d = (M of EE_{LA3})-(M of CE_{LA})/ (SD

of CE_{LA}) or (205.68 – 206.54)/18.61 or d = -.047 which represents a trivial effect. The two distributions virtually overlap indicating that there is no appreciable difference in the means, and that the impact was minimal. The first year that the double class format was introduced experienced the greatest increase. Cohen's d was applied to this as well yielding the following: d = (M of EE_{LA1})-(M of CE_{LA})/ (SD of CE_{LA}) (213.59 – 206.54)/18.61 = d = .379. This is a medium effect size and indicates that after receiving the benefit of one year of instruction in the double period format in English, low achieving students achieved mean scores on the language arts HSPA a little more than one third higher than the means of low achieving students that had only benefitted from the single period format.

Impact on Language Arts Scores by Ethnicity

The two main ethnicities represented are Hispanic and White. Figure 4.4 shows the breakdown of Hispanic low achievers versus Hispanic non-low achievers reflected in the language arts HSPA scores:

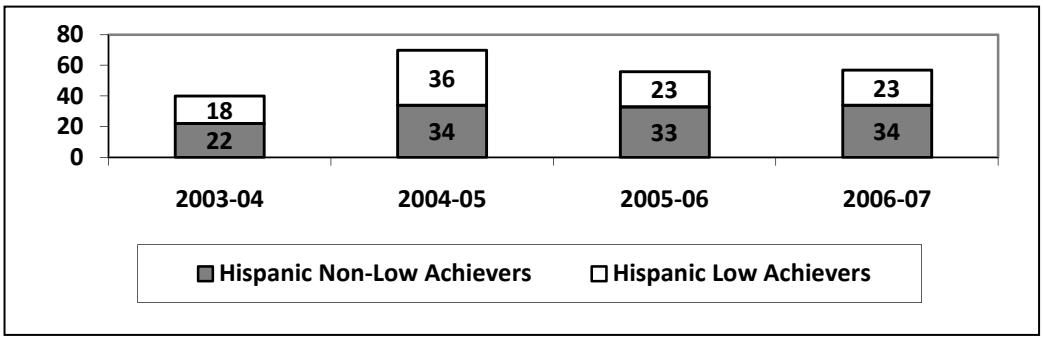

Figure 4.4, Number of eleventh grade Hispanic low achievers vs. Hispanic non-low achievers according to HSPA language arts scores.

Mean HSPA language arts scores for the low achiever Hispanic subgroup are shown in the descriptive in Table 4.2.

Table 4.2

English Low Achievers – Hispanic Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CE_{LA} Single Period	18	202.22	15.57	169	233
2004-05 EE_{LA1} Double Period	36	211.92	21.39	148	243
2005-06 EE_{LA2} Double Period	23	203.96	22.80	129	235
2006-07 EE_{LA3} Double Period	23	211.65	16.97	178	242
Total	100	208.28	20.03	129	243

The table indicates that there was an increase in mean HSPA language arts scores in the first experimental group, which had received the benefit of one year of the double period format in English and the third experimental group, which had received the benefit of three years of the double period format. A repeated measures one-way analysis of variance was used to test for differences in the mean HSPA scores of the low achieving Hispanic control population and the three low achieving Hispanic experimental populations. The analysis indicates that there is not a significant difference in the mean scores of the four populations, F (3, 96) = 1.544, p >.05. Therefore, null hypothesis number two which relates to the Hispanic subgroup is accepted. The effect size was calculated using Cohen's *d*. As before, the population of most interest is the population of students which had received the benefit of three full years of the double period format; those low achieving students that were administered the HSPA in the 2006-7 school year. In this case d = (M of EE_{LA3})-(M of CE_{LA})/ (SD of CE_{LA}) or (211.65 – 202.22)/15.57 or d = .606 which according to Cohen is a little larger than a medium effect size. Low achieving Hispanic students that had received

three years of the double period format achieved mean language arts HSPA scores that were more than half a standard deviation higher than the mean scores of low achieving Hispanic students that had received instruction in English in the single period format. This is very slightly less than the effect size of low achieving Hispanic students that received the benefit of only one year of double period English classes: d = (M of EE_{LA1})-(M of CE_{LA})/(SD of CE_{LA}) or (211.92 – 202.22)/15.57 or d = .623 which according to Cohen is also larger than a medium effect size. Low achieving Hispanic students with only one year of double period English classes also achieved mean scores on the language arts HSPA more than one half a standard deviation higher than similar students with only single period instruction.

Figure 4.5 shows the number HSPA language arts scores of low achieving students versus non-low achieving students in the White sub-group:

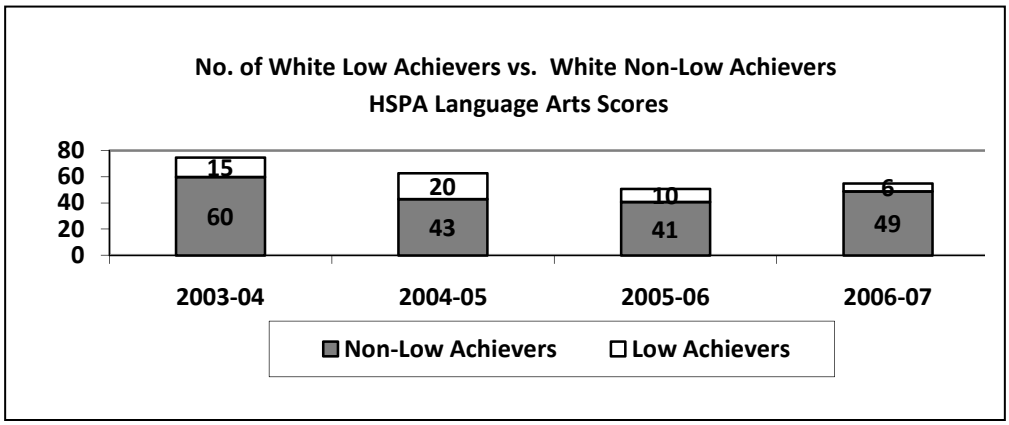

Figure 4.5, Number of White low achievers vs. white non-low achievers according to HSPA language arts scores.

Figure 4.5 indicates a diminishing number and portion of White students participating in lower level English classes. Throughout the study, academic year 2004-05 reflects a high number of 11th graders as well as a corresponding high number

of low achievers. The percentage of the White subgroup in the low achiever category ranges from a high of 31.8 percent in 2004-05 to a low of 1 percent in 2006-07.

Mean HSPA language arts scores for the low achiever White subgroup are shown in the descriptive in Table 4.3.

Table 4.3

English Low Achievers – White Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CE_{LA} Single Period	15	206.60	16.59	166	235
2004-05 EE_{LA1} Double Period	20	210.25	17.00	170	238
2005-06 EE_{LA2} Double Period	10	217.30	15.76	182	231
2006-07 EE_{LA3} Double Period	6	194.50	21.55	160	216
Total	51	208.71	17.87	160	238

Table 4.3 indicates that there was a small increase in mean HSPA language arts scores in the first and second White experimental groups, which had received the benefit of one and two years of the double period format in English, respectively. However, the third White experimental group that benefitted from three years of the double period format experienced a sharp decrease in the mean score. A repeated measures one-way analysis of variance was used to test for differences in the mean HSPA scores of the low achieving White control population and the three low achieving White experimental populations. The analysis indicates that there is not a significant difference in the mean scores of the four populations, F (3, 50) = 2.325, p >.05. Therefore, null hypothesis number three which applies to the White subgroup is accepted. The effect size was calculated using Cohen's *d*. As before, the population

of most interest is the population of students which had received the benefit of three full years of the double period format; those low achieving students that were administered the HSPA in the 2006-7 school year. In this case d = (M of EE_{LA3})-(M of CE_{LA})/ (SD of CE_{LA}) or (194.5 – 206.6)/16.59 or d = -.729 which according to Cohen is approaching a large effect size. Low achieving White students that had received three years of the double period format achieved mean language arts HSPA scores that were almost three quarters of a standard deviation less than that of low achieving White students that had received instruction in English in the single period format.

Impact on Language Arts Scores by Socio-Economic Status

Figure 4.6 shows the number HSPA language arts scores of low achieving low income students versus non-low achieving low income students:

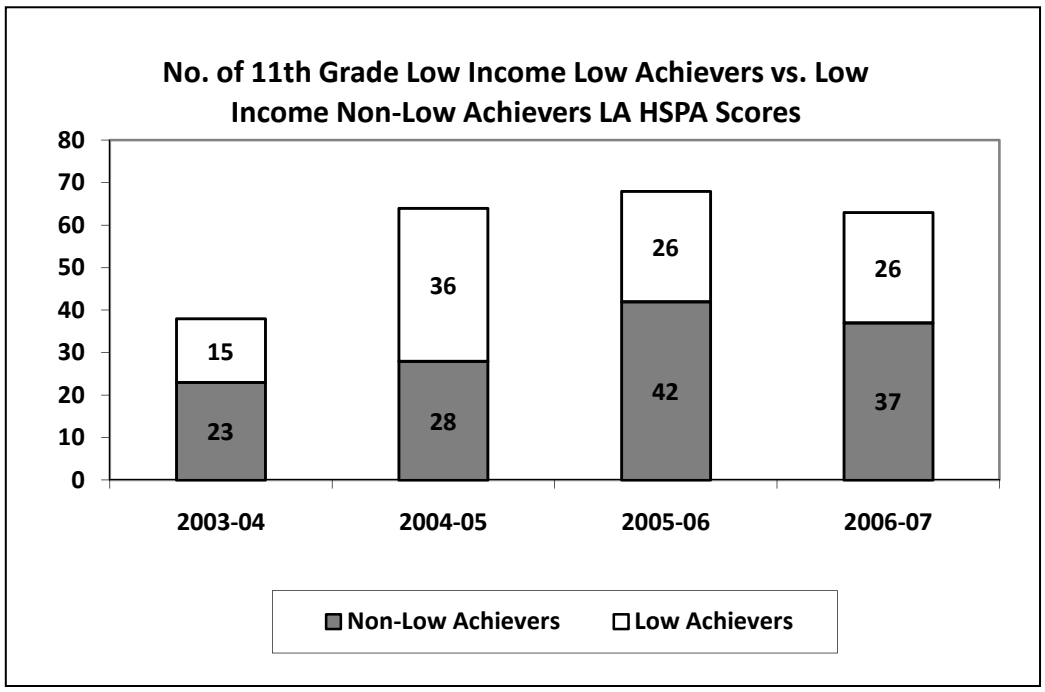

Figure 4.6, Number of eleventh grade low achieving low income student vs. non-low achieving low income students according to HSPA language arts scores.

Mean HSPA language arts scores for the low achiever low income sub-group are reflected in the descriptive in Table 4.4.

Table 4.4

English Low Achievers – Low Income Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CE_{LA} Single Period	15	205.27	22.58	166	239
2004-05 EE_{LA1} Double Period	36	213.67	21.37	148	243
2005-06 EE_{LA2} Double Period	26	203.62	22.60	129	235
2006-07 EE_{LA3} Double Period	26	207.46	17.23	178	242
Total	103	208.34	21.02	129	243

Table 4.4 indicates that there was an increase in mean HSPA language arts scores in the first experimental group, which had received the benefit of one year of the doubled period format in English and the third experimental group, which had received the benefit of three years of the double period format. A repeated measures one-way analysis of variance was used to test for differences in the mean HSPA scores of the low achieving low income control population and the three low achieving low income experimental populations. The analysis indicates that there is not a significant difference in the mean scores of the four populations, F (3, 99) = 1.344, p >.05. Therefore, null hypothesis number four, which applies to the low income low achieving subgroup is accepted. The effect size was calculated using Cohen's *d*. The population of primary interest is the population of students which had received the benefit of three full years of the double period format; those low achieving students that were administered the HSPA in the 2006-7 school year. In this case d = (M of

E_{LA3})-(*M* of CE_{LA})/ (*SD* of CE_{LA}) or (207.46 – 205.27)/22.58 or *d* = .097 which is a trivial effect size, and the means of the two populations are nearly the same, indicating almost no impact of the treatment. However, applying effect size to the first year experimental population indicates a greater effect after students received the benefit of only one year of the double period format, *d* = (*M* of EE_{LA1})-(*M* of CE_{LA})/(*SD* of CE_{LA}) or (213.67 – 205.27)/22.58 or *d* =.372. This, according to Cohen, is a small effect size. Low achieving low income students with only one year of the double period format in English achieved mean scores on the language arts HSPA a little more than one third of a standard deviation higher than similar students that received instruction under the single period instructional format.

Finally, the non-low income subgroup of the low achievers was analyzed. Figure 4.7 reflects the number of low achievers versus non-low achievers in the non-low income subgroup.

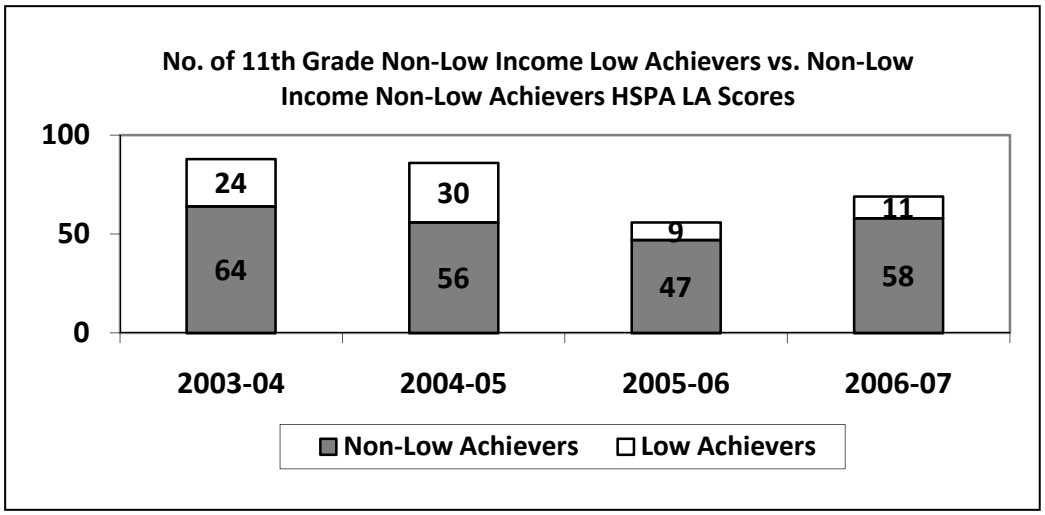

Figure 4.7, Number of eleventh grade low achieving non-low income students vs. non-low achieving non-low income students according to HSPA language arts scores.

Mean HSPA language arts scores for the non-low income low achiever subgroups are reflected in the descriptive in Table 4.5.

Table 4.5

English Low Achievers – non-Low Income Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CE_{LA} Single Period	24	207.33	16.13	182	239
2004-05 EE_{LA1} Double Period	30	213.50	17.12	175	245
2005-06 EE_{LA2} Double Period	9	218.44	10.39	200	230
2006-07 EE_{LA3} Double Period	11	201.45	19.77	160	227
Total	74	210.31	17.06	160	245

Table 4.5 indicates increasing HSPA language arts scores in the first two years of the double period format for English. The experimental group in the third year, which by this time had benefitted from three years of the double period format in English, had not maintained the same pace. A repeated measures one-way analysis of variance was conducted which indicates no significant difference in the means, F (3, 70) = 2.394, p >.05. Therefore, null hypothesis number five, which applies to the non-low income low achieving subgroup is accepted. The effect size was calculated using Cohen's *d*. The population of primary interest is the population of students which had received the benefit of three full years of the double period format; those low achieving students that were administered the HSPA in the 2006-7 school year. In this case d = (M of E_{LA3})-(M of CE_{LA})/ (SD of CE_{LA}) or (201.45 – 207.33)/16.13 or d = -.365 which is a small to medium negative effect.

Analysis of Mathematic Students (HSPA Math Scores)

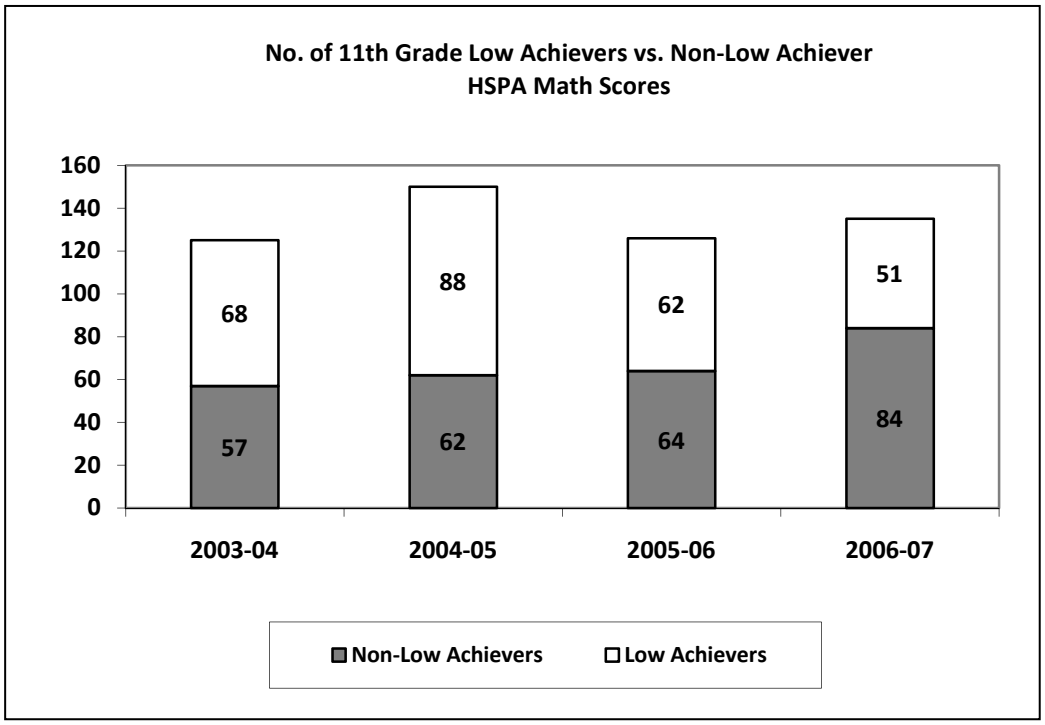

Figure 4.8, Number of eleventh grade low achievers vs. non-low achievers according to HSPA math scores.

As noted earlier, the population of interest is that of 11th grade low achievers that benefitted from the doubling of class time during the 2004-05, 2005-06, and 2006-07 school years and the impact on their English and math skills as measured by their language arts and math scores on the HSPA administered in March of 2005, 2006, and 2007. Therefore, the math class population of interest is as represented in figure 16 above and includes 68, 88, 62, and 51 valid HSPA mathematics scores respectively in the years, 2003-04, 2004-05, 2005-06, and 2006-07. The results are reflected in the descriptive as represented in Table 4.6.

Table 4.6

Math Low Achievers Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_{LA} Single Period	68	199.13	22.92	149	244
2004-05 EM_{LA1} Double Period	88	210.33	23.14	149	257
2005-06 EM_{LA2} Double Period	62	204.95	20.71	162	247
2006-07 EM_{LA3} Double Period	51	194.43	20.60	156	252
Total	177	203.25	22.76	149	257

Table 4.6 shows that mean HSPA math scores increased the first year that the doubled period format was introduced. Mean HSPA math scores declined each of the following two years. A repeated measures one-way analysis of variance was conducted to test for differences in the mean HSPA scores of the low achieving control population and the three low achieving experimental populations. The analysis indicates that there is a significant difference in the means of the four populations, $F(3, 265) = 6.64$, $p < .05$. Therefore, null hypothesis number six is rejected. A post hoc Tukey's HSD test revealed a significant difference between the mean HSPA math scores of the low achievers in the first year control group that received the single period of math instruction format and that of the students that had received one year of the double period instruction format at the <.05 level of significance. The effect size was tested using Cohen's *d*. As stated in Chapter 3, the population of primary interest is the population of students that had received the benefit of three full years of the doubled class time format; those students that had been administered the HSPA in the 2006-7 academic year. In this case d = (*M* of EM_{LA3})-(*M* of CM_{LA})/ (*SD* of CM_{LA}) or

(194.43 – 199.13)/22.92 or *d* = -.205 which indicates a small effect size. Therefore, the mean score of students that had received the benefit of three years of the double period format was approximately one fifth of a standard deviation less than students in the control group that had been instructed according to the single period format. Cohen's effect size test was conducted at this level as well yielding, *d* = (*M* of $EM_{:LA1}$)-(*M* of CM_{LA})/(*SD* of CM_{LA}) or (210.33 – 199.13)/22.92 = *d* = .489 which indicates a medium effect size, or that after receiving the benefit of one year of the doubled math class time format, low achieving students achieved mean scores on the math HSPA almost one half a standard deviation higher than the mean scores of low achieving students that had only benefitted from the single period format.

Because null hypothesis number six was rejected, mean HSPA math scores for the non-low achieving students that were provided single periods only of math instruction were analyzed for differences in their means. The results are in table 4.7.

Table 4.7

Math Non-Low Achievers Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_1 Single Period	57	232.81	26.18	152	269
2004-05 CM_2 Single Period	62	234.19	21.30	176	269
2005-06 CM_3 Single Period	64	235.36	21.53	187	267
2006-07 CM_4 Single Period	84	222.80	26.20	156	271
Total	267	230.59	24.52	152	271

Table 4.7 shows that the mean HSPA math scores for the non-low achievers with only single periods of math instruction over the four year period of the study

appear to be relatively constant except for the fourth year of the study which is the lowest of all the mean scores. A repeated measures one-way analysis of variance was conducted to test for differences in the mean HSPA scores of the non-low achieving math students that had not received the benefit of the double period format over the four years of the study. In this case, the analysis of variance revealed that there is a significant difference in the means of the four groups, F (3, 263) = 4.401, p <.05. A post hoc Tukey's HSD indicates a significant difference in the mean HSPA math scores between the third and fourth years of the study with < .05 level of significance. As with the results of the low achievers, the effect size of the non-low achievers was tested comparing the means of the population of students from the first year of the study with the means of the population of students from the fourth year of the study where d = (M of CM_4)-(M of CM_1)/ (SD of CM_1) or (222.80 – 232.81)/26.18 or d = -.3824 which reflects a small negative effect size. After four years, the mean HSPA math scores of non-low achieving students that received a single period of math instruction was approximately one third of a standard deviation lower than similar students during the first year of the study which had also benefitted from only the single period format of instruction.

Impact on Math Scores by Ethnicity

Figure 4.9 shows the breakdown of Hispanic low achievers versus Hispanic non-low achievers reflected in the math HSPA scores:

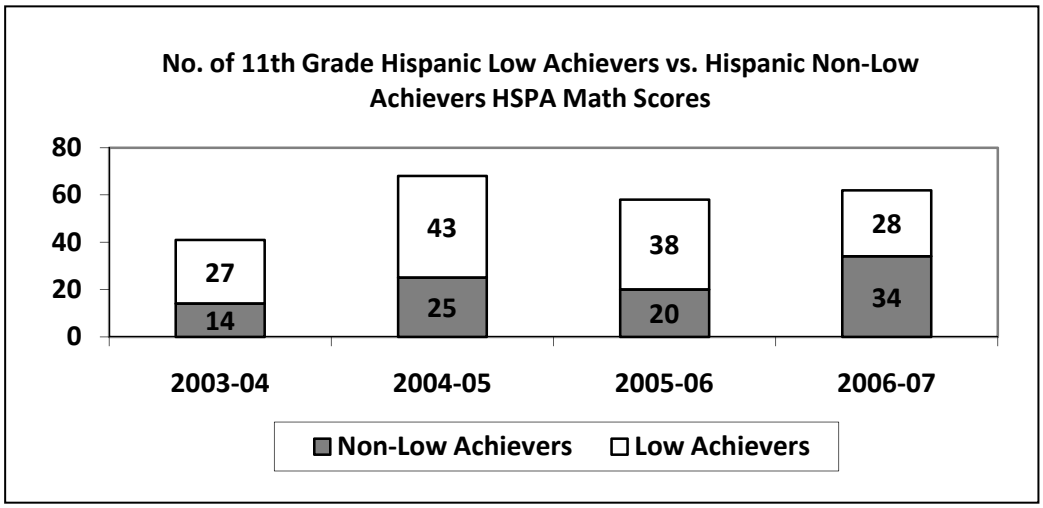

Figure 4.9, Number of eleventh grade low achieving Hispanic students vs. non-low achieving Hispanic students according to HSPA math scores.

Mean HSPA math scores for the low achiever Hispanic subgroup are shown in Table 4.8:

Table 4.8

Math Low Achievers – Hispanic Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_{LA} Single Period	27	193.07	22.42	149	244
2004-05 EM_{LA1} Double Period	43	206.77	22.27	149	244
2005-06 EM_{LA2} Double Period	38	202.08	18.77	167	242
2006-07 EM_{LA3} Double Period	28	199.36	22.31	156	252
Total	136	201.21	21.70	149	252

As indicated in Table 4.8, mean HSPA math scores for the Hispanic subgroup increased the first year that the double period format was introduced. Mean HSPA math scores declined each of the following two years. A repeated measures one-way

analysis of variance was conducted to test for differences in the mean HSPA scores of the low achieving Hispanic control population and the three low achieving experimental Hispanic populations. The analysis indicates that there is not a significant difference in the means of the four populations, F (3, 132) = 2.362, p >. 05. Therefore, null hypothesis number seven which applies to the low achieving Hispanic subgroup is accepted. The effect size was tested comparing the means of the control group against two populations. The first population for which the effect size was tested is the population of primary interest, the students that had received the benefit of three years of the double period format. In this case d = (M of EM_{LA3})-(M of CM_{LA})/ (SD of CM_{LA}) or (199.36 – 193.07)/22.42 or d = .28 which indicates a small effect size. Therefore, the mean score of Hispanic low achievers that had received the benefit of three years of the double period format achieved a mean score that was approximately one quarter of a standard deviation higher than the Hispanic low achievers that had received instruction under the single period format. The first year that classes were doubled yielded the greatest increase in mean scores among the three experimental years. Cohen's effect size test was conducted at this level as well, d = (M of $EM_{: LA1}$)-(M of CM_{LA})/ (SD of CM_{LA}) or (206.77 – 193.07)/22.42 = d = .611 which indicates a medium to large effect size. Therefore, the mean score of Hispanic low achievers that had received the benefit of one year of the double period format achieved a mean score that was almost two thirds of a standard deviation higher than the Hispanic low achievers that had received instruction in the single period format.

Because null hypothesis number seven which applies to the Hispanic math low achievers was accepted, there was no need to look at the non-low achievers results.

Figure 4.10 shows the breakdown of White low achievers versus White non-low achievers reflected in the math HSPA scores:

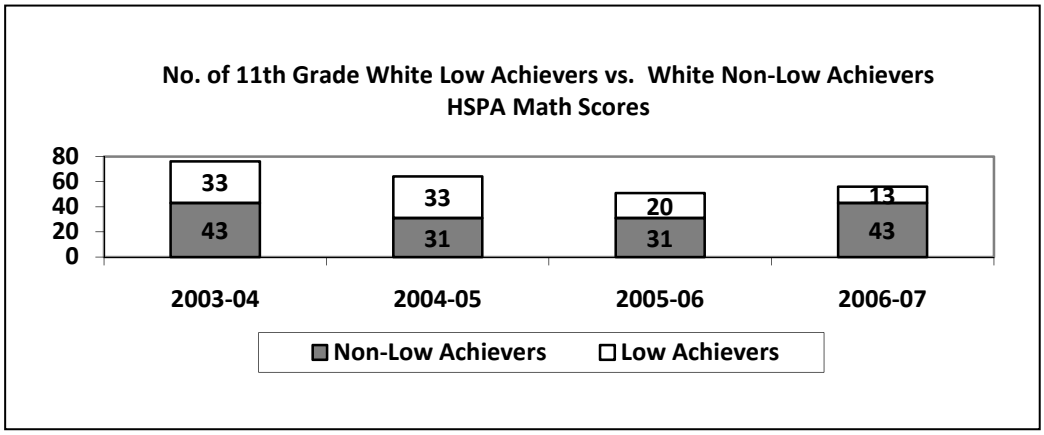

Figure 4.10, Number of eleventh grade low achieving White students vs. non-low achieving White students according to HSPA math scores.

Mean HSPA math scores for the low achiever White subgroups are reflected in the descriptive in Table 4.9:

Table 4.9

Math Low Achievers – White Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_{LA} Single Period	33	204.21	24.15	166	244
2004-05 EM_{LA1} Double Period	33	215.58	22.73	181	257
2005-06 EM_{LA2} Double Period	20	213.00	23.00	162	247
2006-07 EM_{LA3} Double Period	13	192.38	16.14	168	223
Total	99	208.22	23.56	162	257

Table 4.9 shows that the mean HSPA math scores for the White subgroup increased during the first year of the doubled class time format. Mean HSPA math

scores remained about the same in the second experimental group, but, declined for the third experimental group in the fourth year of the study. A repeated measures one-way analysis of variance was conducted to test for differences in the mean HSPA scores of the low achieving White control population and the three low achieving experimental White populations. The analysis indicates that there is a significant difference in the means of the four populations, F (3, 95) = 3.949, p <.05. Therefore, null hypothesis eight, which applies to the low achieving White subgroup, is rejected. A post hoc Tukey's HSD test indicates a significant difference in the means of the second and fourth groups of populations< .05 level of significance. This is the White experimental group that received math instruction with the benefit of one year of the double period format and the third experimental group which received the benefit of three years of instruction under the double period format.

The size of the effect was tested comparing the means of the control White control group against two white experimental populations. The first population for which the effect size was tested is the population of primary interest, the students that had received the benefit of three years of the double period format. In this case d = (M of EM_{LA3})-(M of CM_{LA})/ (SD of CM_{LA}) or (192.38 – 204.21)/24.15 or d = -.490 which indicates a medium negative effect size. Therefore, the mean score of White low achievers that had received the benefit of three years of the double period format achieved a mean score that was approximately one half of a standard deviation lower than the White low achievers that had received instruction under the single period format. The first year that classes were doubled yielded the greatest increase in mean scores among the three experimental years. Cohen's effect size test was conducted at

this level as well, d = (M of $EM_{: LA1}$)-($M$of CM_{LA})/ (SD of CM_{LA}) or (215.58 – 204.21)/24.15 = d = .471 which indicates a medium effect size. Therefore, the mean score of White low achievers that had received the benefit of one year of the double period format achieved a mean score that was almost half of a standard deviation higher than the White low achievers that had received instruction under the single period format.

Because null hypothesis number eight, White math low achievers, was rejected, the mean HSPA math scores for the White non-low achieving students that were provided only single periods of math instruction were analyzed for differences in their means. The descriptive table for the White math non-low achievers is represented in Table 4.10.

Table 4.10

Math Non-Low Achievers – White Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_1 Single Period	43	234.86	22.13	173	269
2004-05 CM_2 Single Period	31	242.13	16.78	203	269
2005-06 CM_3 Single Period	31	237.68	20.74	187	266
2006-07 CM_4 Single Period	43	223.26	27.50	145	271
Total	148	233.60	23.49	145	271

As indicated in Table 4.10, mean HSPA math scores for the White non-low achievers that were provided only single periods of math instruction over the four year period of the study increased the first year and decreased the next two years. A repeated measures one-way analysis of variance was conducted to test for differences

in the mean HSPA scores of the White non-low achieving math students that had not received the benefit of the double period format over the four years of the study. In this case, the analysis of variance revealed that there is a significant difference in the means of the four populations, F (3, 144) = 4.846, p <.05. A post hoc Tukey's HSD test indicates a significant difference in two pairs of means, the second and fourth years at <.005 and the third and fourth years at <.005.

The effect size of the non-low achievers was tested comparing the means of the population of students from the first year of the study with the means of the students from the fourth year of the study where d = (M of CM_4)-(M of CM_1)/(SD of CM_1) or (223.26 – 234.86)/22.13 or d = -.524 which reflects a medium negative effect size. After four years, the mean HSPA math scores of White non-low achieving students that received a single period of math instruction was approximately one half of a standard deviation lower than similar students during the first year of the study.

Impact on Math Scores by Socio-Economic Status

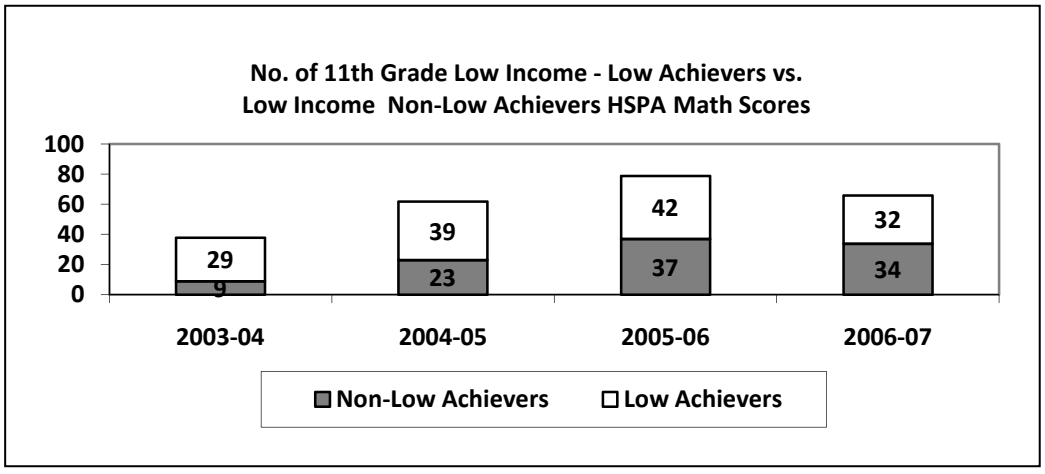

Figure 4.11, Number of eleventh grade low achieving low income students vs. non-low achieving low income students according to HSPA math scores.

Mean HSPA math scores for the low achiever low income sub-group are reflected in the descriptive in Table 4.11.

Table 4.11

Math Low Achievers – Low Income Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_{LA} Single Period	29	198.48	23.15	162	244
2004-05 EM_{LA1} Double Period	39	206.28	23.43	149	244
2005-06 EM_{LA2} Double Period	42	202.07	21.47	162	242
2006-07 EM_{LA3} Double Period	32	195.25	21.10	156	252
Total	142	200.96	22.43	149	252

Table 4.11 shows that the mean HSPA math scores for the Low Income subgroup increased the first year that the double period format was introduced, and decreased the following two years. A repeated measures one-way analysis of variance was conducted to test for differences in the mean HSPA scores of the low achieving low income control population and the three low achieving experimental low income populations. The analysis indicates that there is not a significant difference in the means of the four populations, F (3, 138) = 1.595, p >.o5. Therefore, null hypothesis number nine, which applies to the low achieving low income subgroup, is accepted. The size of the effect was tested comparing the means of the low income control group against the third low income experimental group; the group of primary interest because it had benefited from three years of the double period format. In this case d = (M of EM_{LA3})-(M of CM_{LA})/ (SD of CM_{LA}) or (195.25 – 198.48)/23.15 or d = -.127 which indicates a very small negative effect size. Therefore, the mean score of low

income low achievers that had received the benefit of three years of the doubled period format achieved a mean score that was somewhat more than one tenth of a standard deviation lower than the low income low achievers that had received instruction under the single period format.

Figure 4.12 shows the difference between the HSPA math means of non-low income low achievers and non-low income non-low achievers.

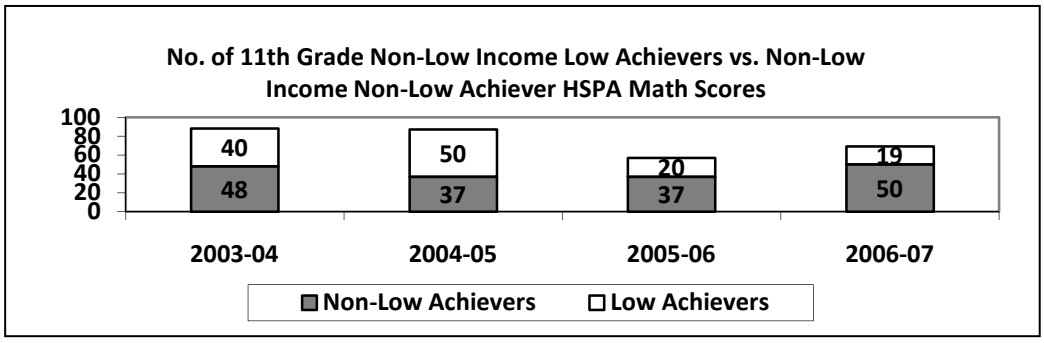

Figure 4.12, Number of eleventh grade low achieving non-low income students vs. non-low achieving non-low income students according to HSPA math scores.

Table 4.12

Math Non-Low Income – Low Achievers Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_{LA} Single Period	40	199.70	22.75	149	244
2004-05 EM_{LA1} Double Period	50	213.70	22.41	170	257
2005-06 EM_{LA2} Double Period	20	211.00	18.03	180	247
2006-07 EM_{LA3} Double Period	19	193.05	20.21	159	236
Total	129	205.90	22.80	149	257

As indicated in Table 4.12, mean HSPA math scores increased the first year that the doubled period format was introduced. Mean HSPA math scores declined each

of the following two years. A repeated measures one-way analysis of variance was conducted to test for differences in the mean HSPA scores of the non-low income low achieving control population and the three non-low income low achieving experimental populations. The analysis indicates that there is a significant difference in the means of the four populations, F (3, 125) = 5.88, p <.05. Therefore, null hypothesis number 10, which applies to the non – low income population, is rejected. A post hoc Tukey's HSD test revealed a significant difference between the mean HSPA math scores in two sets of paired comparisons; between the control group which had benefitted from only the single period format and the first experimental group which benefitted from one year of the double period format, significance < .05; and between the first experimental group and the third experimental group which benefitted from three years of the double period format, significance < .05. The effect size was tested using Cohen's *d*. The population of primary interest is the population of students that had received the benefit of three full years of the double period format; those students that had been administered the HSPA in the 2006-7 academic year. In this case d = (M of EM_{LA3})-(M of CM_{LA})/ (SD of CM_{LA}) or (193.05 – 199.70)/22.75 or d = -.292 which indicates a small effect size. Therefore, the mean score of the non-low income low achieving students that had received the benefit of three years of the doubled period format was approximately one third of a standard deviation less than students in the control group that had been instructed according to the single period format. The first year that classes were doubled yielded the greatest increase in mean scores among the three experimental years. Cohen's effect size test was conducted at this level as well yielding, d = (M of $EM_{:LA1}$)-(M of CM_{LA})/(SD of CM_{LA}) or (213.70

– 199.70)/22.75 = *d* = .615 which indicates a medium to large effect size, or that after receiving the benefit of one year of the double math period format, non-low income low achieving students achieved mean scores on the math HSPA almost two thirds a standard deviation higher than the mean scores of non-low-income low achieving students that had only benefitted from the single period format.

Because null hypothesis number ten for low income math low achievers was rejected, mean HSPA math scores for the non-low income non-low achieving students that were provided single periods only of math instruction were analyzed for differences in their means.

The results are in table 4.13.

Table 4.13

Math Non-Low Income – Non-Low Achievers Descriptive

Group	*N*	*M*	*SD*	Min.	Max.
2003-04 CM_1 Single Period	48	232.65	27.41	152	269
2004-05 CM_2 Single Period	37	236.92	21.42	189	269
2005-06 CM_3 Single Period	37	240.00	19.29	195	267
2006-07 CM_4 Single Period	50	226.72	24.43	159	271
Total	172	233.42	24.04	152	271

As indicated in Table 4.13, mean HSPA math scores for the non-low achievers that were provided only single periods of math instruction over the four year period of the study appear to be relatively constant except for the fourth year of the study which appears to be the lowest of all of the mean scores. A repeated measures one-way analysis of variance was conducted to test for differences in the mean HSPA scores of

the non-low income non-low achieving math students that had not received the benefit of the double period format over the four years of the study. In this case, the analysis of variance revealed that there is not a significant difference in the means of the four groups, F (3, 168) = 2.565, p >.05. As with the results of the low achievers, the effect size of the non-low achievers was tested comparing the means of the population of students from the first year of the study with the means of the population of students from the fourth year of the study where d = (M of CM_4)-(M of CM_1)/ (M of CM_1) or (226.72 – 232.65)/27.41 or d = -.216 which reflects a very small negative effect size. After four years, the mean HSPA math scores of non-low income non-low achieving students that received a single period of math instruction was approximately one fifth of a standard deviation lower than similar students during the first year of the study which had also benefitted from only the single period of study format of instruction.

Summary

The mean language arts and math HSPA scores of first time low achieving 11th grade English and math students for each of the four school years 2003-04 through 2006-07 were analyzed using ANOVA. The 2003-04 low achieving 11th grade cohort had received English and math instruction in the single period format. Double period instruction (modified block schedule) was introduced in school year 2004-05 for all low achieving English and math students at all grade levels in the high school that was the subject of the study.

The results were as follows: ANOVA indicated that there were no significant differences in the means of the language arts HSPA scores of the low achieving 11th grade English students, neither the whole sample, nor among any of the subgroups

which separately included Hispanic, White, low income, and non-low income. There were significant differences in the math HSPA results in the math sample as a whole and in the White and non-low income subgroups. A post hoc multiple comparisons test revealed a significant increase in the second year of the study which was after one year of the double period instructional format in math for these groups. However, mean scores decreased in the third and fourth years of the study. There was no significant difference in the math HSPA means of the Hispanic and low income subgroups.

CHAPTER FIVE: SUMMARY AND DISCUSSION

This study analyzes the impact of doubling class times of low achieving 11th grade English and math students upon their scores on the New Jersey High School Proficiency Assessment.

Statement of the Problem

It is not known to what extent, if any, the doubling of class time in English and math for low achieving students has impacted English (language arts) and math performance on standardized tests such as the New Jersey High School Proficiency Assessment (HSPA).

Review of the Methodology

As explained in Chapter 3, this study examined the doubling of English and math class times for low achieving students in an effort to improve performance on state mandated tests that are required as a result of the re-authorization of the Elementary and Secondary Education Act in 2002, commonly known as the No Child Left Behind Act (NCLB). Students' scores from the state of New Jersey's version of such mandated tests, the High School Proficiency Assessment (HSPA), were obtained for the years 2004, 2005, 2006, and 2007 and used for the statistical analysis. The HSPA is administered at a specific point in one's education; the test is administered to a different cohort group passing through the same grade each year, in this case, the 11th grade. Therefore, the study incorporates a between-subjects design. In order to ensure minimal risk to the internal validity of a between-subjects design, this study used a population limited to a specific public high school in New Jersey that adopted the modified block concept identified by Mowen and Mowen (2004) as a

recommended approach to improving scores of low-achievers in academic areas. The utilization of a specific public high school that adopted this strategy ensured that the populations studied in a between-subjects design are highly similar populations that have also received instruction from the same, or similar instructors in the same academic environment.

The test of the null hypotheses consisted of five independent control groups and three independent experimental groups for English and math, respectively. The dependent variables are the mean scores of the HSPA that was administered to first time 11th graders in March of the years 2004, 2005, 2006, and 2007. The independent variable is the expansion of instructional time from 42 minutes to 88 minutes in 2005 and to 90 minutes in 2006 and 2007 (resulting from doubling the instructional period) for students that were identified as low-achievers and qualified as candidates for one of the lower-functioning algebra, geometry, and/or English courses. One control group was comprised of low achieving 11th graders that received math instruction, and/or English instruction under the single period format (42 minute period) prior to taking the HSPA in 2004. The experimental groups are the low achievers in the 11th grade that benefited from the expanded instructional time or double period format prior to taking the HSPA in 2005, 2006, and 2007. Four additional control groups consisted of the non-low achievers in the 11th grade that participated in the HSPA in years 2004, 2005, 2006, and 2007, and had not received the treatment of the expanded instructional time.

The HSPA provided separate scores for language arts and for math. Therefore, the collection and analysis of data are separate as relates to language arts and math

respectively. The experiments are a between-subjects design because the control groups and the experimental groups are from similar but different populations.

Summary of the Results

English Class Low Achievers

Based upon the results described in Chapter 4, low-achieving 11th grade English students that had been provided instruction in a double period format from one to three years (2004-05, 2005-06, 2006-07) compared to similar students in the control group that had been instructed in the single period format (2003-04) saw little or no improvement based upon New Jersey High School (HSPA) results over the four year period of the study. The means are shown in figure 5.1 and reflect a slight increase after students received one year of instruction in the double period format. However, after two and three years of double period instruction, mean HSPA scores leveled off to that of the control group in 2003-04.

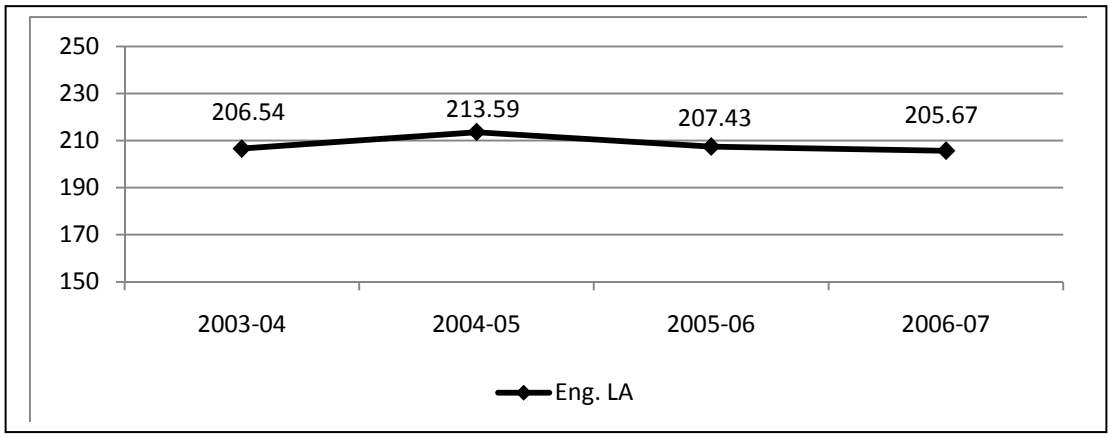

Figure 5.1 Mean HSPA Language Arts Scores; English Low Achievers

An ANOVA indicated no significant difference in the mean HSPA language arts scores of the four populations, F (3,173) = 1.898, p >.05. Therefore null

hypothesis number one was accepted. A measure of the effect size between the mean scores of students having received single period instruction in 2003-04 and those at the end of the study having received three years of double period instruction yielded d = -.047 which is a trivial effect.

As with the total low achieving English students, the sub-groups of Hispanic and White English low achievers showed little or no improvement after having been provided instruction in the double period format for one year. The means for each subgroup are shown in Figure 5.2. Although the means of the White population appears to dip in 2006-07, it should be noted that there are only six scores in the database for that year. The small low number of scores in the White low achiever data base may render the mean for this group not reliable.

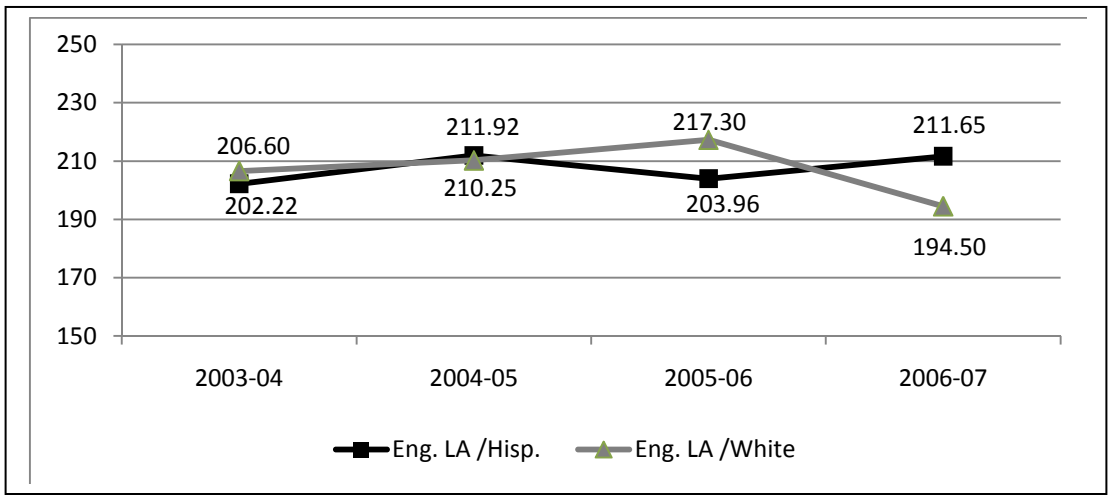

Figure 5.2, Mean HSPA Language Arts Scores; English Low Achievers by Ethnicity

An ANOVA indicated no significant difference in the mean HSPA language arts scores of the four Hispanic populations, F (3, 96) = 1.544, p >.05. Therefore, null hypothesis number two was accepted. A measure of the effect size between the mean scores of Hispanic students having received single period instruction in 2003-04 and

those at the end of the study having received three years of double period instruction yielded d = .606 which indicates that the means of the low achieving Hispanic students were approximately 60 percent of a standard deviation higher after three years of double period English instruction.

An ANOVA also indicated no significant difference in the mean HSPA language arts scores of the four White populations, F (3, 47) = 2.325, p >.05. Therefore, null hypothesis number three was accepted. A measure of the effect size between the mean scores of White students having received single period instruction in 2003-04 and those at the end of the study after having received three years of double period instruction yielded d = -.729 is a large negative effect. It indicates that the means of the low achieving White students were approximately 73 percent of a standard deviation lower after three years of double period English instruction. Again, the 2006-07 data base includes only six scores representing White low achievers in English.

The study also looked at the English class low achievers from a socio-economic perspective, i.e. low income versus non-low income. Again, both subgroups, low income and non-low income, showed little or no improvement after having been provided instruction in the double period format. The means for each subgroup are shown in Figure 5.3. It should also be noted that the mean scores for the non-low income reflect only nine scores in the 2005-06 database and 11 scores in the 2006-07 database.

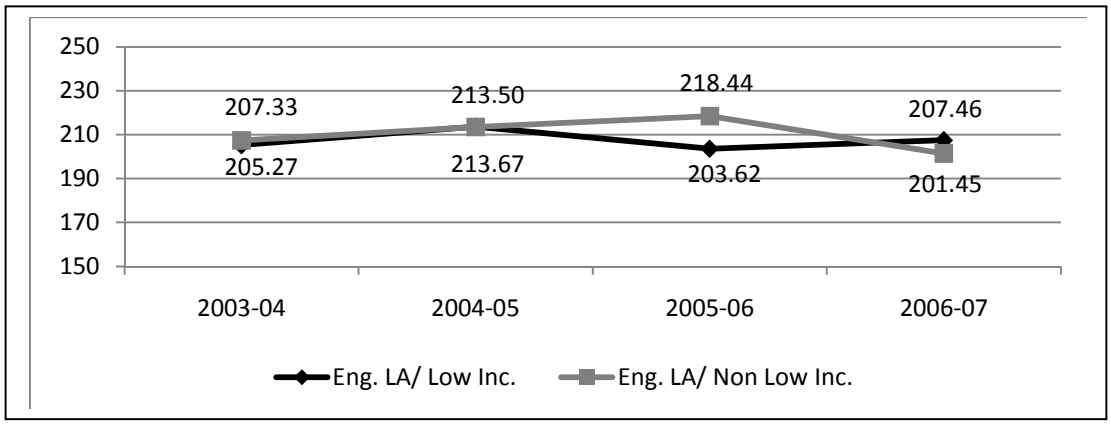

Figure 5.3, Mean HSPA Language Arts Scores; English Low Achievers by Ethnicity

An ANOVA indicated no significant difference in the mean HSPA language arts scores of the four low income populations, F (3, 99) = 1.344, p >.05. Therefore, null hypothesis number four was accepted. A measure of the effect size between the mean scores of low income students having received single period instruction in 2003-04 and those at the end of the study having received three years of double period instruction yielded d = .097 which is a trivial effect essentially indicating a trivial change in the means of the low income students' scores after the three years of double period English instruction.

An ANOVA also indicated no significant difference in the mean HSPA language arts scores of the four non-low income populations, F (3, 70) = 2.394, p >.05. Therefore, null hypothesis number five was accepted. A measure of the effect size between the mean scores of the non-low income students having received single period instruction in 2003-04 and those at the end of the study after having received three years of double period instruction yielded d = -.365 which is a medium effect. It indicates that the means of the low achieving non-low income students were a little more than one third of a standard deviation lower after three years of double period

English instruction. Again, the 2006-07 data base includes only 11 scores representing non-low income achievers in English.

Math Class Low Achievers

The mean HSPA math scores of low-achieving 11th grade students that had been provided instruction in a double period format (modified block) from one to three years (2004-05, 2005-06, 2006-07) were compared to similar students comprising the control group that had been instructed in math in the single period format (2003-04). An ANOVA indicates a significant difference in the mean HSPA math scores of the four populations, F (3,265) = 6.640, p <.05, and null hypothesis number six was rejected. Because the null hypothesis was rejected, a parallel comparison was made with the means of the non-low achieving 11th grade students that had received math instruction in the single period format each of the four years of the study. An ANOVA conducted on the means of the four single period populations also indicates a significant difference in the means, F (3,263) = 4.401, p <.05. The mean scores for both low achievers and non-low achievers are shown in figure 5.4. The means of the non-low achievers are consistently higher than the low achievers. However, the mean scores of the low achievers that had received one year of double period instruction show an increase, while those that had received two and three years of double period instruction decreased. In fact, a post hoc Tukey HSD test indicates that the increase in math scores for low achieving students after one year of instruction in the double period format is a significant increase at <.05 level of significance. Therefore, the increase after one year of double period instruction might not be due to chance alone, and it is possible that the increase could have been the result of the new

instructional format. This is further substantiated by the fact that the non-low achievers that had received instruction in only the single period format did not show a significant increase in any year. The ANOVA showing a significant difference in means for this group is due primarily to the decrease between year two and year four.

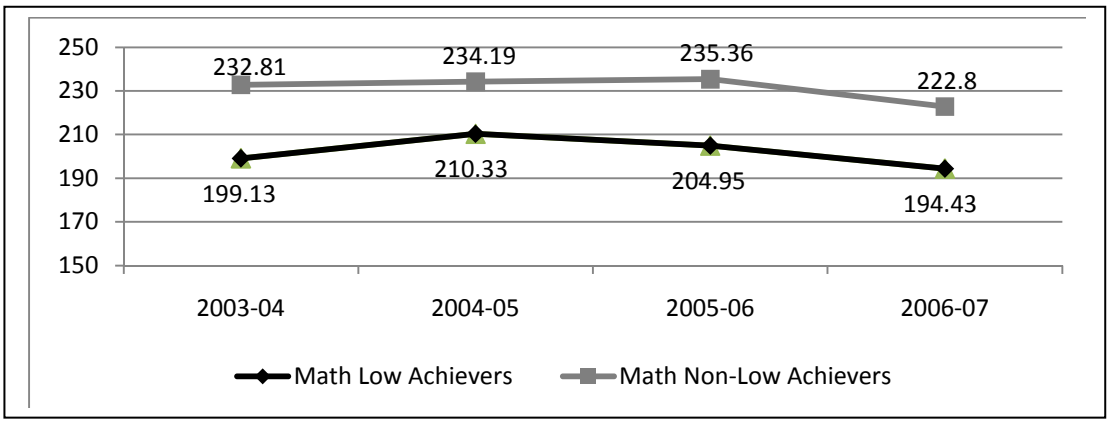

Figure 5.4, Mean HSPA Math Scores; Low Achievers vs. Non-Low Achievers

A measure of the effect size between the mean scores of the low achievers having received single period instruction in 2003-04 and the low achievers at the end of the study in 2006-07 having received three years of double period instruction yielded d = -.205 which is a small negative effect. A measure of the effect size between the mean scores of the non-low achievers having received single period instruction in each of the four years yielded d = -.382 which also is a small negative effect.

The mean HSPA math scores of low-achieving 11th grade Hispanic students that had been provided instruction in a double period format (modified block) from one to three years (2004-05, 2005-06, 2006-07) were compared to similar students comprising the control group that had been instructed in the single period format (2003-04). An ANOVA indicates that there is no significant difference in the mean scores of

the four Hispanic populations, F (3,132) = 2.362, p >.05, and null hypothesis number seven was accepted. Because there is no significant difference in the means, and the null hypothesis is accepted, an analysis of the non-low achieving Hispanic students that received instruction in the single period format throughout the course of the study is not necessary. The mean HSPA scores for the low achieving 11th grade Hispanic students are shown in figure 5.5. The mean scores of the low achievers that had received one year of double period instruction show an increase, while those that had received two and three years of double period instruction decreased.

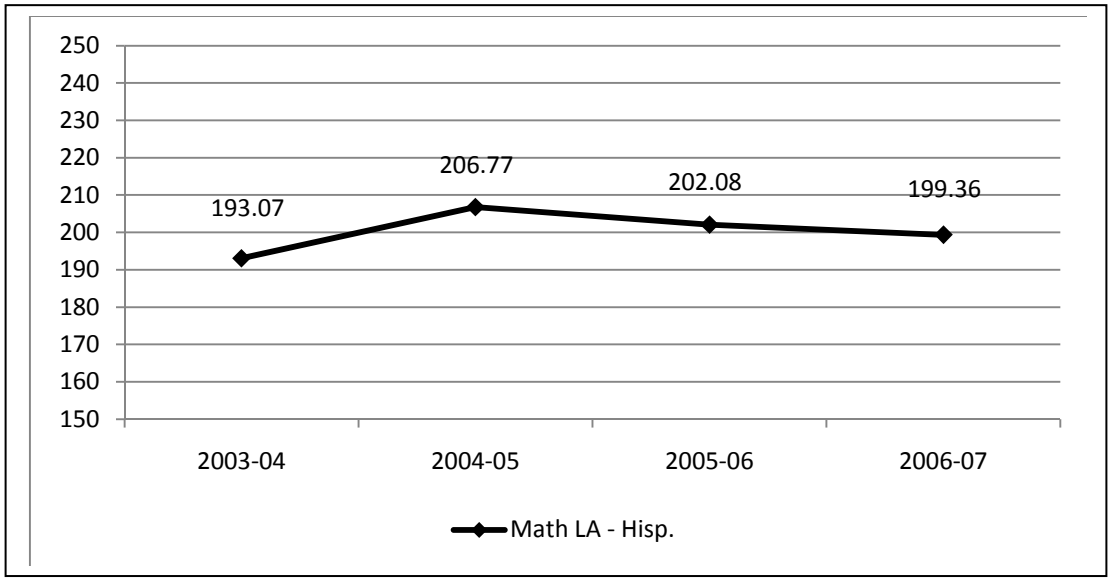

Figure 5.5, Mean HSPA Math Scores; Hispanic Low Achievers

The mean HSPA math scores of low-achieving 11th grade White students that had been provided instruction in a double period format (modified block) from one to three years (2004-05, 2005-06, 2006-07) were compared to similar students comprising the control group that had been instructed in the single period format (2003-04). An ANOVA indicates a significant difference in the mean scores of the

four populations, F (3, 95) = 3.949, p <.05, and null hypothesis eight was rejected. It should be noted that the 2006-07 data might not be reliable because there were only 13 scores in the database. Because null hypothesis number eight was rejected, a parallel comparison was made with the means of the non-low achieving 11th grade students that had received math instruction in the single period format each of the four years in the study. An ANOVA conducted on the means of the four single period White populations also indicates a significant difference in the means, F (3,144) = 4.846, p < .05. The mean scores for both low achievers and non-low achievers are shown in figure 5.6. The means of the non-low achievers are consistently higher than the low achievers. The mean HSPA scores of both low achieving and non-low achieving White students increased in 2004-05 and decreased the subsequent two years.

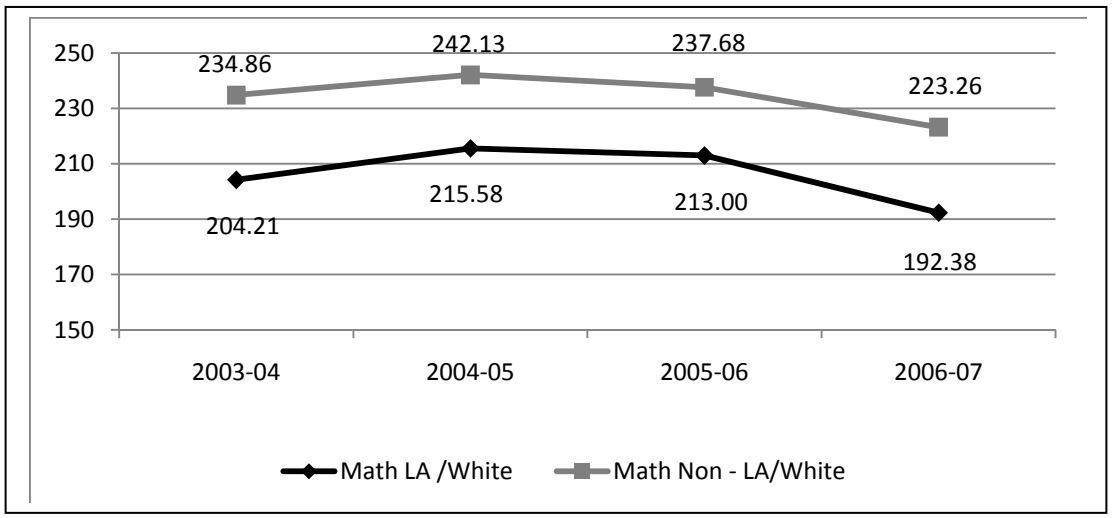

Figure 5.6, Mean HSPA Math Scores; White Low Achievers vs. White Non-Low Achievers

A measure of the effect size between the mean scores of the White low achievers having received single period instruction in 2003-04 and the low achievers

at the end of the study in 2006-07 having received three years of double period instruction yielded d = -.490 which is a medium negative effect. Students having received three years of instruction in the double period format scored almost one half a standard deviation lower than students that received instruction in the single period format. A measure of the effect size between the mean scores of the White non-low achievers having received single period instruction in each of the four years yielded d = -.542 which also is a medium negative effect; students in the 2006-07 cohort scored a little more than one half a standard deviation than students in the 2003-04 cohort.

The mean HSPA math scores of low-achieving 11th grade low income students that had been provided instruction in a double period format (modified block) from one to three years (2004-05, 2005-06, 2006-07) were compared to similar students comprising the control group that had been instructed in the single period format (2003-04). An ANOVA indicates no significant difference in the mean scores of the four populations, F (3,138) = 1.595, p = .193, and null hypothesis number nine was accepted. Because there is no significant difference in the means, and the null hypothesis is accepted, an analysis of the non-low achieving low income students that received instruction in the single period format throughout the course of the study is not necessary. The mean HSPA scores for the low achieving 11th grade low income students are shown in figure 5.7. The mean scores of the low achievers that had received one year of double period instruction show an increase, while those that had received two and three years of double period instruction decreased.

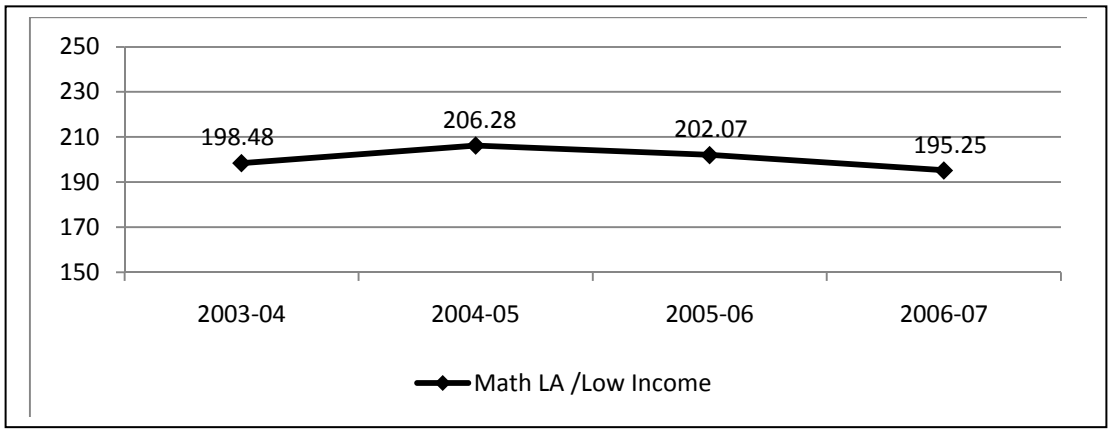

Figure 5.7, Mean HSPA Math Scores; Low Income Low Achievers

A measure of the effect size between the mean scores of the low achieving – low income students having received single period instruction in 2003-04 and the low achieving – low income students at the end of the study in 2006-07 having received three years of double period instruction yielded $d = .127$ which is a small effect.

The mean HSPA math scores of low-achieving 11th grade non-low income students that had been provided instruction in a double period format (modified block) from one to three years (2004-05, 2005-06, 2006-07) were compared to similar students comprising the control group that had been instructed in the single period format (2003-04). An ANOVA indicates a significant difference in the mean scores of the four populations, $F(3, 125) = 5.88$, $p < .05$, and null hypothesis number ten was rejected. It should be noted that the 2006-07 data might not be reliable because there were only 19 scores in the database. Because the null hypothesis was rejected, a parallel comparison was made with the means of the non-low achieving 11th grade non-low income students that had received math instruction in the single period format each of the four years in the study. An ANOVA conducted on the means of the four

single period non-low achieving – non-low income populations indicates no significant difference in the means, F (3,168) = 2.565, p > .05. The mean scores for both low achievers and non-low achievers are shown in figure 5.8. The means of the non-low achievers are consistently higher than the low achievers. However, the mean scores of the low achievers that had received one year of double period instruction show an increase, while those that had received two and three years of double period instruction decreased.

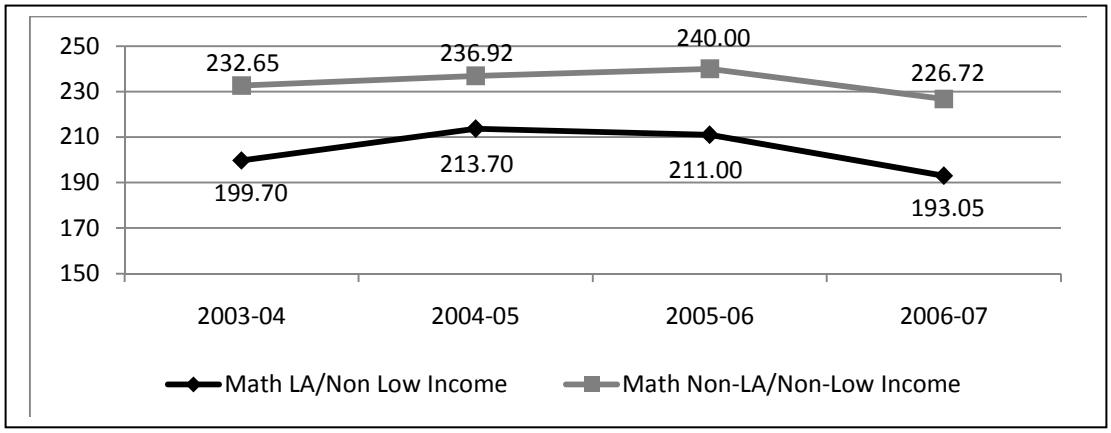

Figure 5.8, Mean HSPA Math Scores; Non-Low Income Low Achievers vs. Non-Low Income Non-Low Achievers

A measure of the effect size between the mean scores of the non-low income low achievers having received single period instruction in 2003-04 and the non-low income low achievers at the end of the study in 2006-07 having received three years of double period instruction yielded d = -.292 which is a small negative effect. A measure of the effect size between the mean scores of the non-low income/ non-low achievers having received single period instruction in each of the four years yielded d = -.216 which also is a small negative effect.

Discussion

Interpretation of the Findings

The No Child Left Behind Act (NCLB) renewed the interest in methods that utilize class time more efficiently (Nichols, 2005). Under NCLB, schools are individually held accountable for the success of their students on high risk state-mandated tests. Pre-determined rates of success must be met. This is called Adequate Yearly Progress (AYP), and AYP is designed to become increasingly difficult to attain over time. Due to repercussions for schools not making AYP under NCLB, much of the accountability for performance has shifted from the student to the school (Kuper, 2006). One regional high school bordering a northern New Jersey urban center recognized the need to prepare low achieving students for the "high stakes" state assessment, the HSPA which is administered to first time 11th graders. The school implemented a double period instructional format for low achieving English and math students in school year 2004-05, increasing class time for these students from 42 minutes to 88 minutes (including the four minute passing period that was also absorbed. This is a modified block schedule, an option for specific subject areas in need of improvement (Mowen and Mowen, 2004).

Language arts and math HSPA scores for 535 of the school's qualifying first time 11th graders were used in this post hoc study that covers four years. The students were grouped by low-achievers, non-low achievers, ethnicity, socio-economic status, and year that they were administered the HSPA. Statistical analyses included ANOVA, Multiple Comparisons (Tukey's HSD), and effect size.

The school anticipated that implementing a double period format for English

and math would result in lower achieving students performing better academically within the school as well as on high-stakes state testing such as the HSPA. This researcher was a teacher at the subject school and a member of the team that made the decision to implement the double instructional period or modified block in 2003-04. Carroll (1994) conducted a study that showed reconfiguring class time from 45 minutes to 90 minutes per day resulted in an increase in students attaining honor roll by 50 percent. However, the results of this current study of between 35 and 66 low achieving 11th grade English students per year over a four year period indicate that doubled class time did not result in a significant change in mean language arts HSPA scores during any of the three years following the application of the treatment. The results as represented in the total population of low-achieving 11th grade English students carried through in the represented sub-groups as well, such that there was no significant change in the means of the Hispanic, White, low income, and non-low income low achieving English class populations. Table #5.1 below shows that the null hypothesis was accepted for each population.

Table 5.1

Null Hypothesis Status/11th Grade Low Achieving English Students

Status	All	Hispanic	White	Low Income	Non-Low Income
Accept	X	X	X	X	X
Reject					

According to English teacher, Mr. Smith, the double period instructional period was difficult to implement. He said, “You’re taking students that have

generally a very short attention span, and even though you might modify your teaching patter sot that you break up the routine, you still have students that essentially have a difficult time sitting through one period, and you double the period. And, I found that students begin to tune out after a certain period of time (2008)." A study by Nichols (2005) indicates that lower socio-economic status (SES) and minority students experienced few gains after their schools converted to block scheduling. According to Harvey (2008), "There were no significant differences found between the 10th grade MCAS CPI scores of schools that employed traditional schedules and schools that employed block schedules. This held true for both the English Language Arts and Mathematics MCAS tests (p.126)."

While there might be no significant difference in the means of the English low achievers, the data showed one other interesting, but not unexpected, phenomenon. Figure 5.9 is a composite of mean scores of both the English low achieving Hispanic population and the English low achieving low income population. Note that the means of the two populations practically overlap. This indicates that the Hispanic population and the low-income population are nearly the same.

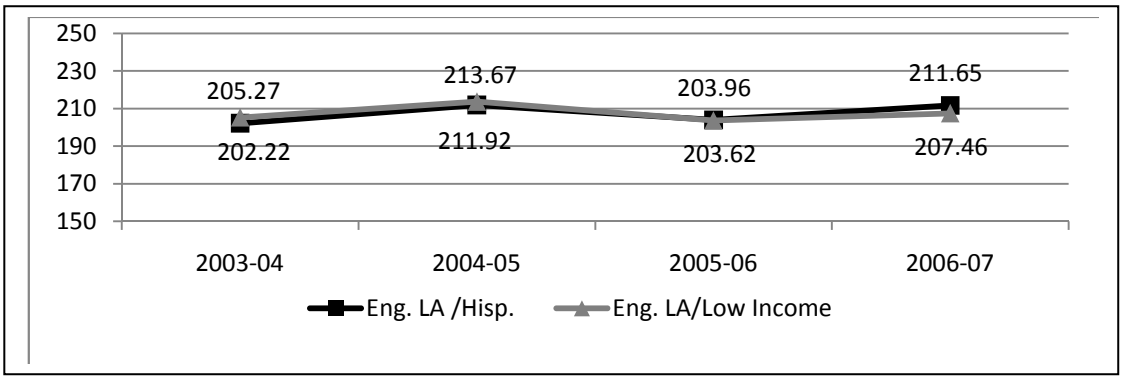

Figure 5.9. Mean HSPA Language Arts Scores, Hispanic vs. Low Income

One by-product of the study is a realization that although there did not appear to be a significant difference in the means of the population of low achieving English students, there did appear to be a migration away from the low achiever category by certain subgroups. For example, as indicated in Figure 5.10, White students decreased as a percentage of low achieving English students from 38.4 percent in 2003-04 to 16.2 percent in 2006-07. Non-low income students also decreased as a percentage of English low achievers from 61.5 percent in 2003-04 to 29.7 percent in 2006-07. While the null hypothesis was not rejected, the successful migration of students from low achiever to non-low achiever status might be a better test of the impact of the modified block schedule. This also suggests that minority and low income students experienced greater difficulty migrating out of the low achiever status and did not significantly increase their performance on the HSPA. Low income status and minority (Black and Hispanic) status were variables negatively related to poor performance (Gmarat, 2002 and Erbe, 2000 as cited in Harvey, 2007). Minority students often negotiate with themselves and with others some degree of maintaining cultural identity and level of academic achievement (Nasir and Saxe, 2003).

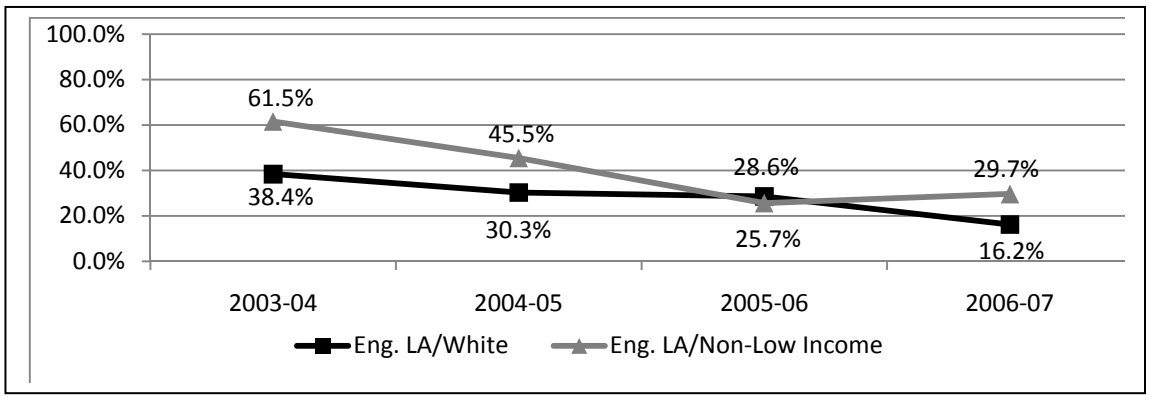

Figure 5.10. Whites and Non-Low Income as Percent of English Low Achievers

An analysis of the means of the HSPA math scores over the four years reveals somewhat more variability. For example, there is a significant difference in the means of the total population of 11th grade low achieving math students. An analysis of multiple comparisons indicates that there is a significant increase after students received one year of instruction in the double class format (2004-05). This suggests that the increase is not due to chance alone, and it reflects a positive impact of the newly implemented modified block schedule. However, this increase is offset by two subsequent years of decreases in 2005-06 and 2006-07. An analysis of the non-low achievers that did not receive the double period or modified block treatment also reflected a significant difference in means. However, unlike low achievers, the results of the non-low achievers did not show a significant increase in the first year of the study. Similar to the low achievers, means of the 2005-06 and 2006-07 non-low achiever math cohort groups decrease. Therefore, the results are inconclusive.

An analysis of the White and non-low income subgroups, both low achieving (double period treatment) and non-low achieving (single period format) reflect significant differences in their means. A positive difference in the first year was followed by a significant decrease over the next two years. The fourth year of White low achievers may not be reliable due to a low N in the database (N = 13). Math teacher Mrs. Brown said “I feel that low achieving students can benefit from having more time in the classroom for such things as projects and group activities (2008).” Table 5.2 reflects the status of accepting or rejecting the math null hypothesis by subgroup, and where applicable, compares the differences of means of the non-low achievers acting as a second control group.

Table 5.2

Math Null Hypothesis Status vs. Non – Low Achiever Performance

Status	All	Hispanic	White	Low Income	Non-Low Income
Null Hypothesis Status/11th Grade Low Achieving Math Students					
Accept		X		X	
Reject	X		X		X
Significant F/11th Grade Non – Low Achieving Math students					
Sig. F	Yes	n/a	Yes	n/a	No

An ANOVA of the Hispanic and the low income math subgroups reflect no significant differences in the means after three years of the double period instructional format. A study of the impact of types of schedules, including block and traditional, on the ACT test in three northeast Tennessee high schools (Hawkins-Hughes, 2008) indicates no significant difference in the mean math scores. Similar to the low achieving English class subgroups, when the mean HSPA math scores of low achieving Hispanic math students are overlaid with the low income students in Figure 5.11 the populations appear to be nearly the same.

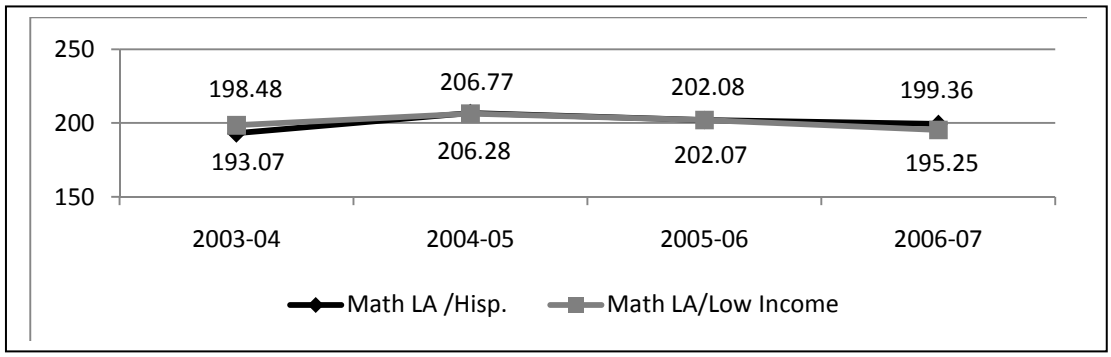

Figure 5.11, Mean HSPA Math Scores of Low Achievers

As with the White and non-low income 11th grade English students, White and

non-low income 11th grade math students also appear to migrate out of the low achiever population and into the non-low achiever population over the four year period of the study. For example, as indicated in Figure 5.12, White students decreased as a percentage of low achieving math students from 48.5 percent in 2003-04 to 25.5 percent in 2006-07. Non-low income students also decreased as a percentage of math low achievers from 58.8 percent in 2003-04 to 37.3 percent in 2006-07. While rejection of the null hypothesis is not supported in this study, the successful migration from low achiever classes to non-low achiever classes might be a better test of the impact of the modified block schedule. This also suggests that minority and low income students had greater difficulty migrating out of the low achiever status. Low income status and minority (Black and Hispanic) status were variables negatively related to poor performance (Gmarat, 2002 and Erbe, 2000 as cited in Harvey, 2007). Minority students often negotiate with themselves and with others some degree of maintaining cultural identity and level of academic achievement (Nasir and Saxe, 2003).

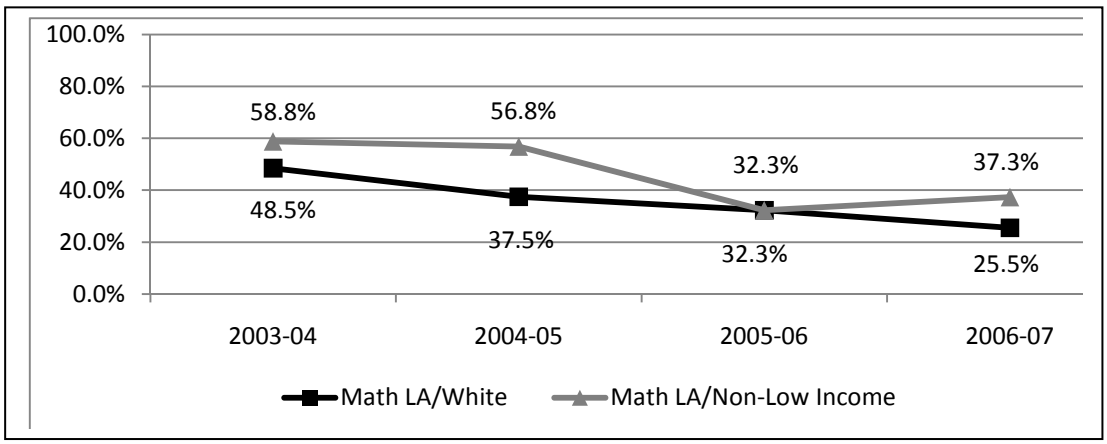

Figure 5.12, Whites and Non-Low Income as Percent of Math Low Achievers

Implications

As a result of NCLB, there has been a renewed interest in methods that utilize class time more efficiently (Nichols, 2005). Much of the reason for this interest is that schools are individually held accountable for their students' success on high risk state tests required under NCLB. The success rate of schools is determined by state-mandated levels of achievement on the tests or Adequate Yearly Progress (AYP). Schools that do not meet or exceed AYP for a pre-determined number of years are subject to any number of interventions starting with improvement plans and as far reaching as school restructuring including the possibility of replacing administration and teachers. The stakes also tend to get higher as AYP may become more difficult to attain if the percentage of students required to pass the English and math tests increase over time as with the New Jersey HSPA. Due to repercussions for schools not making AYP under NCLB, much of the accountability for performance has shifted from the student to the school (Kuper, 2006). This study provides more insight into the practice of extending class time for the purpose of providing increased instruction and increased time on task for students. In this case it was the doubling of class time similar to a block schedule or modified block schedule approach.

National and state funding is often targeted for "at-risk" students. The United States Department of Education has proposed a $4.9 billion grant that will be divided between 10 and 15 states that provide "winning" proposals. New Jersey's proposal is targeted specifically to "at risk" students (NJDOE, 2010). This study looked at the doubling of class time as a strategy for increasing the success of lower tier or low achieving students that would fit the definition of "at risk" students. The study resulted

in no significant differences in the means of 11th grade low achieving English students. However, the study did result in finding a significant increase in the performance of the overall population of low achieving students and the sub-group of low achieving Hispanic students after one year of receiving instruction in the double period format. After two and three years of double period instruction, the mean scores of all math students declined. This could possibly be due to the newness of the program wearing off, for both students and teachers, a sort of Halo effect. The study also indicates that the actual percentage of students in the low achieving population decreased over the four-year period. This suggests that the double periods might have been instrumental in students improving enough to migrate out of the low achiever population.

A portion of the study was devoted to the impact of increasing class time by demographic grouping and socio-economic status. While as a sub-group, low achieving Hispanic math students improved after one year of the double period instructional format, there were no other significant increases in the means of the low achieving sub-groups. However, the percentage of low achieving White students and low achieving non-low income students decreased over the course of the study, and minority and low-income students dominated the low achiever population. Low income status and minority (Black and Hispanic) status were variables negatively related to poor performance (Gmarat, 2002 and Erbe, 2000 as cited in Harvey, 2007). Minority students often negotiate with themselves and with others some degree of maintaining cultural identity and level of academic achievement (Nasir and Saxe, 2003). The study also indicated that the mean HSPA scores for low achieving Hispanic and low income students virtually overlapped in both English and math.

Limitations

This study followed an ex post facto design. Therefore, test scores and demographic data were collected after students experienced the change in schedule. It was limited to a single school in a diversified community. The study was limited to four cohort groups of students, each passing through the 11th grade in different successive years. Therefore, while many of the same teachers taught the same subject in the new modified block scenario, minimal staff changes did occur. Students in each 11th grade cohort group obviously are different students from the other cohorts, and many were the product of the same elementary schools and experienced the same early high school teachers and similar instruction. However, the mobility rate might impact that mix of students, and mobility was not taken into consideration in the study.

Every attempt was made to ensure that the populations were similar in makeup and experience, but the study does recognize that there are probably some differences that were not able to be considered in a work of this relatively small magnitude.

The dependent variable was the mean HSPA math and language arts scores of low achieving students The HSPA test is based on the core content standards required in the curriculum in New Jersey schools. However, scores for students that migrated out of the low achieving group as a result of better performance in the school were no longer included in the low achiever population.

This study did not consider teaching methods in a traditional schedule versus the modified block schedule, nor did it consider how time was utilized within the classroom. The study also did not consider student behavior or attendance, both of which might impact student performance.

Recommendation s for Further Research

This study leads to further research that might assess the impact of block scheduling on the ability of students to increase knowledge as reflected by their performance in the classroom that might result in retention in or migration out of lower performing tier groups, i.e. migration from low achiever status to non-low achiever status.

This study suggests that minority students and low income students were more likely to either not perform better on the HSPA or not migrate out of the low achiever population. Further research might assess on a broader scale than this study the impact of the utilization of class time on the performance of minority and low income students that might lead to further improving their ability to succeed in the academic environment.

Summary

The re-authorization of the Elementary and Secondary Education Act in 2002, commonly known as the No Child Left Behind Act (NCLB)), intensified the need for schools to examine strategies for providing instruction to students. As a result of NCLB, schools became accountable for student performance on high risk state tests with minimum proficiencies required in order to satisfy Adequate Yearly Progress (AYP). This study analyzed the one such strategy used by a northern New Jersey regional high school, the doubling of class time (modified block schedule) for low achieving English and math students, and its impact on the New Jersey High School Proficiency Assessment (HSPA) required under NCLB.

The review of literature provides a brief history of scheduling modifications

and a review of various types of block scheduling. It includes various studies of the use of time in the classroom and the impact of block scheduling which supports the need for this study.

This study looks at mean language arts and math HSPA scores of first time low achieving 11th grade English and math students in the subject school for each of the four school years 2003-04 through 2006-07, and they were analyzed using ANOVA. The 2003-04 low achieving 11th grade cohort had received English and math instruction in the single period format. Double period instruction (modified block schedule) was introduced in school year 2004-05 for all low achieving English and math students at all grade levels in the high school that was the subject of the study.

The results were as follows: ANOVA indicated that there were no significant differences in the means of the language arts HSPA scores of the low achieving 11th grade English students, neither the whole sample, nor among any of the subgroups which separately included Hispanic, White, low income, and non-low income. There were significant differences in the math HSPA results in the math sample as a whole and in the White and non-low income subgroups. A post hoc multiple comparisons test revealed a significant increase in the second year of the study following one year of the double period instructional format in math for these groups. However, mean scores decreased in the third and fourth years of the study. The increase after one year of double period instruction might not have been by chance alone and might possibly be attributed to the introduction of the modified block schedule. The decrease in means might be attributable to a halo effect or to an increasing percentage of low income population. There was no significant difference in the math HSPA means of

the Hispanic and low income subgroups.

The study also revealed that over the four years of the study, a percentage of White and non-low income students successfully migrated out of low achiever status. This suggests that the modified block schedule (double period instructional format) might have contributed to their moving from low achiever to non-low achiever status. The study also indicates that minority and low income students did not perform better on the HSPA after double period instruction in English or math, and they did not migrate from low achiever status to non-low achiever status, or both.

This study makes many references to the elements of “time” and “learning. Few can argue that against a simple equation: If students spend more time learning, and if they use that time well, they will learn more effectively. Every major report, from the 1984 report, *A Nation at Risk,* to the 1994 report, *Prisoners of Time,* to ongoing studies today, speaks to the need of the efficient structuring and utilization of class time. This study provides additional support for both the success and the need to structure learning time more effectively.

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Appendix A

Timeline

Appendix A

Timeline

- Summer, 2008; Topic Selection
- November-December, 2008; Convene dissertation committee
- March, 2009; Obtain IRB approval
- Spring/Summer, 2009; Collect data and conduct analyses
- Fall, 2009; Complete first three chapters
- January, 2010; Complete chapters 4 and 5

Appendix B

Permission Letter

April 8, 2009

Dr. Fernando Garzon
Liberty University
IRB Review
1971 University Boulevard
Lynchburg, VA 24502

Dear Dr. Garzon:

This letter is to serve as official permission for Mr. Richard Ney to conduct an ex post facto study of students' scores as achieved on the High School Proficiency Assessment (HSPA) for the years 2003-04 through 2006-07.

It is my understanding that this data will be used as the basis of study for his dissertation entitled *Low Achievers Benefit from Double Class Times in Math and English: Fact or Fiction.* It is my further understanding that any records will be used under strict conditions of anonymity and confidentiality.

Sincerely,

Appendix C

IRB Approval

From: Institution Review Board
Sent: Thursday, April 16, 2009 9:32 AM
To: Ney, Richard J; rney@mrhs.net; Mowen, Carol; Garzon, Fernando L.
Cc: Institution Review Board
Subject: IRB Approval 693.030309: Low Achievers Benefit from Double Class time in Math and English: Fact or Fiction

Dear Richard,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. Attached you'll find the forms for those cases.

Thank you for your cooperation with the IRB and we wish you well with your research project. We will be glad to send you a written memo from the Liberty IRB, as needed, upon request.

Sincerely,

Fernando Garzon, Psy.D.
IRB Chair, Liberty University
Center for Counseling and Family Studies Liberty University
1971 University Boulevard
Lynchburg, VA 24502-2269
(434) 592-4054
Fax: (434) 522-0477

Appendix D

HSPA Scores Data Base

English Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Lang. Arts
$CE_{LA}002$	H	Y	1	201
$CE_{LA}003$	H		1	192
$CE_{LA}004$	H		1	200
$CE_{LA}006$	W		1	235
$CE_{LA}007$	W	Y	1	205
$CE_{LA}008$	W	Y	1	216
$CE_{LA}010$	H		1	220
$CE_{LA}012$	H	Y	1	186
$CE_{LA}013$	W		1	211
$CE_{LA}014$	B		1	207
$CE_{LA}015$	H		1	184
$CE_{LA}017$	W		1	203
$CE_{LA}018$	B	Y	1	237
$CE_{LA}019$	W		1	200
$CE_{LA}020$	W		1	182
$CE_{LA}021$	W		1	222
$CE_{LA}022$	W		1	224
$CE_{LA}023$	H	Y	1	201
$CE_{LA}024$	W		1	166
$CE_{LA}025$	H	Y	1	197
$CE_{LA}027$	H	Y	1	203
$CE_{LA}028$	W		1	209
$CE_{LA}029$	H		1	218
$CE_{2}001$	H		1	205
CE_{1003}	H		1	207
CE_{1019}	B		1	205
CE_{1021}	W		1	190
CE_{1023}	B		1	182
CE_{1030}	H		1	233
CE_{1032}	W		1	214
CE_{1038}	H		1	200
CE_{1043}	H	Y	1	222
CE_{1059}	A		1	239
CE_{1060}	H	Y	1	214
CE_{1070}	W		1	194
CE_{1078}	H	Y	1	188
CE_{1082}	W		1	235
CE_{1085}	B		1	239
CE_{1092}	H	Y	1	169
				206.5384615

English Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Lang. Arts
$EE_{1}001$	P		2	230
$EE_{1}002$	W		2	215
EE_{1003}	H	Y	2	230
EE_{1004}	H		2	216
EE_{1005}	H	Y	2	209
EE_{1006}	W	Y	2	207
EE_{1007}	H	Y	2	216
EE_{1008}	W		2	193
EE_{1009}	W	Y	2	209
EE_{1010}	W		2	216
EE_{1011}	W		2	185
EE_{1012}	B		2	245
EE_{1013}	H	Y	2	218
EE_{1014}	H	Y	2	173
EE_{1015}	H		2	195
EE_{1016}	W		2	222
EE_{1017}	B		2	227
EE_{1018}	W		2	211
EE_{1019}	H		2	230
EE_{1020}	H		2	189
EE_{1021}	H	Y	2	195
EE_{1022}	B	Y	2	240
EE_{1023}	B		2	225
EE_{1024}	B	Y	2	211
EE_{1025}	W		2	231
EE_{1026}	H		2	222
EE_{1027}	W		2	225
EE_{1028}	H	Y	2	243
EE_{1029}	H		2	216
EE_{1030}	B	Y	2	231
EE_{1031}	H	Y	2	213
EE_{1032}	W	Y	2	191
EE_{1033}	H		2	225
EE_{1034}	B		2	216
EE_{1035}	H	Y	2	218
EE_{1036}	H	Y	2	240
EE_{1037}	H	Y	2	205
EE_{1038}	H	Y	2	230
EE_{1039}	W	Y	2	205
EE_{1040}	W	Y	2	211
EE_{1041}	H	Y	2	215
EE_{1042}	H		2	209
EE_{1043}	H	Y	2	185
EE_{1044}	H	Y	2	148
EE_{1045}	H		2	175
EE_{1046}	H		2	207
EE_{1047}	W	Y	2	225
EE_{1048}	H	Y	2	220
EE_{1049}	H	Y	2	233
EE_{1050}	H	Y	2	230
EE_{1051}	W	Y	2	231
EE_{1052}	B	Y	2	222
EE_{1053}	B		2	216
EE_{1054}	W	Y	2	238
EE_{1055}	W		2	195
EE_{1056}	H	Y	2	215
EE_{1057}	H		2	231
EE_{1058}	H		2	233
EE_{1059}	W		2	209
EE_{1060}	W	Y	2	170
EE_{1061}	H	Y	2	228
EE_{1062}	H	Y	2	213
EE_{1063}	W		2	216
EE_{1064}	H	Y	2	189
EE_{1065}	H	Y	2	235
EE_{1066}	H		2	180

English Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Lang. Arts
$EE_{2}001$	W	Y	3	221
$EE_{2}002$	H	Y	3	182
EE_{2003}	W	Y	3	204
EE_{2004}	W	Y	3	231
EE_{2005}	W	Y	3	204
EE_{2006}	B	Y	3	196
EE_{2007}	B	Y	3	200
EE_{2008}	H		3	225
EE_{2009}	H	Y	3	221
EE_{2010}	H	Y	3	216
EE_{2011}	H		3	214
EE_{2012}	H	Y	3	129
EE_{2013}	H	Y	3	186
EE_{2014}	H	Y	3	186
EE_{2015}	W	Y	3	223
EE_{2016}	W	Y	3	182
EE_{2017}	H	Y	3	230
EE_{2018}	W		3	230
EE_{2019}	H	Y	3	235
EE_{2020}	W	Y	3	223
EE_{2021}	H	Y	3	216
EE_{2022}	H		3	220
EE_{2023}	H	Y	3	184
EE_{2024}	H	Y	3	182
EE_{2025}	H	Y	3	198
EE_{2026}	H		3	206
EE_{2027}	H	Y	3	218
EE_{2028}	H	Y	3	191
EE_{2029}	H		3	216
EE_{2030}	H		3	200
EE_{2031}	W		3	228
EE_{2032}	H	Y	3	214
EE_{2033}	H	Y	3	214
EE_{2034}	H	Y	3	208
EE_{2035}	W		3	227
				207.4285714

English Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Lang. Arts
$EE_{3}001$	H	Y	4	178
$EE_{3}002$	H	Y	4	204
EE_{3003}	H	Y	4	212
EE_{3004}	H	Y	4	222
EE_{3006}	W		4	216
EE_{3007}	B	Y	4	212
EE_{3008}	H	Y	4	218
EE_{3009}	H		4	227
EE_{3010}	W		4	160
EE_{3011}	B		4	194
EE_{3012}	B		4	194
EE_{3013}	H	Y	4	227
EE_{3014}	B	Y	4	178
EE_{3015}	H	Y	4	189
EE_{3016}	B	Y	4	202
EE_{3017}	H	Y	4	192
EE_{3018}	H	Y	4	231
EE_{3019}	H	Y	4	194
EE_{3020}	B	Y	4	204
EE_{3021}	H	Y	4	212
EE_{3022}	B	Y	4	202
EE_{3023}	H	Y	4	234
EE_{3024}	H	Y	4	212
EE_{3025}	W		4	209
EE_{3026}	H	Y	4	238
EE_{3027}	H	Y	4	196
EE_{3028}	H	Y	4	200
EE_{3029}	H	Y	4	204
EE_{3030}	H	Y	4	196
EE_{3031}	H		4	212
EE_{3032}	H		4	222
EE_{3033}	W		4	211
EE_{3034}	H	Y	4	206
EE_{3035}	H	Y	4	242
EE_{3036}	W		4	189
EE_{3037}	B	Y	4	189
EE_{3038}	W		4	182
				205.6756757

English Non-Low Achievers 2003-04/ Single Pd.

Code	EC	ED		HSPA English
CE$_{1}$002	W		1	207
CE$_{1004}$	W	Y	1	222
CE$_{1005}$	H		1	226
CE$_{1006}$	W		1	254
CE$_{1007}$	W		1	224
CE$_{1008}$	W	Y	1	200
CE$_{1009}$	W		1	222
CE$_{1010}$	W		1	237
CE$_{1011}$	W		1	226
CE$_{1012}$	H	Y	1	233
CE$_{1013}$	H		1	250
CE$_{1014}$	H	Y	1	216
CE$_{1015}$	W		1	243
CE$_{1016}$	W		1	254
CE$_{1017}$	W		1	209
CE$_{1018}$	W		1	230
CE$_{1020}$	W		1	224
CE$_{1022}$	W		1	209
CE$_{1024}$	W		1	251
CE$_{1025}$	H		1	214
CE$_{1026}$	H		1	203
CE$_{1027}$	H		1	233
CE$_{1028}$	W		1	251
CE$_{1029}$	W		1	245
CE$_{1031}$	W		1	241
CE$_{1033}$	W		1	277
CE$_{1034}$	W		1	235
CE$_{1035}$	W		1	222
CE$_{1036}$	W		1	239
CE$_{1037}$	W		1	260
CE$_{1039}$	W		1	233
CE$_{1040}$	W		1	233
CE$_{1041}$	W		1	251
CE$_{1042}$	W		1	232
CE$_{1044}$	W		1	216
CE$_{1045}$	W	Y	1	232
CE$_{1046}$	H		1	235
CE$_{1047}$	H		1	205
CE$_{1048}$	W		1	245
CE$_{1049}$	H		1	205
CE$_{1050}$	H		1	211
CE$_{1051}$	W		1	230
CE$_{1052}$	W		1	233
CE$_{1053}$	H		1	233
CE$_{1054}$	W		1	237
CE$_{1055}$	W		1	241
CE$_{1056}$	B		1	247
CE$_{1057}$	W		1	222
CE$_{1058}$	H		1	209
CE$_{1061}$	W		1	247
CE$_{1062}$	W		1	235
CE$_{1063}$	H	Y	1	220
CE$_{1064}$	W	Y	1	230
CE$_{1065}$	W		1	247
CE$_{1066}$	H		1	237
CE$_{1067}$	A		1	218
CE$_{1068}$	A		1	232
CE$_{1069}$	W		1	224
CE$_{1071}$	W		1	216
CE$_{1072}$	W		1	235
CE$_{1073}$	H	Y	1	232
CE$_{1074}$	H		1	258
CE$_{1075}$	W	Y	1	237
CE$_{1076}$	W		1	228
CE$_{1077}$	B		1	235
CE$_{1079}$	W		1	224
CE$_{1080}$	W	Y	1	146
CE$_{1081}$	H		1	218
CE$_{1083}$	W		1	271
CE$_{1084}$	W	Y	1	239
CE$_{1086}$	H		1	209
CE$_{1087}$	W		1	218
CE$_{1088}$	W		1	243
CE$_{1089}$	H		1	245
CE$_{1090}$	W		1	218
CE$_{1091}$	W		1	216
CE$_{1093}$	W		1	233
CE$_{1094}$	B	Y	1	211
CE$_{1095}$	W		1	237
CE$_{1096}$	W		1	239
CE$_{1097}$	W		1	232
CE$_{LA}$001	W	Y	1	200
CE$_{LA}$005	H	Y	1	220
CE$_{LA}$009	W		1	212
CE$_{LA}$011	H		1	220
CE$_{LA}$016	W	Y	1	205
CE$_{LA}$026	W		1	209

English Non-Low Achievers 2004-05/Single Pd.

Code	EC	ED		HSPA English
CE$_{2}$001	H		2	230
CE$_{2}$002	W		2	245
CE$_{2003}$	W		2	238
CE$_{2004}$	H	Y	2	218
CE$_{2005}$	W	Y	2	241
CE$_{2006}$	A		2	228
CE$_{2007}$	H		2	251
CE$_{2008}$	H		2	258
CE$_{2009}$	W		2	262
CE$_{2010}$	H		2	260
CE$_{2011}$	H	Y	2	236
CE$_{2012}$	H	Y	2	238
CE$_{2013}$	H		2	246
CE$_{2014}$	H		2	211
CE$_{2015}$	W		2	223
CE$_{2016}$	W		2	255
CE$_{2017}$	H	Y	2	235
CE$_{2018}$	H		2	215
CE$_{2019}$	W		2	243
CE$_{2020}$	H		2	231
CE$_{2021}$	H	Y	2	251
CE$_{2022}$	B		2	235
CE$_{2023}$	W		2	245
CE$_{2024}$	B	Y	2	255
CE$_{2025}$	H		2	240
CE$_{2026}$	H	Y	2	236
CE$_{2027}$	H	Y	2	218
CE$_{2028}$	W		2	245
CE$_{2029}$	W		2	228
CE$_{2030}$	H		2	223
CE$_{2031}$	W		2	245
CE$_{2032}$	W		2	246
CE$_{2033}$	H	Y	2	241
CE$_{2034}$	W		2	230
CE$_{2035}$	W	Y	2	241
CE$_{2036}$	H	Y	2	228
CE$_{2037}$	W	Y	2	253
CE$_{2038}$	H		2	233
CE$_{2039}$	W	Y	2	248
CE$_{2040}$	W		2	200
CE$_{2041}$	W		2	246
CE$_{2042}$	W		2	243
CE$_{2043}$	H	Y	2	236
CE$_{2044}$	W	Y	2	231
CE$_{2045}$	W		2	227
CE$_{2046}$	H	Y	2	222
CE$_{2047}$	H		2	238
CE$_{2048}$	W		2	250
CE$_{2049}$	B		2	245
CE$_{2050}$	W		2	209
CE$_{2051}$	H	Y	2	228
CE$_{2052}$	H	Y	2	240
CE$_{2053}$	W		2	233
CE$_{2054}$	W		2	215
CE$_{2055}$	H	Y	2	246
CE$_{2056}$	W		2	246
CE$_{2057}$	W		2	231
CE$_{2058}$	W	Y	2	204
CE$_{2059}$	H		2	245
CE$_{2060}$	H		2	251
CE$_{2061}$	W	Y	2	200
CE$_{2062}$	H		2	228
CE$_{2063}$	W	Y	2	227
CE$_{2064}$	H		2	245
CE$_{2065}$	H	Y	2	231
CE$_{2066}$	W	Y	2	218
CE$_{2067}$	W		2	236
CE$_{2068}$	W		2	222
CE$_{2069}$	W		2	231
CE$_{2070}$	A		2	223
CE$_{2071}$	W		2	238
CE$_{2072}$	W		2	246
CE$_{2073}$	H	Y	2	195
CE$_{2074}$	W		2	230
CE$_{2075}$	W		2	243
CE$_{2076}$	W		2	216
CE$_{2077}$	W		2	243
CE$_{2078}$	H	Y	2	230
CE$_{2079}$	W		2	195
CE$_{2080}$	B		2	235
CE$_{2081}$	A		2	265
CE$_{2082}$	H	Y	2	202
CE$_{2083}$	W		2	238
CE$_{2084}$	W		2	223
CE$_{2085}$	W		2	238

English Non-Low Achievers 2005-06/Single Pd.

Code	EC	ED		HSPA English
CE$_{3}$001	W	Y	3	251
CE$_{3}$002	P		3	233
CE$_{3003}$	H	Y	3	206
CE$_{3004}$	H		3	214
CE$_{3005}$	W		3	230
CE$_{3006}$	W	Y	3	223
CE$_{3007}$	W	Y	3	210
CE$_{3008}$	B		3	236
CE$_{3009}$	A	Y	3	233
CE$_{3010}$	H		3	223
CE$_{3011}$	H	Y	3	241
CE$_{3012}$	P	Y	3	156
CE$_{3013}$	H		3	235
CE$_{3014}$	B	Y	3	220
CE$_{3015}$	W		3	238
CE$_{3016}$	A		3	227
CE$_{3017}$	H	Y	3	243
CE$_{3018}$	H	Y	3	227
CE$_{3019}$	A	Y	3	208
CE$_{3020}$	A	Y	3	231
CE$_{3021}$	H	Y	3	186
CE$_{3022}$	H		3	220
CE$_{3023}$	W	Y	3	225
CE$_{3024}$	H	Y	3	208
CE$_{3025}$	H	Y	3	243
CE$_{3026}$	W	Y	3	235
CE$_{3027}$	H	Y	3	202
CE$_{3028}$	B	Y	3	221
CE$_{3029}$	W		3	254
CE$_{3030}$	W		3	254
CE$_{3031}$	W		3	227
CE$_{3032}$	W		3	239
CE$_{3033}$	W		3	228
CE$_{3034}$	W		3	212
CE$_{3035}$	B		3	238
CE$_{3036}$	W		3	233
CE$_{3037}$	W		3	244
CE$_{3038}$	B		3	216
CE$_{3039}$	H	Y	3	177
CE$_{3040}$	W	Y	3	210
CE$_{3041}$	W	Y	3	151
CE$_{3042}$	B		3	238
CE$_{3043}$	W	Y	3	228
CE$_{3044}$	W		3	236
CE$_{3045}$	W		3	208
CE$_{3046}$	W	Y	3	256
CE$_{3047}$	W		3	251
CE$_{3048}$	W		3	244
CE$_{3049}$	W		3	236
CE$_{3050}$	H	Y	3	202
CE$_{3051}$	H	Y	3	212
CE$_{3052}$	W		3	214
CE$_{3053}$	W	Y	3	243
CE$_{3054}$	H		3	223
CE$_{3055}$	H		3	216
CE$_{3056}$	W		3	243
CE$_{3057}$	H	Y	3	218
CE$_{3058}$	W		3	247
CE$_{3059}$	H	Y	3	233
CE$_{3060}$	H		3	251
CE$_{3061}$	A		3	241
CE$_{3062}$	H	Y	3	231
CE$_{3063}$	W		3	231
CE$_{3064}$	W		3	233
CE$_{3065}$	H	Y	3	179
CE$_{3066}$	H	Y	3	198
CE$_{3067}$	H		3	231
CE$_{3068}$	H	Y	3	221
CE$_{3069}$	H	Y	3	247
CE$_{3070}$	H	Y	3	246
CE$_{3071}$	H	Y	3	243
CE$_{3072}$	W		3	214
CE$_{3073}$	H		3	231
CE$_{3074}$	W		3	250
CE$_{3075}$	W		3	225
CE$_{3076}$	W		3	223
CE$_{3077}$	H	Y	3	198
CE$_{3078}$	W		3	258
CE$_{3079}$	W		3	228
CE$_{3080}$	W		3	200
CE$_{3081}$	W		3	244
CE$_{3082}$	W	Y	3	258
CE$_{3083}$	H	Y	3	231
CE$_{3084}$	H	Y	3	186
CE$_{3085}$	B		3	252
CE$_{3086}$	W		3	256
CE$_{3087}$	H	Y	3	243
CE$_{3088}$	W		3	254
CE$_{3089}$	A	Y	3	191

English Non-Low Achievers 2006-07/Single Pd.

Code	EC	ED		HSPA English
CE$_{4}$001	H		4	224
CE$_{4}$002	H	Y	4	229
CE$_{4003}$	A		4	242
CE$_{4004}$	W		4	244
CE$_{4005}$	W		4	244
CE$_{4006}$	W	Y	4	224
CE$_{4007}$	H	Y	4	238
CE$_{4008}$	B	Y	4	238
CE$_{4009}$	H	Y	4	220
CE$_{4010}$	W		4	236
CE$_{4011}$	H		4	229
CE$_{4012}$	H	Y	4	182
CE$_{4013}$	W		4	214
CE$_{4014}$	W		4	194
CE$_{4015}$	H	Y	4	231
CE$_{4016}$	H	Y	4	231
CE$_{4017}$	W	Y	4	227
CE$_{4018}$	H	Y	4	227
CE$_{4019}$	H	Y	4	209
CE$_{4020}$	W		4	240
CE$_{4021}$	W		4	253
CE$_{4022}$	W		4	227
CE$_{4023}$	W		4	227
CE$_{4024}$	W		4	211
CE$_{4025}$	W		4	211
CE$_{4026}$	B	Y	4	206
CE$_{4027}$	A	Y	4	224
CE$_{4028}$	A	Y	4	224
CE$_{4029}$	W		4	216
CE$_{4030}$	W		4	222
CE$_{4031}$	W		4	222
CE$_{4032}$	H	Y	4	227
CE$_{4033}$	B		4	206
CE$_{4034}$	W		4	247
CE$_{4035}$	W		4	227
CE$_{4036}$	W	Y	4	214
CE$_{4037}$	B		4	226
CE$_{4038}$	H	Y	4	206
CE$_{4039}$	H	Y	4	233
CE$_{4040}$	W		4	244
CE$_{4041}$	W		4	247
CE$_{4042}$	W	Y	4	234
CE$_{4043}$	W	Y	4	247
CE$_{4044}$	W		4	209
CE$_{4045}$	W		4	244
CE$_{4046}$	W		4	227
CE$_{4047}$	W	Y	4	247
CE$_{4048}$	W		4	234
CE$_{4049}$	B		4	245
CE$_{4050}$	H		4	233
CE$_{4051}$	H	Y	4	240
CE$_{4052}$	H		4	242
CE$_{4053}$	H	Y	4	214
CE$_{4054}$	H	Y	4	236
CE$_{4055}$	H		4	244
CE$_{4056}$	W	Y	4	220
CE$_{4057}$	W		4	218
CE$_{4058}$	W	Y	4	226
CE$_{4059}$	W		4	218
CE$_{4060}$	W		4	236
CE$_{4061}$	H	Y	4	244
CE$_{4062}$	H		4	236
CE$_{4063}$	W		4	233
CE$_{4064}$	W		4	236
CE$_{4065}$	W		4	234
CE$_{4066}$	W		4	227
CE$_{4067}$	W		4	261
CE$_{4068}$	A		4	231
CE$_{4069}$	H	Y	4	224
CE$_{4070}$	W		4	226
CE$_{4071}$	W		4	244
CE$_{4072}$	H		4	227
CE$_{4073}$	H	Y	4	222
CE$_{4074}$	H	Y	4	222
CE$_{4075}$	H	Y	4	216
CE$_{4076}$	H	Y	4	247
CE$_{4077}$	H	Y	4	251
CE$_{4078}$	W		4	229
CE$_{4079}$	W		4	209
CE$_{4080}$	W		4	242
CE$_{4081}$	W		4	238
CE$_{4082}$	B		4	220
CE$_{4083}$	H		4	231
CE$_{4084}$	H	Y	4	242
CE$_{4085}$	W		4	234
CE$_{4086}$	W		4	231
CE$_{4087}$	H	Y	4	139
CE$_{4088}$	W	Y	4	216
CE$_{4089}$	A	Y	4	240
CE$_{4090}$	I		4	229
CE$_{4091}$	W		4	216
CE$_{4092}$	H	Y	4	236
CE$_{4093}$	W		4	244
CE$_{4094}$	W		4	234
CE$_{4095}$	H		4	242
CE$_{4096}$	H		4	245
CE$_{4097}$	B		4	233
CE$_{4098}$	W	Y	4	214
CE$_{4099}$	H		4	224
CE$_{4100}$	W		4	234
CE$_{4101}$	W		4	240

English Low Achievers Hispanic 2003-04/Single Pd.

Code	EC	ED		HSPA Lang. Arts
CE$_{1A}$002	H	Y	1	201
CE$_{1A}$003	H		1	192
CE$_{1A}$004	H		1	200
CE$_{1A}$010	H		1	220
CE$_{1A}$012	H	Y	1	186
CE$_{1A}$015	H		1	184
CE$_{1A}$023	H	Y	1	201
CE$_{1A}$025	H	Y	1	197
CE$_{1A}$027	H	Y	1	203
CE$_{1A}$029	H		1	218
CE$_{1}$001	H		1	205
CE$_{1003}$	H		1	207
CE$_{1030}$	H		1	233
CE$_{1038}$	H		1	200
CE$_{1043}$	H	Y	1	222
CE$_{1060}$	H	Y	1	214
CE$_{1078}$	H	Y	1	188
CE$_{1082}$	H	Y	1	169

English Low Achievers Hispanic 2004-05/Double Pd.

LAST	EC	ED		HSPA Lang. Arts
EE$_{1003}$	H	Y	2	230
EE$_{1004}$	H		2	216
EE$_{1005}$	H	Y	2	209
EE$_{1007}$	H	Y	2	216
EE$_{1013}$	H	Y	2	218
EE$_{1014}$	H	Y	2	173
EE$_{1015}$	H		2	195
EE$_{1019}$	H		2	230
EE$_{1020}$	H		2	189
EE$_{1021}$	H	Y	2	195
EE$_{1026}$	H		2	222
EE$_{1028}$	H	Y	2	243
EE$_{1029}$	H		2	216
EE$_{1031}$	H	Y	2	213
EE$_{1033}$	H		2	225
EE$_{1035}$	H	Y	2	218
EE$_{1036}$	H	Y	2	240
EE$_{1037}$	H	Y	2	205
EE$_{1038}$	H	Y	2	230
EE$_{1041}$	H	Y	2	215
EE$_{1042}$	H		2	209
EE$_{1043}$	H	Y	2	185
EE$_{1044}$	H	Y	2	148
EE$_{1045}$	H		2	175
EE$_{1046}$	H		2	207
EE$_{1048}$	H	Y	2	220
EE$_{1049}$	H	Y	2	233
EE$_{1050}$	H	Y	2	230
EE$_{1056}$	H	Y	2	215
EE$_{1057}$	H		2	231
EE$_{1058}$	H		2	233
EE$_{1061}$	H	Y	2	228
EE$_{1062}$	H	Y	2	213
EE$_{1064}$	H	Y	2	189
EE$_{1065}$	H	Y	2	235
EE$_{1066}$	H		2	180

English Low Achievers Hispanic 2005-06/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE$_{}$002	H	Y	3	182
EE$_{2008}$	H		3	225
EE$_{2009}$	H	Y	3	221
EE$_{2010}$	H	Y	3	216
EE$_{2011}$	H		3	214
EE$_{2012}$	H	Y	3	129
EE$_{2013}$	H	Y	3	186
EE$_{2014}$	H	Y	3	186
EE$_{2017}$	H	Y	3	230
EE$_{2019}$	H	Y	3	235
EE$_{2021}$	H	Y	3	216
EE$_{2022}$	H		3	220
EE$_{2023}$	H	Y	3	184
EE$_{2024}$	H	Y	3	182
EE$_{2025}$	H	Y	3	198
EE$_{2026}$	H		3	206
EE$_{2027}$	H	Y	3	218
EE$_{2028}$	H	Y	3	191
EE$_{2029}$	H		3	216
EE$_{2030}$	H		3	200
EE$_{2032}$	H	Y	3	214
EE$_{2033}$	H	Y	3	214
EE$_{2034}$	H	Y	3	208

English Low Achievers Hispanic 2006-07/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE$_{}$001	H	Y	4	178
EE$_{}$002	H	Y	4	204
EE$_{3003}$	H	Y	4	212
EE$_{3004}$	H	Y	4	222
EE$_{3008}$	H	Y	4	218
EE$_{3009}$	H		4	227
EE$_{3013}$	H	Y	4	227
EE$_{3015}$	H	Y	4	189
EE$_{3017}$	H	Y	4	192
EE$_{3018}$	H	Y	4	231
EE$_{3019}$	H	Y	4	194
EE$_{3021}$	H	Y	4	212
EE$_{3023}$	H	Y	4	234
EE$_{3024}$	H	Y	4	212
EE$_{3026}$	H	Y	4	238
EE$_{3027}$	H	Y	4	196
EE$_{3028}$	H	Y	4	200
EE$_{3029}$	H	Y	4	204
EE$_{3030}$	H	Y	4	196
EE$_{3031}$	H		4	212
EE$_{3032}$	H		4	222
EE$_{3034}$	H	Y	4	206
EE$_{3035}$	H	Y	4	242

English Non-Low Achievers Hispanic 2003-04/ Single Pd.

Code	EC	ED		HSPA English
CE1005	H		1	226
CE1012	H	Y	1	233
CE1013	H		1	250
CE1014	H	Y	1	216
CE1025	H		1	214
CE1026	H		1	203
CE1027	H		1	233
CE1046	H		1	235
CE1047	H		1	205
CE1049	H		1	205
CE1050	H		1	211
CE1053	H		1	233
CE1058	H		1	209
CE1063	H	Y	1	220
CE1066	H		1	237
CE1073	H	Y	1	232
CE1074	H		1	258
CE1081	H		1	218
CE1086	H		1	209
CE1089	H		1	245
CELA005	H	Y	1	218
CELA011	H		1	220

English Non-Low Achievers Hispanic 2004-05/Single Pd.

Code	EC	ED		HSPA English
CE1001	H		2	230
CE2004	H	Y	2	218
CE2007	H		2	251
CE2008	H		2	258
CE2010	H		2	260
CE2011	H	Y	2	236
CE2012	H	Y	2	238
CE2013	H		2	246
CE2014	H		2	211
CE2017	H	Y	2	235
CE2018	H		2	215
CE2020	H		2	231
CE2021	H	Y	2	251
CE2025	H		2	240
CE2026	H	Y	2	236
CE2027	H	Y	2	218
CE2030	H		2	223
CE2033	H	Y	2	241
CE2036	H	Y	2	228
CE2038	H		2	233
CE2043	H	Y	2	236
CE2046	H	Y	2	222
CE2047	H		2	238
CE2051	H	Y	2	228
CE2052	H	Y	2	240
CE2055	H	Y	2	246
CE2059	H		2	245
CE2060	H		2	251
CE2062	H		2	228
CE2064	H		2	245
CE2065	H	Y	2	231
CE2073	H	Y	2	195
CE2078	H	Y	2	230
CE2082	H	Y	2	202

English Non-Low Achievers Hispanic 2005-06/Single Pd.

Code	EC	ED		HSPA English
CE3003	H	Y	3	206
CE3004	H		3	214
CE3010	H		3	223
CE3011	H	Y	3	241
CE3013	H		3	235
CE3017	H	Y	3	243
CE3018	H	Y	3	227
CE3021	H	Y	3	186
CE3022	H		3	220
CE3024	H	Y	3	208
CE3025	H	Y	3	243
CE3027	H	Y	3	202
CE3039	H	Y	3	177
CE3050	H	Y	3	202
CE3051	H	Y	3	212
CE3054	H		3	223
CE3055	H		3	216
CE3057	H	Y	3	218
CE3059	H	Y	3	233
CE3060	H		3	251
CE3062	H	Y	3	231
CE3065	H	Y	3	179
CE3066	H	Y	3	198
CE3067	H		3	231
CE3068	H	Y	3	221
CE3069	H	Y	3	247
CE3070	H	Y	3	246
CE3071	H	Y	3	243
CE3073	H		3	231
CE3077	H	Y	3	198
CE3083	H	Y	3	231
CE3084	H	Y	3	186
CE3087	H	Y	3	243

English Non-Low Achievers Hispanic 2006-07/Single Pd.

Code	EC	ED		HSPA English
1	H		4	224
CE4002	H	Y	4	229
CE4007	H	Y	4	238
CE4009	H	Y	4	220
CE4011	H		4	229
CE4012	H	Y	4	182
CE4015	H	Y	4	231
CE4018	H	Y	4	227
CE4019	H	Y	4	209
CE4032	H	Y	4	227
CE4038	H	Y	4	206
CE4039	H	Y	4	233
CE4050	H		4	233
CE4051	H	Y	4	240
CE4052	H		4	242
CE4053	H	Y	4	214
CE4054	H	Y	4	236
CE4055	H		4	244
CE4061	H	Y	4	244
CE4062	H		4	236
CE4069	H	Y	4	224
CE4072	H		4	227
CE4073	H	Y	4	222
CE4074	H	Y	4	222
CE4075	H	Y	4	216
CE4076	H	Y	4	247
CE4077	H	Y	4	251
CE4083	H		4	231
CE4084	H	Y	4	242
CE4087	H	Y	4	139
CE4092	H	Y	4	236
CE4095	H		4	242
CE4096	H		4	245
CE4099	H		4	224

English Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Lang. Arts
CE_EA001	W	Y	1	200
CE_EA006	W		1	235
CE_EA007	W	Y	1	205
CE_EA008	W	Y	1	216
CE_EA009	W		1	212
CE_EA013	W		1	211
CE_EA016	W	Y	1	205
CE_EA017	W		1	203
CE_EA019	W		1	200
CE_EA020	W		1	182
CE_EA021	W		1	222
CE_EA022	W		1	224
CE_EA024	W		1	166
CE_EA026	W		1	209
CE_EA028	W		1	209

English Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Lang. Arts
EE_1002	W		2	215
EE_1006	W	Y	2	207
EE_1008	W		2	193
EE_1009	W	Y	2	209
EE_1010	W		2	216
EE_1011	W		2	185
EE_1016	W		2	222
EE_1018	W		2	211
EE_1025	W		2	231
EE_1027	W		2	225
EE_1032	W	Y	2	191
EE_1039	W	Y	2	205
EE_1040	W	Y	2	211
EE_1047	W	Y	2	225
EE_1051	W	Y	2	231
EE_1054	W	Y	2	238
EE_1055	W		2	195
EE_1059	W		2	209
EE_1060	W	Y	2	170
EE_1063	W		2	216

English Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE_1001	W	Y	3	221
EE_2003	W	Y	3	204
EE_2004	W	Y	3	231
EE_2005	W	Y	3	204
EE_2015	W	Y	3	223
EE_2016	W	Y	3	182
EE_2018	W		3	230
EE_2020	W	Y	3	223
EE_2031	W		3	228
EE_2035	W		3	227

English Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Lang. Arts
1	W		4	216
EE_3010	W		4	160
EE_3025	W		4	209
EE_3033	W		4	211
EE_3036	W		4	189
EE_3038	W		4	182

English Non-Low Achievers White 2003-04/ Single Pd.

Code	EC	ED		HSPA English
CE1002	W		1	207
CE1004	W	Y	1	222
CE1006	W		1	254
CE1007	W		1	224
CE1008	W	Y	1	200
CE1009	W		1	222
CE1010	W		1	237
CE1011	W		1	226
CE1015	W		1	243
CE1016	W		1	254
CE1017	W		1	209
CE1018	W		1	230
CE1020	W		1	224
CE1021	W		1	190
CE1022	W		1	209
CE1024	W		1	251
CE1028	W		1	251
CE1029	W		1	245
CE1031	W		1	241
CE1032	W		1	214
CE1033	W		1	277
CE1034	W		1	235
CE1035	W		1	222
CE1036	W		1	239
CE1037	W		1	260
CE1039	W		1	233
CE1040	W		1	233
CE1041	W		1	251
CE1042	W		1	232
CE1044	W		1	216
CE1045	W	Y	1	232
CE1048	W		1	245
CE1051	W		1	230
CE1052	W		1	233
CE1054	W		1	237
CE1055	W		1	241
CE1057	W		1	222
CE1061	W		1	247
CE1062	W		1	235
CE1064	W	Y	1	230
CE1065	W		1	247
CE1069	W		1	224
CE1070	W		1	194
CE1071	W		1	216
CE1072	W		1	235
CE1075	W	Y	1	237
CE1076	W		1	228
CE1079	W		1	224
CE1080	W	Y	1	146
CE1082	W		1	235
CE1083	W		1	271
CE1084	W	Y	1	239
CE1087	W		1	218
CE1088	W		1	243
CE1090	W		1	218
CE1091	W		1	216
CE1093	W		1	233
CE1095	W		1	237
CE1096	W		1	239
CE1097	W		1	232

English Non-Low Achievers White 2004-05/Single Pd.

Code	EC	ED		HSPA English
CE2002	W		2	245
CE2003	W		2	238
CE2005	W	Y	2	241
CE2009	W		2	262
CE2015	W		2	223
CE2016	W		2	255
CE2019	W		2	243
CE2023	W		2	245
CE2028	W		2	245
CE2029	W		2	228
CE2031	W		2	245
CE2032	W		2	246
CE2034	W		2	230
CE2035	W	Y	2	241
CE2037	W	Y	2	253
CE2039	W	Y	2	248
CE2040	W		2	200
CE2041	W		2	246
CE2042	W		2	243
CE2044	W	Y	2	231
CE2045	W		2	227
CE2048	W		2	250
CE2050	W		2	209
CE2053	W		2	233
CE2054	W		2	215
CE2056	W		2	246
CE2057	W		2	231
CE2058	W	Y	2	204
CE2061	W	Y	2	200
CE2063	W	Y	2	227
CE2066	W	Y	2	218
CE2067	W		2	236
CE2068	W		2	222
CE2069	W		2	231
CE2071	W		2	238
CE2072	W		2	246
CE2074	W		2	230
CE2075	W		2	243
CE2076	W		2	216
CE2079	W		2	195
CE2083	W		2	238
CE2084	W		2	223
CE2085	W		2	238

English Non-Low Achievers White 2005-06/Single Pd.

Code	EC	ED		HSPA English
CE3001	W	Y	3	251
CE3005	W		3	230
CE3006	W	Y	3	223
CE3007	W	Y	3	210
CE3015	W		3	238
CE3023	W	Y	3	225
CE3026	W	Y	3	235
CE3029	W		3	254
CE3030	W		3	254
CE3031	W		3	227
CE3032	W		3	239
CE3033	W		3	228
CE3034	W		3	212
CE3036	W		3	233
CE3037	W		3	244
CE3040	W	Y	3	210
CE3041	W	Y	3	151
CE3043	W	Y	3	228
CE3044	W		3	236
CE3045	W		3	208
CE3046	W	Y	3	256
CE3047	W		3	251
CE3048	W		3	244
CE3049	W		3	236
CE3052	W		3	214
CE3053	W	Y	3	243
CE3056	W		3	243
CE3058	W		3	247
CE3063	W		3	231
CE3064	W		3	233
CE3072	W		3	214
CE3074	W		3	250
CE3075	W		3	225
CE3076	W		3	223
CE3078	W		3	258
CE3079	W		3	228
CE3080	W		3	200
CE3081	W		3	244
CE3082	W	Y	3	258
CE3086	W		3	256
CE3088	W		3	254

English Non-Low Achievers White 2006-07/Single Pd.

Code	EC	ED		HSPA English
CE4004	W		4	244
CE4006	W	Y	4	224
CE4010	W		4	236
CE4013	W		4	214
CE4014	W		4	194
CE4017	W	Y	4	227
CE4020	W		4	240
CE4021	W		4	253
CE4022	W		4	227
CE4024	W		4	211
CE4029	W		4	216
CE4030	W		4	222
CE4034	W		4	247
CE4035	W		4	227
CE4036	W	Y	4	214
CE4040	W		4	244
CE4041	W		4	247
CE4042	W	Y	4	234
CE4043	W	Y	4	247
CE4044	W		4	209
CE4045	W		4	244
CE4046	W		4	227
CE4047	W	Y	4	247
CE4048	W		4	234
CE4056	W	Y	4	220
CE4057	W		4	218
CE4058	W	Y	4	226
CE4059	W		4	218
CE4060	W		4	236
CE4063	W		4	233
CE4064	W		4	236
CE4065	W		4	234
CE4066	W		4	227
CE4067	W		4	261
CE4070	W		4	226
CE4071	W		4	244
CE4078	W		4	229
CE4079	W		4	209
CE4080	W		4	242
CE4081	W		4	238
CE4085	W		4	234
CE4086	W		4	231
CE4088	W	Y	4	216
CE4091	W		4	216
CE4093	W		4	244
CE4094	W		4	234
CE4098	W	Y	4	214
CE4100	W		4	234
CE4101	W		4	240

English Low Achievers Low Income 2003-04/Single Pd.

Code	EC	ED		HSPA Lang. Arts
CE$_{0}$002	H	Y	1	201
CE$_{0}$006	W		1	235
CE$_{0}$007	W	Y	1	205
CE$_{0}$008	W	Y	1	216
CE$_{0}$012	H	Y	1	186
CE$_{0}$018	B	Y	1	237
CE$_{0}$023	H	Y	1	201
CE$_{0}$024	W		1	166
CE$_{0}$025	H	Y	1	197
CE$_{0}$027	H	Y	1	203
CE$_{1043}$	H	Y	1	222
CE$_{1059}$	A		1	239
CE$_{1060}$	H	Y	1	214
CE$_{1078}$	H	Y	1	188
CE$_{1092}$	H	Y	1	169

English Low Achievers Low Income 2004-05/Double Pd.

LAST	EC	ED		HSPA Lang. Arts
EE$_{1003}$	H	Y	2	230
EE$_{1005}$	H	Y	2	209
EE$_{1006}$	W	Y	2	207
EE$_{1007}$	H	Y	2	216
EE$_{1009}$	W	Y	2	209
EE$_{1013}$	H	Y	2	218
EE$_{1014}$	H	Y	2	173
EE$_{1021}$	H	Y	2	195
EE$_{1022}$	B	Y	2	240
EE$_{1024}$	B	Y	2	211
EE$_{1028}$	H	Y	2	243
EE$_{1030}$	B	Y	2	231
EE$_{1031}$	H	Y	2	213
EE$_{1032}$	W	Y	2	191
EE$_{1035}$	H	Y	2	218
EE$_{1036}$	H	Y	2	240
EE$_{1037}$	H	Y	2	205
EE$_{1038}$	H	Y	2	230
EE$_{1039}$	W	Y	2	205
EE$_{1040}$	W	Y	2	211
EE$_{1041}$	H	Y	2	215
EE$_{1043}$	H	Y	2	185
EE$_{1044}$	H	Y	2	148
EE$_{1047}$	W	Y	2	225
EE$_{1048}$	H	Y	2	220
EE$_{1049}$	H	Y	2	233
EE$_{1050}$	H	Y	2	230
EE$_{1051}$	W	Y	2	231
EE$_{1052}$	B	Y	2	222
EE$_{1054}$	W	Y	2	238
EE$_{1056}$	H	Y	2	215
EE$_{1060}$	W	Y	2	170
EE$_{1061}$	H	Y	2	228
EE$_{1062}$	H	Y	2	213
EE$_{1064}$	H	Y	2	189
EE$_{1065}$	H	Y	2	235

English Low Achievers Low Income 2005-06/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE$_{0}$001	W	Y	3	221
EE$_{0}$002	H	Y	3	182
EE$_{2003}$	W	Y	3	204
EE$_{2004}$	W	Y	3	231
EE$_{2005}$	W	Y	3	204
EE$_{2006}$	B	Y	3	196
EE$_{2007}$	B	Y	3	200
EE$_{2009}$	H	Y	3	221
EE$_{2010}$	H	Y	3	216
EE$_{2012}$	H	Y	3	129
EE$_{2013}$	H	Y	3	186
EE$_{2014}$	H	Y	3	186
EE$_{2015}$	W	Y	3	223
EE$_{2016}$	W	Y	3	182
EE$_{2017}$	H	Y	3	230
EE$_{2019}$	H	Y	3	235
EE$_{2020}$	W	Y	3	223
EE$_{2021}$	H	Y	3	216
EE$_{2023}$	H	Y	3	184
EE$_{2024}$	H	Y	3	182
EE$_{2025}$	H	Y	3	198
EE$_{2027}$	H	Y	3	218
EE$_{2028}$	H	Y	3	191
EE$_{2032}$	H	Y	3	214
EE$_{2033}$	H	Y	3	214
EE$_{2034}$	H	Y	3	208

English Low Achievers Low Income 2006-07/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE$_{0}$001	H	Y	4	178
EE$_{0}$002	H	Y	4	204
EE$_{3003}$	H	Y	4	212
EE$_{3004}$	H	Y	4	222
EE$_{3007}$	B	Y	4	212
EE$_{3008}$	H	Y	4	218
EE$_{3013}$	H	Y	4	227
EE$_{3014}$	B	Y	4	178
EE$_{3015}$	H	Y	4	189
EE$_{3016}$	B	Y	4	202
EE$_{3017}$	H	Y	4	192
EE$_{3018}$	H	Y	4	231
EE$_{3019}$	H	Y	4	194
EE$_{3020}$	B	Y	4	204
EE$_{3021}$	H	Y	4	212
EE$_{3022}$	B	Y	4	202
EE$_{3023}$	H	Y	4	234
EE$_{3024}$	H	Y	4	212
EE$_{3026}$	H	Y	4	238
EE$_{3027}$	H	Y	4	196
EE$_{3028}$	H	Y	4	200
EE$_{3029}$	H	Y	4	204
EE$_{3030}$	H	Y	4	196
EE$_{3034}$	H	Y	4	206
EE$_{3035}$	H	Y	4	242
EE$_{3037}$	B	Y	4	189

English Non-Low Achievers Low Income 2003-04/ Single Pd.

Code	EC	ED		HSPA English
CE1004	W	Y	1	222
CE1008	W	Y	1	200
CE1010	W		1	237
CE1012	H	Y	1	233
CE1013	H		1	250
CE1014	H	Y	1	216
CE1027	H		1	233
CE1045	W	Y	1	232
CE1047	H		1	205
CE1050	H		1	211
CE1062	W		1	235
CE1063	H	Y	1	220
CE1064	W	Y	1	230
CE1073	H	Y	1	232
CE1075	W	Y	1	237
CE1080	W	Y	1	146
CE1084	W	Y	1	239
CE1087	W		1	218
CE1089	H		1	245
CE1094	B	Y	1	211
CE1,001	W	Y	1	200
CE1,005	H	Y	1	218
CE1,016	W	Y	1	205

English Non-Low Achievers Low Income 2004-05/Single Pd.

Code	EC	ED		HSPA English
CE2004	H	Y	2	218
CE2005	W	Y	2	241
CE2011	H	Y	2	236
CE2012	H	Y	2	238
CE2017	H	Y	2	235
CE2021	H	Y	2	251
CE2024	B	Y	2	255
CE2026	H	Y	2	236
CE2027	H	Y	2	218
CE2033	H	Y	2	241
CE2035	W	Y	2	241
CE2036	H	Y	2	228
CE2037	W	Y	2	253
CE2039	W	Y	2	248
CE2043	H	Y	2	236
CE2044	W	Y	2	231
CE2046	H	Y	2	222
CE2051	H	Y	2	228
CE2052	H	Y	2	240
CE2055	H	Y	2	246
CE2058	W	Y	2	204
CE2061	W	Y	2	200
CE2063	W	Y	2	227
CE2065	H	Y	2	231
CE2066	W	Y	2	218
CE2073	H	Y	2	195
CE2078	H	Y	2	230
CE2082	H	Y	2	202

English Non-Low Achievers Low Income 2005-06/Single Pd.

Code	EC	ED		HSPA English
CE2,001	W	Y	3	251
CE3003	H	Y	3	206
CE3006	W	Y	3	223
CE3007	W	Y	3	210
CE3009	A	Y	3	233
CE3011	H	Y	3	241
CE3012	P	Y	3	156
CE3014	B	Y	3	220
CE3017	H	Y	3	243
CE3018	H	Y	3	227
CE3019	A	Y	3	208
CE3020	A	Y	3	231
CE3021	H	Y	3	186
CE3023	W	Y	3	225
CE3024	H	Y	3	208
CE3025	H	Y	3	243
CE3026	W	Y	3	235
CE3027	H	Y	3	202
CE3028	B	Y	3	221
CE3039	H	Y	3	177
CE3040	W	Y	3	210
CE3041	W	Y	3	151
CE3043	W	Y	3	228
CE3046	W	Y	3	256
CE3050	H	Y	3	202
CE3051	H	Y	3	212
CE3053	W	Y	3	243
CE3057	H	Y	3	218
CE3059	H	Y	3	233
CE3062	H	Y	3	231
CE3065	H	Y	3	179
CE3066	H	Y	3	198
CE3068	H	Y	3	221
CE3069	H	Y	3	247
CE3070	H	Y	3	246
CE3071	H	Y	3	243
CE3077	H	Y	3	198
CE3082	W	Y	3	258
CE3083	H	Y	3	231
CE3084	H	Y	3	186
CE3087	H	Y	3	243
CE3089	A	Y	3	191

English Non-Low Achievers Low Income2006-07/Single Pd.

Code	EC	ED		HSPA English
CE4002	H	Y	4	229
CE4006	W	Y	4	224
CE4007	H	Y	4	238
CE4008	B	Y	4	238
CE4009	H	Y	4	220
CE4012	H	Y	4	182
CE4015	H	Y	4	231
CE4017	W	Y	4	227
CE4018	H	Y	4	227
CE4019	H	Y	4	209
CE4026	B	Y	4	206
CE4027	A	Y	4	224
CE4032	H	Y	4	227
CE4036	W	Y	4	214
CE4038	H	Y	4	206
CE4039	H	Y	4	233
CE4042	W	Y	4	234
CE4043	W	Y	4	247
CE4047	W	Y	4	247
CE4051	H	Y	4	240
CE4053	H	Y	4	214
CE4054	H	Y	4	236
CE4056	W	Y	4	220
CE4058	W	Y	4	226
CE4061	H	Y	4	244
CE4069	H	Y	4	224
CE4073	H	Y	4	222
CE4074	H	Y	4	222
CE4075	H	Y	4	216
CE4076	H	Y	4	247
CE4077	H	Y	4	251
CE4094	H	Y	4	242
CE4097	H	Y	4	139
CE4098	W	Y	4	216
CE4099	A	Y	4	240
CE4092	H	Y	4	236
CE4098	W	Y	4	214

English Low Achievers Non-Low Income 2003-04/Single Pd.

Code	EC	ED		HSPA Lang. Arts
$CE_{LA}003$	H		1	192
$CE_{LA}004$	H		1	200
$CE_{LA}010$	H		1	220
$CE_{LA}013$	W		1	211
$CE_{LA}014$	B		1	207
$CE_{LA}015$	H		1	184
$CE_{LA}017$	W		1	203
$CE_{LA}019$	W		1	200
$CE_{LA}020$	W		1	182
$CE_{LA}021$	W		1	222
$CE_{LA}022$	W		1	224
$CE_{LA}028$	W		1	209
$CE_{LA}029$	H		1	218
$CE_{1}001$	H		1	205
CE_{1003}	H		1	207
CE_{1019}	B		1	205
CE_{1021}	W		1	190
CE_{1023}	B		1	182
CE_{1030}	H		1	233
CE_{1032}	W		1	214
CE_{1038}	H		1	200
CE_{1070}	W		1	194
CE_{1082}	W		1	235
CE_{1085}	B		1	239

English Low Achievers Non-Low Income 2004-05/Double Pd.

LAST	EC	ED		HSPA Lang. Arts
$EE_{1}001$	P		2	230
$EE_{1}002$	W		2	215
EE_{1004}	H		2	216
EE_{1008}	W		2	193
EE_{1010}	W		2	216
EE_{1011}	W		2	185
EE_{1012}	B		2	245
EE_{1015}	H		2	195
EE_{1016}	W		2	222
EE_{1017}	B		2	227
EE_{1018}	W		2	211
EE_{1019}	H		2	230
EE_{1020}	H		2	189
EE_{1023}	B		2	225
EE_{1025}	W		2	231
EE_{1026}	H		2	222
EE_{1027}	W		2	225
EE_{1029}	H		2	216
EE_{1033}	H		2	225
EE_{1034}	B		2	216
EE_{1042}	H		2	209
EE_{1045}	H		2	175
EE_{1046}	H		2	207
EE_{1053}	B		2	216
EE_{1055}	W		2	195
EE_{1057}	H		2	231
EE_{1058}	H		2	233
EE_{1059}	W		2	209
EE_{1063}	W		2	216
EE_{1066}	H		2	180

English Low Achievers Non-Low Income 2005-06/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE_{2008}	H		3	225
EE_{2011}	H		3	214
EE_{2018}	W		3	230
EE_{2022}	H		3	220
EE_{2026}	H		3	206
EE_{2029}	H		3	216
EE_{2030}	H		3	200
EE_{2031}	W		3	228
EE_{2035}	W		3	227

English Low Achievers Non-Low Income 2006-07/Double Pd.

Code	EC	ED		HSPA Lang. Arts
EE_{3006}	W		4	216
EE_{3009}	H		4	227
EE_{3010}	W		4	160
EE_{3011}	B		4	194
EE_{3012}	B		4	194
EE_{3025}	W		4	209
EE_{3031}	H		4	212
EE_{3032}	H		4	222
EE_{3033}	W		4	211
EE_{3036}	W		4	189
EE_{3038}	W		4	182

English Non-Low Achievers Non-Low Income 2003-04/ Single Pd.

Code	EC	ED		HSPA English
CE_0002	W		1	207
CE_1005	H		1	226
CE_1006	W		1	254
CE_1007	W		1	224
CE_1009	W		1	222
CE_1011	W		1	226
CE_1015	W		1	243
CE_1016	W		1	254
CE_1017	W		1	209
CE_1018	W		1	230
CE_1020	W		1	224
CE_1022	W		1	209
CE_1024	W		1	251
CE_1025	H		1	214
CE_1026	H		1	203
CE_1028	W		1	251
CE_1029	W		1	245
CE_1031	W		1	241
CE_1033	W		1	277
CE_1034	W		1	235
CE_1035	W		1	222
CE_1036	W		1	239
CE_1037	W		1	260
CE_1039	W		1	233
CE_1040	W		1	233
CE_1041	W		1	251
CE_1042	W		1	232
CE_1044	W		1	216
CE_1046	H		1	235
CE_1048	W		1	245
CE_1049	H		1	205
CE_1051	W		1	230
CE_1052	W		1	233
CE_1053	H		1	233
CE_1054	W		1	237
CE_1055	W		1	241
CE_1056	B		1	247
CE_1057	W		1	222
CE_1058	H		1	209
CE_1061	W		1	247
CE_1065	W		1	247
CE_1066	H		1	237
CE_1067	A		1	218
CE_1068	A		1	232
CE_1069	W		1	224
CE_1071	W		1	216
CE_1072	W		1	235
CE_1074	H		1	258
CE_1076	W		1	228
CE_1077	B		1	235
CE_1079	W		1	224
CE_1081	H		1	218
CE_1083	W		1	271
CE_1086	H		1	209
CE_1088	W		1	243
CE_1090	W		1	218
CE_1091	W		1	216
CE_1093	W		1	233
CE_1095	W		1	237
CE_1096	W		1	239
CE_1097	W		1	232
CE_0009	W		1	212
CE_0011	H		1	220
CE_0026	W		1	209

English Non-Low Achievers Non-Low Income 2004-05/Single Pd.

Code	EC	ED		HSPA English
CE_2001	H		2	230
CE_2002	W		2	245
CE_2003	W		2	238
CE_2006	A		2	228
CE_2007	H		2	251
CE_2008	H		2	258
CE_2009	W		2	262
CE_2010	H		2	260
CE_2013	H		2	246
CE_2014	H		2	211
CE_2015	W		2	223
CE_2016	W		2	255
CE_2018	H		2	215
CE_2019	W		2	243
CE_2020	H		2	231
CE_2022	B		2	235
CE_2023	W		2	245
CE_2025	H		2	240
CE_2028	W		2	245
CE_2029	W		2	228
CE_2030	H		2	223
CE_2031	W		2	245
CE_2032	W		2	246
CE_2034	W		2	230
CE_2038	H		2	233
CE_2040	W		2	200
CE_2041	W		2	246
CE_2042	W		2	243
CE_2045	W		2	227
CE_2047	H		2	238
CE_2048	W		2	250
CE_2049	B		2	245
CE_2050	W		2	209
CE_2053	W		2	233
CE_2054	W		2	215
CE_2056	W		2	246
CE_2057	W		2	231
CE_2059	H		2	245
CE_2060	H		2	251
CE_2062	H		2	228
CE_2064	H		2	245
CE_2067	W		2	236
CE_2068	W		2	222
CE_2069	W		2	231
CE_2070	A		2	223
CE_2071	W		2	238
CE_2072	W		2	246
CE_2074	W		2	230
CE_2075	W		2	243
CE_2076	W		2	216
CE_2079	W		2	195
CE_2080	B		2	235
CE_2081	A		2	265
CE_2083	W		2	238
CE_2084	W		2	223
CE_2085	W		2	238

English Non-Low Achievers Non-Low Income 2005-06/Single Pd.

Code	EC	ED		HSPA English
CE_3002	P		3	233
CE_3004	H		3	214
CE_3005	W		3	230
CE_3008	B		3	236
CE_3010	H		3	223
CE_3013	H		3	235
CE_3015	W		3	238
CE_3016	A		3	227
CE_3022	H		3	220
CE_3029	W		3	254
CE_3030	W		3	254
CE_3031	W		3	227
CE_3032	W		3	239
CE_3033	W		3	228
CE_3034	W		3	212
CE_3035	B		3	238
CE_3036	W		3	233
CE_3037	W		3	244
CE_3038	B		3	216
CE_3042	B		3	238
CE_3044	W		3	236
CE_3045	W		3	208
CE_3047	W		3	251
CE_3048	W		3	244
CE_3049	W		3	236
CE_3052	W		3	214
CE_3054	H		3	223
CE_3055	H		3	216
CE_3056	W		3	243
CE_3058	W		3	247
CE_3060	H		3	251
CE_3061	A		3	241
CE_3063	W		3	231
CE_3064	W		3	233
CE_3067	H		3	231
CE_3072	W		3	214
CE_3073	H		3	231
CE_3074	W		3	250
CE_3075	W		3	225
CE_3076	W		3	223
CE_3078	W		3	258
CE_3079	W		3	228
CE_3080	W		3	200
CE_3081	W		3	244
CE_3085	B		3	252
CE_3086	W		3	256
CE_3088	W		3	254

English Non-Low Achievers Non-Low Income2006-07/Single Pd.

Code	EC	ED		HSPA English
CE_4001	H		4	224
CE_4003	A		4	242
CE_4004	W		4	244
CE_4010	W		4	236
CE_4011	H		4	229
CE_4013	W		4	214
CE_4014	W		4	194
CE_4020	W		4	240
CE_4021	W		4	253
CE_4022	W		4	227
CE_4024	W		4	211
CE_4029	W		4	216
CE_4030	W		4	222
CE_4033	B		4	206
CE_4034	W		4	247
CE_4035	W		4	227
CE_4037	B		4	226
CE_4040	W		4	244
CE_4041	W		4	247
CE_4044	W		4	209
CE_4045	W		4	244
CE_4046	W		4	227
CE_4048	W		4	234
CE_4049	B		4	245
CE_4050	H		4	233
CE_4052	H		4	242
CE_4055	H		4	244
CE_4057	W		4	218
CE_4059	W		4	218
CE_4060	W		4	236
CE_4062	H		4	236
CE_4063	W		4	233
CE_4064	W		4	236
CE_4065	W		4	234
CE_4066	W		4	227
CE_4067	W		4	261
CE_4068	A		4	231
CE_4070	W		4	226
CE_4071	W		4	244
CE_4072	H		4	227
CE_4078	W		4	229
CE_4079	W		4	209
CE_4080	W		4	242
CE_4081	W		4	238
CE_4082	B		4	220
CE_4083	H		4	231
CE_4085	W		4	234
CE_4086	W		4	231
CE_4090	I		4	229
CE_4091	W		4	216
CE_4093	W		4	244
CE_4094	W		4	234
CE_4095	H		4	242
CE_4096	H		4	245
CE_4097	B		4	233
CE_4099	H		4	224
CE_4100	W		4	234
CE_4101	W		4	240

Math Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Math
$CM_{LA}001$	W		1	188
$CM_{LA}002$	H		1	162
$CM_{LA}003$	W	Y	1	173
$CM_{LA}004$	W	Y	1	238
$CM_{LA}005$	H		1	207
$CM_{LA}006$	H		1	200
$CM_{LA}007$	H	Y	1	207
$CM_{LA}008$	B		1	186
$CM_{LA}009$	H	Y	1	200
$CM_{LA}010$	W	Y	1	237
$CM_{LA}011$	W	Y	1	195
$CM_{LA}012$	H		1	235
$CM_{LA}013$	H		1	244
$CM_{LA}014$	W		1	193
$CM_{LA}015$	W		1	223
$CM_{LA}016$	W	Y	1	244
$CM_{LA}017$	W		1	178
$CM_{LA}018$	W		1	184
$CM_{LA}019$	W		1	218
$CM_{LA}020$	H		1	192
$CM_{LA}021$	W		1	180
$CM_{LA}022$	W		1	210
$CM_{LA}023$	H		1	175
$CM_{LA}024$	H	Y	1	177
$CM_{LA}025$	W	Y	1	205
$CM_{LA}026$	B		1	200
$CM_{LA}027$	H		1	149
$CM_{LA}028$	W	Y	1	177
$CM_{LA}029$	W		1	166
$CM_{LA}030$	B	Y	1	195
$CM_{LA}031$	W		1	188
$CM_{LA}032$	W		1	169
$CM_{LA}033$	W		1	192
$CM_{LA}034$	B		1	200
$CM_{LA}035$	H	Y	1	203
$CM_{LA}036$	H	Y	1	195
$CM_{LA}037$	W		1	238
$CM_{LA}039$	W		1	188
$CM_{LA}040$	W	Y	1	244
$CM_{LA}041$	H	Y	1	173
$CM_{LA}042$	H	Y	1	200
$CM_{LA}043$	W		1	180
$CM_{LA}044$	W		1	214
$CM_{LA}045$	W		1	222
$CM_{LA}046$	H	Y	1	218
$CM_{LA}047$	H	Y	1	173
$CM_{LA}048$	W		1	192
$CM_{LA}049$	B		1	225
$CM_{LA}050$	H	Y	1	192
$CM_{LA}051$	W	Y	1	182
$CM_{LA}052$	W		1	209
$CM_{LA}053$	B		1	192
$CM_{LA}054$	H		1	205
$CM_{LA}055$	W	Y	1	203
$CM_{LA}056$	H	Y	1	200
$CM_{LA}057$	H	Y	1	180
$CM_{LA}058$	H		1	184
$CM_{LA}059$	W		1	242
$CM_{1}001$	H		1	188
CM_{1005}	H	Y	1	203
CM_{1011}	H	Y	1	223
CM_{1022}	W		1	216
CM_{1025}	W		1	235
CM_{1036}	H	y	1	166
CM_{1043}	A	y	1	214
CM_{1045}	H	Y	1	162
CM_{1052}	W		1	216
CM_{1065}	B	Y	1	177

Math Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Math
$EM_{1}001$	P		2	187
$EM_{1}002$	H		2	202
EM_{1003}	H	Y	2	173
EM_{1004}	W		2	244
EM_{1005}	H	Y	2	219
EM_{1006}	W		2	187
EM_{1007}	W	Y	2	181
EM_{1008}	W		2	216
EM_{1009}	B		2	218
EM_{1010}	H	Y	2	244
EM_{1011}	H	Y	2	189
EM_{1012}	H	Y	2	205
EM_{1013}	H		2	199
EM_{1014}	H		2	173
EM_{1015}	W		2	243
EM_{1016}	H	Y	2	227
EM_{1017}	H		2	216
EM_{1018}	B		2	170
EM_{1019}	W		2	250
EM_{1020}	W		2	224
EM_{1021}	B		2	233
EM_{1022}	H		2	210
EM_{1023}	H		2	210
EM_{1024}	H		2	200
EM_{1025}	B	Y	2	236
EM_{1026}	B	Y	2	216
EM_{1027}	W		2	221
EM_{1028}	W		2	244
EM_{1029}	H	Y	2	199
EM_{1030}	H		2	192
EM_{1031}	W		2	184
EM_{1032}	W		2	234
EM_{1033}	H		2	192
EM_{1034}	H	Y	2	213
EM_{1035}	H	Y	2	149
EM_{1036}	H		2	224
EM_{1037}	W		2	251
EM_{1038}	W		2	236
EM_{1039}	W		2	202
EM_{1040}	H	Y	2	211
EM_{1041}	W	Y	2	218
EM_{1042}	W		2	257
EM_{1043}	H	Y	2	231
EM_{1044}	H		2	233
EM_{1045}	W	Y	2	189
EM_{1046}	H		2	210
EM_{1047}	B		2	239
EM_{1048}	B		2	191
EM_{1049}	H	Y	2	192
EM_{1050}	W		2	231
EM_{1051}	H	Y	2	219
EM_{1052}	H	Y	2	215
EM_{1053}	H	Y	2	237
EM_{1054}	H	Y	2	175
EM_{1055}	H	Y	2	213
EM_{1056}	W		2	208
EM_{1057}	W	Y	2	230
EM_{1058}	W	Y	2	219
EM_{1059}	H	Y	2	213
EM_{1060}	H		2	239
EM_{1061}	H		2	205
EM_{1062}	H	Y	2	160
EM_{1063}	W	Y	2	202
EM_{1064}	H		2	208
EM_{1065}	W	Y	2	184
EM_{1066}	W	Y	2	181
EM_{1067}	H	Y	2	199
EM_{1068}	H	Y	2	234
EM_{1069}	H	Y	2	181
EM_{1070}	W	Y	2	219
EM_{1071}	B	Y	2	168
EM_{1072}	B		2	200
EM_{1073}	A		2	247
EM_{1074}	W	Y	2	227
EM_{1075}	H		2	175
EM_{1076}	H		2	239
EM_{1077}	W		2	191
EM_{1078}	W		2	221
EM_{1079}	W		2	215
EM_{1081}	H	Y	2	213
EM_{1082}	H	Y	2	205
EM_{1083}	H	Y	2	241
EM_{1084}	W		2	186
EM_{1085}	B		2	210
EM_{1086}	W		2	207
EM_{1087}	H	Y	2	218

Math Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Math
$EM_{2}001$	W	Y	3	214
$EM_{2}002$	H	Y	3	193
EM_{2003}	W	Y	3	205
EM_{2004}	W	Y	3	168
EM_{2005}	W	Y	3	234
EM_{2006}	W	Y	3	242
EM_{2007}	B	Y	3	192
EM_{2008}	H		3	242
EM_{2009}	B	Y	3	190
EM_{2010}	B	Y	3	173
EM_{2011}	H		3	225
EM_{2012}	H	Y	3	227
EM_{2013}	H	Y	3	230
EM_{2014}	H	Y	3	202
EM_{2015}	H		3	193
EM_{2016}	H	Y	3	203
EM_{2017}	H	Y	3	222
EM_{2018}	W	Y	3	221
EM_{2019}	H	Y	3	198
EM_{2020}	H	Y	3	177
EM_{2021}	H	Y	3	178
EM_{2022}	W		3	206
EM_{2023}	H	Y	3	175
EM_{2024}	W	Y	3	192
EM_{2025}	B		3	213
EM_{2026}	W	Y	3	162
EM_{2027}	H	Y	3	185
EM_{2028}	W	Y	3	221
EM_{2029}	W		3	234
EM_{2030}	W		3	214
EM_{2031}	W		3	228
EM_{2032}	H	Y	3	200
EM_{2033}	H	Y	3	211
EM_{2034}	W		3	222
EM_{2035}	H		3	211
EM_{2036}	H		3	192
EM_{2037}	H	Y	3	185
EM_{2038}	H		3	202
EM_{2039}	H	Y	3	227
EM_{2040}	H	Y	3	214
EM_{2041}	H	Y	3	221
EM_{2042}	W		3	202
EM_{2043}	H	Y	3	175
EM_{2044}	H	Y	3	202
EM_{2045}	H		3	195
EM_{2046}	H	Y	3	219
EM_{2047}	H	Y	3	193
EM_{2048}	H	Y	3	237
EM_{2049}	H	Y	3	192
EM_{2050}	H	Y	3	217
EM_{2051}	H		3	205
EM_{2052}	H		3	180
EM_{2053}	W		3	187
EM_{2054}	W		3	205
EM_{2055}	H	Y	3	187
EM_{2056}	W		3	217
EM_{2057}	W	Y	3	239
EM_{2058}	H	Y	3	167
EM_{2059}	H	Y	3	190
EM_{2060}	H	Y	3	214
EM_{2061}	H	Y	3	193
EM_{2062}	W		3	247

Math Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Math
$EM_{3}001$	H	Y	4	174
$EM_{3}002$	H	Y	4	211
EM_{3003}	H	Y	4	190
EM_{3004}	B	Y	4	211
EM_{3005}	H	Y	4	198
EM_{3006}	W		4	198
EM_{3007}	H		4	220
EM_{3008}	H		4	185
EM_{3009}	H	Y	4	174
EM_{3010}	W		4	213
EM_{3012}	B		4	159
EM_{3014}	B	Y	4	178
EM_{3015}	W		4	182
EM_{3017}	H	Y	4	231
EM_{3018}	W		4	223
EM_{3019}	B	Y	4	184
EM_{3020}	W	Y	4	187
EM_{3021}	B		4	195
EM_{3022}	H	Y	4	198
EM_{3024}	W		4	207
EM_{3025}	B		4	202
EM_{3026}	B	Y	4	168
EM_{3027}	H	Y	4	156
EM_{3028}	H	Y	4	202
EM_{3029}	W	Y	4	200
EM_{3030}	W		4	191
EM_{3031}	H	Y	4	207
EM_{3032}	H	Y	4	234
EM_{3033}	B	Y	4	162
EM_{3034}	H	Y	4	177
EM_{3037}	W		4	175
EM_{3038}	H	Y	4	177
EM_{3039}	W		4	198
EM_{3041}	H	Y	4	197
EM_{3042}	H	Y	4	200
EM_{3043}	H	Y	4	205
EM_{3044}	H	Y	4	192
EM_{3045}	H	Y	4	195
EM_{3046}	H	Y	4	252
EM_{3047}	W		4	185
EM_{3048}	B		4	180
EM_{3049}	H	Y	4	195
EM_{3050}	H	Y	4	198
EM_{3051}	H		4	177
EM_{3052}	H		4	236
EM_{3053}	W		4	168
EM_{3054}	H	Y	4	177
EM_{3056}	H	Y	4	195
EM_{3057}	H	Y	4	229
EM_{3058}	W		4	174
EM_{3059}	B	Y	4	194

Math Non-Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM1002	W	Y	1	225
CM1003	H		1	212
CM1004	W		1	250
CM1006	W		1	205
CM1007	W	Y	1	220
CM1008	W		1	255
CM1009	W		1	255
CM1010	H	Y	1	230
CM1012	W		1	229
CM1013	W		1	258
CM1014	W		1	265
CM1015	W		1	229
CM1016	W		1	218
CM1017	W		1	188
CM1018	B		1	152
CM1019	W		1	237
CM1020	H		1	210
CM1021	H	y	1	244
CM1023	W		1	255
CM1024	W		1	259
CM1026	W		1	255
CM1027	W		1	252
CM1028	W		1	244
CM1029	W		1	243
CM1030	W	Y	1	254
CM1031	H		1	214
CM1032	H	y	1	250
CM1033	H		1	195
CM1034	H		1	214
CM1035	W		1	246
CM1037	W		1	229
CM1038	W		1	249
CM1039	H		1	255
CM1040	W		1	232
CM1041	W		1	240
CM1042	W		1	225
CM1044	W		1	261
CM1046	H		1	162
CM1047	W	Y	1	193
CM1048	W		1	249
CM1049	H		1	262
CM1050	A		1	235
CM1051	A		1	262
CM1053	W		1	250
CM1054	H		1	254
CM1055	W	Y	1	252
CM1056	W		1	240
CM1057	W		1	207
CM1058	H		1	232
CM1059	W		1	237
CM1060	W	Y	1	235
CM1061	W		1	195
CM1062	W		1	216
CM1063	W		1	173
CM1064	W		1	269
CM1066	W		1	238
CMLA038	H		1	255

Math Non-Low Achievers 2004-05/Single Pd.

Code	EC	ED	Group	HSPA Math
CM2001	W		2	255
CM2002	H	Y	2	250
CM2003	H		2	208
CM2004	W		2	239
CM2005	H	Y	2	211
CM2006	W	Y	2	224
CM2007	W	Y	2	210
CM2008	A		2	189
CM2009	W		2	241
CM2010	H		2	221
CM2011	H		2	252
CM2012	W		2	252
CM2013	H		2	253
CM2014	H	Y	2	240
CM2015	H		2	224
CM2016	W		2	255
CM2017	W		2	255
CM2018	W		2	224
CM2019	H		2	252
CM2020	H	Y	2	237
CM2021	W		2	257
CM2022	W	Y	2	218
CM2023	W	Y	2	218
CM2024	H		2	239
CM2025	H	Y	2	176
CM2026	H	Y	2	243
CM2027	H	Y	2	230
CM2028	W		2	230
CM2029	B		2	195
CM2030	H		2	194
CM2031	W		2	244
CM2032	W		2	203
CM2033	H	Y	2	260
CM2034	W	Y	2	257
CM2035	H	Y	2	225
CM2036	W	Y	2	252
CM2037	W	Y	2	262
CM2038	B	Y	2	227
CM2039	H	Y	2	237
CM2040	W		2	241
CM2041	W		2	244
CM2042	W		2	216
CM2043	H	Y	2	213
CM2044	W		2	237
CM2045	H		2	239
CM2046	H		2	195
CM2047	W	Y	2	227
CM2048	H		2	246
CM2049	H		2	246
CM2050	H	Y	2	218
CM2051	W	Y	2	257
CM2052	W		2	252
CM2053	W		2	243
CM2054	W		2	250
CM2055	W		2	224
CM2056	W		2	257
CM2057	W		2	256
CM2058	A		2	260
CM2059	H	Y	2	200
CM2060	H	Y	2	216
CM2061	W		2	269
CM2062	W		2	255

Math Non-Low Achievers 2005-06/Single Pd.

Code	EC	ED	Group	HSPA Math
CM3001	H	Y	3	203
CM3002	W	Y	3	198
CM3003	P		3	267
CM3004	H		3	208
CM3005	W		3	239
CM3006	W	Y	3	208
CM3007	B		3	219
CM3008	A	Y	3	238
CM3009	H		3	248
CM3010	H	Y	3	192
CM3011	P	Y	3	237
CM3012	W		3	221
CM3013	A		3	231
CM3014	H	Y	3	222
CM3015	A	Y	3	266
CM3016	A	Y	3	203
CM3017	W	Y	3	228
CM3018	H	Y	3	235
CM3019	H		3	227
CM3020	B	Y	3	188
CM3021	W		3	253
CM3022	W		3	210
CM3023	W		3	200
CM3024	W		3	232
CM3025	W		3	243
CM3026	W		3	243
CM3027	W		3	253
CM3028	B		3	195
CM3029	H	Y	3	234
CM3030	W	Y	3	243
CM3031	B		3	224
CM3032	W	Y	3	237
CM3033	H	Y	3	237
CM3034	W		3	234
CM3035	W	Y	3	247
CM3036	W		3	251
CM3037	W	Y	3	187
CM3038	W		3	234
CM3039	W	Y	3	230
CM3040	H		3	225
CM3041	W		3	261
CM3042	H	Y	3	202
CM3043	W		3	265
CM3044	H		3	267
CM3045	A		3	256
CM3046	H	Y	3	243
CM3047	W		3	255
CM3048	H	Y	3	256
CM3049	H		3	232
CM3050	H	Y	3	251
CM3051	H	Y	3	239
CM3052	W		3	259
CM3053	H		3	253
CM3054	W		3	232
CM3055	W		3	256
CM3056	W		3	250
CM3057	W		3	243
CM3058	W		3	224
CM3059	H	Y	3	248
CM3060	B		3	238
CM3061	W		3	266
CM3062	H	Y	3	261
CM3063	W		3	266
CM3064	A	Y	3	250

Math Non-Low Achievers 2006-07/Single Pd.

Code	EC	ED		HSPA Math
CM4001	H		4	217
CM4002	H	Y	4	228
CM4003	A		4	231
CM4004	H	Y	4	195
CM4006	W		4	237
CM4008	W	Y	4	236
CM4009	H	Y	4	222
CM4010	W		4	244
CM4012	B	Y	4	226
CM4013	H	Y	4	213
CM4014	H	Y	4	200
CM4015	W		4	248
CM4016	W		4	191
CM4017	H	Y	4	200
CM4018	W	Y	4	236
CM4019	H	Y	4	223
CM4020	H	Y	4	197
CM4021	W		4	237
CM4022	W		4	200
CM4023	W		4	239
CM4025	H	Y	4	195
CM4026	A	Y	4	222
CM4028	W		4	229
CM4029	B		4	185
CM4030	W		4	256
CM4031	H	Y	4	187
CM4032	H	Y	4	175
CM4033	H	Y	4	261
CM4034	W		4	242
CM4035	W		4	216
CM4036	W	Y	4	223
CM4038	W	Y	4	168
CM4039	W		4	228
CM4040	W		4	236
CM4041	W	Y	4	220
CM4042	W		4	202
CM4043	H		4	245
CM4044	H	Y	4	260
CM4045	H		4	197
CM4046	H	Y	4	264
CM4047	H		4	247
CM4048	W	Y	4	240
CM4049	B	Y	4	174
CM4050	W		4	229
CM4051	W		4	201
CM4052	H	Y	4	237
CM4053	H		4	248
CM4054	W		4	261
CM4055	H	Y	4	197
CM4056	W		4	202
CM4057	W		4	247
CM4058	W		4	245
CM4059	A		4	260
CM4060	W		4	223
CM4061	W		4	248
CM4062	H		4	223
CM4063	H	Y	4	220
CM4064	H	Y	4	156
CM4065	H	Y	4	210
CM4066	H	Y	4	268
CM4067	W		4	223
CM4068	W		4	200
CM4069	W		4	245
CM4070	H		4	226
CM4071	W		4	247
CM4072	W		4	233
CM4073	H	Y	4	220
CM4074	W	Y	4	228
CM4075	H	Y	4	210
CM4076	A	Y	4	261
CM4077	I		4	236
CM4078	W		4	239
CM4079	H		4	159
CM4080	W		4	205
CM4081	W		4	242
CM4082	H		4	261
CM4083	H		4	233
CM4084	B		4	220
CM4085	W	Y	4	207
CM4086	W		4	164
CM4087	H		4	208
CM4088	W		4	202
CM4089	W		4	271
CM4090	H		4	208

Math Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Math
$CM_{JA}002$	H		1	162
$CM_{JA}005$	H		1	207
$CM_{JA}006$	H		1	200
$CM_{JA}007$	H		1	207
$CM_{JA}009$	H	Y	1	200
$CM_{JA}012$	H		1	235
$CM_{JA}013$	H		1	244
$CM_{JA}020$	H		1	192
$CM_{JA}023$	H		1	175
$CM_{JA}024$	H	Y	1	177
$CM_{JA}027$	H		1	149
$CM_{JA}035$	H		1	203
$CM_{JA}036$	H	Y	1	195
$CM_{JA}041$	H	Y	1	173
$CM_{JA}042$	H	Y	1	200
$CM_{JA}046$	H	Y	1	218
$CM_{JA}047$	H	Y	1	173
$CM_{JA}050$	H	Y	1	192
$CM_{JA}054$	H		1	205
$CM_{JA}056$	H		1	200
$CM_{JA}057$	H	Y	1	180
$CM_{JA}058$	H		1	184
$CM_{J}001$	H		1	188
CM_{1005}	H	Y	1	203
CM_{1011}	H	Y	1	223
CM_{1036}	H		1	166
CM_{1045}	H	Y	1	162

Math Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Math
$EM_{J}002$	H		2	202
EM_{1003}	H	Y	2	173
EM_{1005}	H	Y	2	219
EM_{1010}	H	Y	2	244
EM_{1011}	H	Y	2	189
EM_{1012}	H	Y	2	205
EM_{1013}	H		2	199
EM_{1014}	H		2	173
EM_{1016}	H	Y	2	227
EM_{1017}	H		2	216
EM_{1022}	H		2	210
EM_{1024}	H		2	200
EM_{1029}	H	Y	2	199
EM_{1030}	H		2	192
EM_{1033}	H		2	192
EM_{1034}	H	Y	2	213
EM_{1035}	H	Y	2	149
EM_{1036}	H		2	224
EM_{1040}	H	Y	2	211
EM_{1043}	H	Y	2	231
EM_{1044}	H		2	233
EM_{1046}	H		2	210
EM_{1049}	H	Y	2	192
EM_{1051}	H	Y	2	219
EM_{1052}	H	Y	2	215
EM_{1053}	H	Y	2	237
EM_{1054}	H	Y	2	175
EM_{1055}	H	Y	2	213
EM_{1059}	H	Y	2	213
EM_{1060}	H		2	239
EM_{1061}	H		2	205
EM_{1062}	H	Y	2	160
EM_{1064}	H		2	208
EM_{1067}	H	Y	2	199
EM_{1068}	H	Y	2	234
EM_{1069}	H	Y	2	181
EM_{1075}	H		2	175
EM_{1076}	H		2	239
EM_{1081}	H	Y	2	213
EM_{1082}	H	Y	2	205
EM_{1083}	H	Y	2	241
EM_{1087}	H	Y	2	218
EM_{1088}	H		2	199

Math Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Math
$EM_{J}002$	H	Y	3	193
EM_{2008}	H		3	242
EM_{2011}	H		3	225
EM_{2012}	H	Y	3	227
EM_{2013}	H	Y	3	230
EM_{2014}	H	Y	3	202
EM_{2015}	H		3	193
EM_{2016}	H	Y	3	203
EM_{2017}	H	Y	3	222
EM_{2019}	H	Y	3	198
EM_{2020}	H	Y	3	177
EM_{2021}	H	Y	3	178
EM_{2023}	H	Y	3	175
EM_{2027}	H	Y	3	185
EM_{2032}	H	Y	3	200
EM_{2033}	H	Y	3	211
EM_{2035}	H		3	211
EM_{2036}	H		3	192
EM_{2037}	H	Y	3	185
EM_{2038}	H		3	202
EM_{2039}	H	Y	3	227
EM_{2040}	H	Y	3	214
EM_{2041}	H	Y	3	221
EM_{2043}	H	Y	3	175
EM_{2044}	H	Y	3	202
EM_{2045}	H		3	195
EM_{2046}	H	Y	3	219
EM_{2047}	H	Y	3	193
EM_{2048}	H	Y	3	237
EM_{2049}	H	Y	3	192
EM_{2050}	H	Y	3	217
EM_{2051}	H		3	205
EM_{2052}	H		3	180
EM_{2055}	H	Y	3	187
EM_{2058}	H	Y	3	167
EM_{2059}	H	Y	3	190
EM_{2060}	H	Y	3	214
EM_{2061}	H	Y	3	193

Math Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Math
$EM_{J}001$	H	Y	4	174
$EM_{J}002$	H	Y	4	211
EM_{3003}	H	Y	4	190
EM_{3005}	H	Y	4	198
EM_{3007}	H		4	220
EM_{3008}	H		4	185
EM_{3009}	H	Y	4	174
EM_{3017}	H	Y	4	231
EM_{3022}	H	Y	4	198
EM_{3027}	H	Y	4	156
EM_{3028}	H	Y	4	202
EM_{3031}	H	Y	4	207
EM_{3032}	H	Y	4	234
EM_{3034}	H	Y	4	177
EM_{3038}	H	Y	4	177
EM_{3041}	H	Y	4	197
EM_{3042}	H	Y	4	200
EM_{3043}	H	Y	4	205
EM_{3044}	H	Y	4	192
EM_{3045}	H	Y	4	195
EM_{3046}	H	Y	4	252
EM_{3049}	H	Y	4	195
EM_{3050}	H	Y	4	198
EM_{3051}	H		4	177
EM_{3052}	H		4	236
EM_{3054}	H	Y	4	177
EM_{3056}	H	Y	4	195
EM_{3057}	H	Y	4	229

Math Non-Low Achievers Hispanic 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM1003	H		1	212
CM1010	H	Y	1	230
CM1020	H		1	210
CM1021	H		1	244
CM1031	H		1	214
CM1032	H		1	250
CM1033	H		1	195
CM1034	H		1	214
CM1039	H		1	255
CM1045	H		1	162
CM1049	H		1	262
CM1054	H		1	254
CM1058	H		1	232
CM1A038	H		1	255

Math Non-Low Achievers Hispanic 2004-05/Single Pd.

LAST	EC	ED		HSPA Math
CM1002	H	Y	2	250
CM2003	H		2	208
CM2005	H	Y	2	211
CM2010	H		2	221
CM2011	H		2	252
CM2013	H		2	253
CM2014	H	Y	2	240
CM2015	H		2	224
CM2019	H		2	252
CM2020	H	Y	2	237
CM2024	H		2	239
CM2025	H	Y	2	176
CM2026	H	Y	2	243
CM2027	H	Y	2	230
CM2030	H		2	194
CM2033	H	Y	2	260
CM2035	H	Y	2	225
CM2039	H	Y	2	237
CM2043	H	Y	2	213
CM2045	H		2	239
CM2046	H		2	195
CM2048	H		2	246
CM2050	H	Y	2	218
CM2059	H	Y	2	200
CM2060	H	Y	2	216

Math Non-Low Achievers Hispanic 2005-06/Single Pd.

Code	EC	ED		HSPA Math
CM3001	H	Y	3	203
CM3004	H		3	208
CM3009	H		3	248
CM3010	H	Y	3	192
CM3014	H	Y	3	222
CM3018	H	Y	3	235
CM3019	H		3	227
CM3029	H	Y	3	234
CM3033	H	Y	3	237
CM3040	H		3	225
CM3042	H	Y	3	202
CM3044	H		3	267
CM3046	H	Y	3	243
CM3048	H	Y	3	256
CM3049	H		3	232
CM3050	H	Y	3	251
CM3051	H	Y	3	239
CM3053	H		3	253
CM3059	H	Y	3	248
CM3062	H	Y	3	261

Math Non Low Achievers Hispanic 2006-07/Single Pd.

Code	EC	ED		HSPA Math
CM4001	H		4	217
CM4002	H	Y	4	228
CM4004	H	Y	4	195
CM4009	H	Y	4	222
CM4013	H	Y	4	213
CM4014	H	Y	4	200
CM4017	H	Y	4	200
CM4019	H	Y	4	223
CM4020	H	Y	4	197
CM4025	H	Y	4	195
CM4031	H	Y	4	187
CM4032	H	Y	4	175
CM4033	H	Y	4	261
CM4043	H		4	245
CM4044	H	Y	4	260
CM4045	H		4	197
CM4046	H	Y	4	264
CM4047	H		4	247
CM4052	H	Y	4	237
CM4053	H		4	248
CM4055	H	Y	4	197
CM4062	H		4	223
CM4063	H	Y	4	220
CM4064	H	Y	4	156
CM4065	H	Y	4	210
CM4066	H	Y	4	268
CM4070	H		4	226
CM4073	H	Y	4	220
CM4075	H	Y	4	210
CM4079	H		4	159
CM4082	H		4	261
CM4083	H		4	233
CM4087	H		4	208
CM4089	H		4	208

White

Math Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM$_{A}$001	W		1	188
CM$_{A}$003	W	Y	1	173
CM$_{A}$004	W		1	238
CM$_{A}$010	W		1	237
CM$_{A}$011	W	Y	1	195
CM$_{A}$014	W		1	193
CM$_{A}$015	W		1	223
CM$_{A}$016	W	Y	1	244
CM$_{A}$017	W		1	178
CM$_{A}$018	W		1	184
CM$_{A}$019	W		1	218
CM$_{A}$021	W		1	180
CM$_{A}$022	W		1	210
CM$_{A}$025	W		1	205
CM$_{A}$028	W	Y	1	177
CM$_{A}$029	W		1	166
CM$_{A}$031	W	Y	1	188
CM$_{A}$032	W		1	169
CM$_{A}$033	W		1	192
CM$_{A}$037	W		1	238
CM$_{A}$039	W		1	188
CM$_{A}$040	W		1	244
CM$_{A}$043	W		1	180
CM$_{A}$044	W		1	214
CM$_{A}$045	W		1	222
CM$_{A}$048	W		1	192
CM$_{A}$051	W	Y	1	182
CM$_{A}$052	W		1	209
CM$_{A}$055	W		1	203
CM$_{A}$059	W		1	242
CM$_{1022}$	W		1	216
CM$_{1025}$	W		1	235
CM$_{1052}$	W		1	216

Math Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Math
EM$_{1004}$	W		2	244
EM$_{1006}$	W		2	187
EM$_{1007}$	W	Y	2	181
EM$_{1008}$	W		2	216
EM$_{1015}$	W		2	243
EM$_{1019}$	W		2	250
EM$_{1020}$	W		2	224
EM$_{1027}$	W		2	221
EM$_{1028}$	W		2	244
EM$_{1031}$	W		2	184
EM$_{1032}$	W		2	234
EM$_{1037}$	W		2	251
EM$_{1038}$	W		2	236
EM$_{1039}$	W		2	202
EM$_{1041}$	W	Y	2	218
EM$_{1042}$	W		2	257
EM$_{1045}$	W	Y	2	189
EM$_{1050}$	W		2	231
EM$_{1056}$	W		2	208
EM$_{1057}$	W	Y	2	230
EM$_{1058}$	W	Y	2	219
EM$_{1063}$	W	Y	2	202
EM$_{1065}$	W	Y	2	184
EM$_{1066}$	W	Y	2	181
EM$_{1070}$	W	Y	2	219
EM$_{1074}$	W	Y	2	227
EM$_{1077}$	W		2	191
EM$_{1078}$	W		2	221
EM$_{1079}$	W		2	215
EM$_{1084}$	W		2	186
EM$_{1086}$	W		2	207
EM$_{1089}$	W		2	191
EM$_{1090}$	W		2	221

Math Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Math
EM$_{2}$001	W	Y	3	214
EM$_{2003}$	W	Y	3	205
EM$_{2004}$	W	Y	3	168
EM$_{2005}$	W	Y	3	234
EM$_{2006}$	W	Y	3	242
EM$_{2018}$	W	Y	3	221
EM$_{2022}$	W		3	206
EM$_{2024}$	W	Y	3	192
EM$_{2026}$	W	Y	3	162
EM$_{2028}$	W	Y	3	221
EM$_{2029}$	W		3	234
EM$_{2030}$	W		3	214
EM$_{2031}$	W		3	228
EM$_{2034}$	W		3	222
EM$_{2042}$	W		3	202
EM$_{2053}$	W		3	187
EM$_{2054}$	W		3	205
EM$_{2056}$	W		3	217
EM$_{2057}$	W	Y	3	239
EM$_{2062}$	W		3	247

Math Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Math
EM$_{3006}$	W		4	198
EM$_{3010}$	W		4	213
EM$_{3015}$	W		4	182
EM$_{3018}$	W		4	223
EM$_{3020}$	W	Y	4	187
EM$_{3024}$	W		4	207
EM$_{3029}$	W	Y	4	200
EM$_{3030}$	W		4	191
EM$_{3037}$	W		4	175
EM$_{3039}$	W		4	198
EM$_{3047}$	W		4	185
EM$_{3053}$	W		4	168
EM$_{3058}$	W		4	174

Math Non Low Achievers White

Math Non-Low Achievers White 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM1002	W	Y	1	225
CM1004	W		1	250
CM1006	W		1	205
CM1007	W	Y	1	220
CM1008	W		1	255
CM1009	W		1	255
CM1012	W		1	229
CM1013	W		1	258
CM1014	W		1	265
CM1015	W		1	229
CM1016	W		1	218
CM1017	W		1	188
CM1019	W		1	237
CM1023	W		1	255
CM1024	W		1	259
CM1026	W		1	255
CM1027	W		1	252
CM1028	W		1	244
CM1029	W		1	243
CM1030	W	Y	1	254
CM1035	W		1	246
CM1037	W		1	229
CM1038	W		1	249
CM1040	W		1	232
CM1041	W		1	240
CM1042	W		1	225
CM1044	W		1	261
CM1047	W	Y	1	193
CM1048	W		1	249
CM1053	W		1	250
CM1055	W	Y	1	252
CM1056	W		1	240
CM1057	W		1	207
CM1059	W		1	237
CM1060	W	Y	1	235
CM1061	W		1	195
CM1062	W		1	216
CM1063	W		1	173
CM1064	W		1	269
CM1066	W		1	238

Math Non-Low Achievers White 2004-05/Single Pd.

LAST	EC	ED		HSPA Math
CM2001	W		2	255
CM2004	W		2	239
CM2006	W	Y	2	224
CM2007	W	Y	2	210
CM2009	W		2	241
CM2012	W		2	252
CM2016	W		2	255
CM2017	W		2	255
CM2018	W		2	224
CM2021	W		2	257
CM2022	W	Y	2	218
CM2028	W		2	230
CM2031	W		2	244
CM2032	W		2	203
CM2034	W	Y	2	257
CM2036	W	Y	2	252
CM2037	W	Y	2	262
CM2040	W		2	241
CM2041	W		2	244
CM2042	W		2	216
CM2044	W		2	237
CM2047	W	Y	2	227
CM2051	W	Y	2	257
CM2052	W		2	252
CM2053	W		2	243
CM2054	W		2	250
CM2055	W		2	224
CM2056	W		2	257
CM2057	W		2	256
CM2061	W		2	269
CM2062	W		2	255

Math Non-Low Achievers White 2005-06/Single Pd.

Code	EC	ED		HSPA Math
CM3002	W	Y	3	198
CM3005	W		3	239
CM3006	W	Y	3	208
CM3012	W		3	221
CM3017	W	Y	3	228
CM3021	W		3	253
CM3022	W		3	210
CM3023	W		3	200
CM3024	W		3	232
CM3025	W		3	243
CM3026	W		3	243
CM3027	W		3	253
CM3030	W	Y	3	243
CM3032	W	Y	3	237
CM3034	W		3	234
CM3035	W	Y	3	247
CM3036	W		3	251
CM3037	W	Y	3	187
CM3038	W		3	234
CM3039	W	Y	3	230
CM3041	W		3	261
CM3043	W		3	265
CM3047	W		3	255
CM3052	W		3	259
CM3054	W		3	232
CM3055	W		3	256
CM3056	W		3	250
CM3057	W		3	243
CM3058	W		3	224
CM3061	W		3	266
CM3063	W		3	266

Math Non Low Achievers White 2006-07/Single Pd.

Code	EC	ED		HSPA Math
CM4006	W		4	237
CM4008	W	Y	4	236
CM4010	W		4	244
CM4015	W		4	248
CM4016	W		4	191
CM4018	W	Y	4	236
CM4021	W		4	237
CM4022	W		4	200
CM4023	W		4	239
CM4028	W		4	229
CM4030	W		4	256
CM4034	W		4	242
CM4035	W		4	216
CM4036	W	Y	4	223
CM4038	W	Y	4	168
CM4039	W		4	228
CM4040	W		4	236
CM4041	W	Y	4	220
CM4042	W		4	202
CM4048	W	Y	4	240
CM4050	W		4	229
CM4051	W		4	201
CM4054	W		4	261
CM4056	W		4	202
CM4057	W		4	247
CM4058	W		4	245
CM4060	W		4	223
CM4061	W		4	248
CM4067	W		4	223
CM4068	W		4	200
CM4069	W		4	245
CM4071	W		4	247
CM4072	W		4	233
CM4074	W	Y	4	228
CM4078	W		4	239
CM4080	W		4	205
CM4081	W		4	242
CM4085	W	Y	4	207
CM4086	W		4	164
CM4088	W		4	202
CM4089	W		4	271

Low Income

Math Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM_LA003	W	Y	1	173
CM_LA009	H	Y	1	200
CM_LA011	W	Y	1	195
CM_LA016	W	Y	1	244
CM_LA024	H	Y	1	177
CM_LA028	W	Y	1	177
CM_LA030	B	Y	1	195
CM_LA036	H	Y	1	195
CM_LA041	H	Y	1	173
CM_LA042	H	Y	1	200
CM_LA046	H	Y	1	218
CM_LA047	H	Y	1	173
CM_LA050	H	Y	1	192
CM_LA051	W	Y	1	182
CM_LA057	H	Y	1	180
CM_LA004	W		1	238
CM_LA007	H		1	207
CM_LA040	W		1	244
CM_LA025	W		1	205
CM_LA035	H		1	203
CM_LA010	W		1	237
CM_LA055	W		1	203
CM_LA056	H		1	200
CM_1005	H	Y	1	203
CM_1011	H	Y	1	223
CM_1045	H	Y	1	162
CM_1065	B	Y	1	177
CM_1036	H		1	166
CM_1043	A		1	214

Math Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Math
EM_1003	H	Y	2	173
EM_1005	H	Y	2	219
EM_1007	W	Y	2	181
EM_1010	H	Y	2	244
EM_1011	H	Y	2	189
EM_1012	H	Y	2	205
EM_1016	H	Y	2	227
EM_1025	B	Y	2	236
EM_1026	B	Y	2	216
EM_1029	H	Y	2	199
EM_1034	H	Y	2	213
EM_1035	H	Y	2	149
EM_1040	H	Y	2	211
EM_1041	W	Y	2	218
EM_1043	H	Y	2	231
EM_1045	W	Y	2	189
EM_1049	H	Y	2	192
EM_1051	H	Y	2	219
EM_1052	H	Y	2	215
EM_1053	H	Y	2	237
EM_1054	H	Y	2	175
EM_1055	H	Y	2	213
EM_1057	W	Y	2	230
EM_1058	W	Y	2	219
EM_1059	H	Y	2	213
EM_1062	H	Y	2	160
EM_1063	W	Y	2	202
EM_1065	W	Y	2	184
EM_1066	W	Y	2	181
EM_1067	H	Y	2	199
EM_1068	H	Y	2	234
EM_1069	H	Y	2	181
EM_1070	W	Y	2	219
EM_1071	B	Y	2	168
EM_1074	W	Y	2	227
EM_1081	H	Y	2	213
EM_1082	H	Y	2	205
EM_1083	H	Y	2	241
EM_1087	H	Y	2	218

Math Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Math
EM_2001	W	Y	3	214
EM_2002	H	Y	3	193
EM_2003	W	Y	3	205
EM_2004	W	Y	3	168
EM_2005	W	Y	3	234
EM_2006	W	Y	3	242
EM_2007	B	Y	3	192
EM_2009	B	Y	3	190
EM_2010	B	Y	3	173
EM_2012	H	Y	3	227
EM_2013	H	Y	3	230
EM_2014	H	Y	3	202
EM_2016	H	Y	3	203
EM_2017	H	Y	3	222
EM_2018	W	Y	3	221
EM_2019	H	Y	3	198
EM_2020	H	Y	3	177
EM_2021	H	Y	3	178
EM_2023	H	Y	3	175
EM_2024	W	Y	3	192
EM_2026	W	Y	3	162
EM_2027	H	Y	3	185
EM_2028	W	Y	3	221
EM_2032	H	Y	3	200
EM_2033	H	Y	3	211
EM_2037	H	Y	3	185
EM_2039	H	Y	3	227
EM_2040	H	Y	3	214
EM_2041	H	Y	3	221
EM_2043	H	Y	3	175
EM_2044	H	Y	3	202
EM_2046	H	Y	3	219
EM_2047	H	Y	3	193
EM_2048	H	Y	3	237
EM_2049	H	Y	3	192
EM_2050	H	Y	3	217
EM_2055	H	Y	3	187
EM_2057	W	Y	3	239
EM_2058	H	Y	3	167
EM_2059	H	Y	3	190
EM_2060	H	Y	3	214
EM_2061	H	Y	3	193

Math Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Math
EM_3001	H	Y	4	174
EM_3002	H	Y	4	211
EM_3003	H	Y	4	190
EM_3004	B	Y	4	211
EM_3005	H	Y	4	198
EM_3009	H	Y	4	174
EM_3014	B	Y	4	178
EM_3017	H	Y	4	231
EM_3019	B	Y	4	184
EM_3020	W	Y	4	187
EM_3022	H	Y	4	198
EM_3026	B	Y	4	168
EM_3027	H	Y	4	156
EM_3028	H	Y	4	202
EM_3029	W	Y	4	200
EM_3031	H	Y	4	207
EM_3032	H	Y	4	234
EM_3033	B	Y	4	162
EM_3034	H	Y	4	177
EM_3038	H	Y	4	177
EM_3041	H	Y	4	197
EM_3042	H	Y	4	200
EM_3043	H	Y	4	205
EM_3044	H	Y	4	192
EM_3045	H	Y	4	195
EM_3046	H	Y	4	252
EM_3049	H	Y	4	195
EM_3050	H	Y	4	198
EM_3054	H	Y	4	177
EM_3056	H	Y	4	195
EM_3057	H	Y	4	229
EM_3059	B	Y	4	194

Math Non Low Achievers Low Income

Math Non-Low Achievers Low Income 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM1002	W	Y	1	225
CM1007	W	Y	1	220
CM1010	H	Y	1	230
CM1030	W	Y	1	254
CM1047	W	Y	1	193
CM1055	W	Y	1	252
CM1060	W	Y	1	235
CM1021	H		1	244
CM1032	H		1	250

Math Non-Low Achievers Low Income 2004-05/Single Pd.

LAST	EC	ED		HSPA Math
CM2002	H	Y	2	250
CM2005	H	Y	2	211
CM2006	W	Y	2	224
CM2007	W	Y	2	210
CM2014	H	Y	2	240
CM2020	H	Y	2	237
CM2022	W	Y	2	218
CM2025	H	Y	2	176
CM2026	H	Y	2	243
CM2027	H	Y	2	230
CM2033	H	Y	2	260
CM2034	W	Y	2	257
CM2035	H	Y	2	225
CM2036	W	Y	2	252
CM2037	W	Y	2	262
CM2038	B	Y	2	227
CM2039	H	Y	2	237
CM2043	H	Y	2	213
CM2047	W	Y	2	227
CM2050	H	Y	2	218
CM2051	W	Y	2	257
CM2059	H	Y	2	200
CM2060	H	Y	2	216

Math Non-Low Achievers Low Income 2005-06/Single Pd.

Code	EC	ED		HSPA Math
CM3003	P		3	267
CM3004	H		3	208
CM3005	W		3	239
CM3007	B		3	219
CM3009	H		3	248
CM3012	W		3	221
CM3013	A		3	231
CM3019	H		3	227
CM3021	W		3	253
CM3022	W		3	210
CM3023	W		3	200
CM3024	W		3	232
CM3025	W		3	243
CM3026	W		3	243
CM3027	W		3	253
CM3028	B		3	195
CM3031	B		3	224
CM3034	W		3	234
CM3036	W		3	251
CM3038	W		3	234
CM3040	H		3	225
CM3041	W		3	261
CM3043	W		3	265
CM3044	H		3	267
CM3045	A		3	256
CM3047	W		3	255
CM3049	H		3	232
CM3052	W		3	259
CM3053	H		3	253
CM3054	W		3	232
CM3055	W		3	256
CM3056	W		3	250
CM3057	W		3	243
CM3058	W		3	224
CM3060	B		3	238
CM3061	W		3	266
CM3063	W		3	266

Math Non Low Achievers Low Income 2006-07/Single Pd.

Code	EC	ED		HSPA Math
CM4002	H	Y	4	228
CM4004	H	Y	4	195
CM4008	W	Y	4	236
CM4009	H	Y	4	222
CM4012	B	Y	4	226
CM4013	H	Y	4	213
CM4014	H	Y	4	200
CM4017	H	Y	4	200
CM4018	W	Y	4	236
CM4019	H	Y	4	223
CM4020	H	Y	4	197
CM4025	H	Y	4	195
CM4026	A	Y	4	222
CM4031	H	Y	4	187
CM4032	H	Y	4	175
CM4033	H	Y	4	261
CM4036	W	Y	4	223
CM4038	W	Y	4	168
CM4041	W	Y	4	220
CM4044	H	Y	4	260
CM4046	H	Y	4	264
CM4048	W	Y	4	240
CM4049	B	Y	4	174
CM4052	H	Y	4	237
CM4055	H	Y	4	197
CM4063	H	Y	4	220
CM4064	H	Y	4	156
CM4065	H	Y	4	210
CM4066	H	Y	4	268
CM4073	H	Y	4	220
CM4074	W	Y	4	228
CM4075	H	Y	4	210
CM4076	A	Y	4	261
CM4095	W	Y	4	207

Non Low Income

Math Low Achievers 2003-04/Single Pd.

Code	EC	ED		HSPA Math
$CM_{LA}001$	W		1	188
$CM_{LA}002$	H		1	162
$CM_{LA}005$	H		1	207
$CM_{LA}006$	H		1	200
$CM_{LA}008$	B		1	186
$CM_{LA}012$	H		1	235
$CM_{LA}013$	H		1	244
$CM_{LA}014$	W		1	193
$CM_{LA}015$	W		1	223
$CM_{LA}017$	W		1	178
$CM_{LA}018$	W		1	184
$CM_{LA}019$	W		1	218
$CM_{LA}020$	H		1	192
$CM_{LA}021$	W		1	180
$CM_{LA}022$	W		1	210
$CM_{LA}023$	H		1	175
$CM_{LA}026$	B		1	200
$CM_{LA}027$	H		1	149
$CM_{LA}029$	W		1	166
$CM_{LA}031$	W		1	188
$CM_{LA}032$	W		1	169
$CM_{LA}033$	W		1	192
$CM_{LA}034$	B		1	200
$CM_{LA}035$	H		1	203
$CM_{LA}037$	W		1	238
$CM_{LA}039$	W		1	188
$CM_{LA}043$	W		1	180
$CM_{LA}044$	W		1	214
$CM_{LA}045$	W		1	222
$CM_{LA}048$	W		1	192
$CM_{LA}049$	B		1	225
$CM_{LA}052$	W		1	209
$CM_{LA}053$	B		1	192
$CM_{LA}054$	H		1	205
$CM_{LA}058$	H		1	184
$CM_{LA}059$	W		1	242
$CM_{1}001$	H		1	188
CM_{1022}	W		1	216
CM_{1025}	W		1	235
CM_{1052}	W		1	216

Math Low Achievers 2004-05/Double Pd.

LAST	EC	ED		HSPA Math
$EM_{1}001$	P		2	187
$EM_{1}002$	H		2	202
EM_{1004}	W		2	244
EM_{1006}	W		2	187
EM_{1008}	W		2	216
EM_{1009}	B		2	218
EM_{1013}	H		2	199
EM_{1014}	H		2	173
EM_{1015}	W		2	243
EM_{1017}	H		2	216
EM_{1018}	B		2	170
EM_{1019}	W		2	250
EM_{1020}	W		2	224
EM_{1021}	B		2	233
EM_{1022}	H		2	210
EM_{1023}	H		2	210
EM_{1024}	H		2	200
EM_{1027}	W		2	221
EM_{1028}	W		2	244
EM_{1030}	H		2	192
EM_{1031}	W		2	184
EM_{1032}	W		2	234
EM_{1033}	H		2	192
EM_{1036}	H		2	224
EM_{1037}	W		2	251
EM_{1038}	W		2	236
EM_{1039}	W		2	202
EM_{1042}	W		2	257
EM_{1044}	H		2	233
EM_{1046}	H		2	210
EM_{1047}	B		2	239
EM_{1048}	B		2	191
EM_{1050}	W		2	231
EM_{1056}	W		2	208
EM_{1060}	H		2	239
EM_{1061}	H		2	205
EM_{1064}	H		2	208
EM_{1072}	B		2	200
EM_{1073}	A		2	247
EM_{1075}	H		2	175
EM_{1076}	H		2	239
EM_{1077}	W		2	191
EM_{1078}	W		2	221
EM_{1079}	W		2	215
EM_{1084}	W		2	186
EM_{1085}	B		2	210
EM_{1086}	W		2	207
EM_{1088}	H		2	199
EM_{1089}	W		2	191
EM_{1090}	W		2	221

Math Low Achievers 2005-06/Double Pd.

Code	EC	ED		HSPA Math
EM_{2008}	H		3	242
EM_{2011}	H		3	225
EM_{2015}	H		3	193
EM_{2022}	W		3	206
EM_{2025}	B		3	213
EM_{2029}	W		3	234
EM_{2030}	W		3	214
EM_{2031}	W		3	228
EM_{2034}	W		3	222
EM_{2035}	H		3	211
EM_{2036}	H		3	192
EM_{2038}	H		3	202
EM_{2042}	W		3	202
EM_{2045}	H		3	195
EM_{2051}	H		3	205
EM_{2052}	H		3	180
EM_{2053}	W		3	187
EM_{2054}	W		3	205
EM_{2056}	W		3	217
EM_{2062}	W		3	247

Math Low Achievers 2006-07/Double Pd.

Code	EC	ED		HSPA Math
EM_{3006}	W		4	198
EM_{3007}	H		4	220
EM_{3008}	H		4	185
EM_{3010}	W		4	213
EM_{3012}	B		4	159
EM_{3015}	W		4	182
EM_{3018}	W		4	223
EM_{3021}	B		4	195
EM_{3024}	W		4	207
EM_{3025}	B		4	202
EM_{3030}	W		4	191
EM_{3037}	W		4	175
EM_{3039}	W		4	198
EM_{3047}	W		4	185
EM_{3048}	B		4	180
EM_{3051}	H		4	177
EM_{3052}	H		4	236
EM_{3053}	W		4	168
EM_{3058}	W		4	174

Math Non Low Achievers Non-Low Income

Math Non-Low Achievers Non-Low Income 2003-04/Single Pd.

Code	EC	ED		HSPA Math
CM3003	H		1	212
CM3004	W		1	250
CM3006	W		1	205
CM3008	W		1	255
CM3009	W		1	255
CM3012	W		1	229
CM3013	W		1	258
CM3014	W		1	265
CM3015	W		1	229
CM3016	W		1	218
CM3017	W		1	188
CM3018	B		1	152
CM3019	W		1	237
CM3020	H		1	210
CM3023	W		1	255
CM3024	W		1	259
CM3026	W		1	255
CM3027	W		1	252
CM3028	W		1	244
CM3029	W		1	243
CM3031	H		1	214
CM3033	H		1	195
CM3034	H		1	214
CM3035	W		1	246
CM3037	W		1	229
CM3038	W		1	249
CM3039	H		1	255
CM3040	W		1	232
CM3041	W		1	240
CM3042	W		1	225
CM3044	W		1	261
CM3046	H		1	162
CM3048	W		1	249
CM3049	H		1	262
CM3050	A		1	235
CM3051	A		1	262
CM3053	W		1	250
CM3054	H		1	254
CM3056	W		1	240
CM3057	W		1	207
CM3058	H		1	232
CM3059	W		1	237
CM3061	W		1	195
CM3062	W		1	216
CM3063	W		1	173
CM3064	W		1	269
CM3066	W		1	238
CMLA038	H		1	255

Math Non-Low Achievers Non-Low Income 2004-05/Single Pd.

LAST	EC	ED		HSPA Math
CM2001	W		2	255
CM2003	H		2	208
CM2004	W		2	239
CM2008	A		2	189
CM2009	W		2	241
CM2010	H		2	221
CM2011	H		2	252
CM2012	W		2	252
CM2013	H		2	253
CM2015	H		2	224
CM2016	W		2	255
CM2017	W		2	255
CM2018	W		2	224
CM2019	H		2	252
CM2021	W		2	257
CM2024	H		2	239
CM2028	W		2	230
CM2029	B		2	195
CM2030	H		2	194
CM2031	W		2	244
CM2032	W		2	203
CM2040	W		2	241
CM2041	W		2	244
CM2042	W		2	216
CM2044	W		2	237
CM2045	H		2	239
CM2046	H		2	195
CM2048	H		2	246
CM2052	W		2	252
CM2053	W		2	243
CM2054	W		2	250
CM2055	W		2	224
CM2056	W		2	257
CM2057	W		2	256
CM2058	A		2	260
CM2061	W		2	269
CM2062	W		2	255

Math Non-Low Achievers Non-Low Income 2005-06/Single Pd.

Code	EC	ED		HSPA Math
CM3003	P		3	267
CM3004	H		3	208
CM3005	W		3	239
CM3007	B		3	219
CM3009	H		3	248
CM3012	W		3	221
CM3013	A		3	231
CM3019	H		3	227
CM3021	W		3	253
CM3022	W		3	210
CM3023	W		3	200
CM3024	W		3	232
CM3025	W		3	243
CM3026	W		3	243
CM3027	W		3	253
CM3028	B		3	195
CM3031	B		3	224
CM3034	W		3	234
CM3036	W		3	251
CM3038	W		3	234
CM3040	H		3	225
CM3041	W		3	261
CM3043	W		3	265
CM3044	H		3	267
CM3045	A		3	256
CM3047	W		3	255
CM3049	H		3	232
CM3052	W		3	259
CM3053	H		3	253
CM3054	W		3	232
CM3055	W		3	256
CM3056	W		3	250
CM3057	W		3	243
CM3058	W		3	224
CM3060	B		3	238
CM3061	W		3	266
CM3063	W		3	266

Math Non Low Achievers Non-Low Income 2006-07/Single Pd.

Code	EC	ED		HSPA Math
CM3001	H		4	217
CM4003	A		4	231
CM4006	W		4	237
CM4010	W		4	244
CM4015	W		4	248
CM4016	W		4	191
CM4021	W		4	237
CM4022	W		4	200
CM4023	W		4	239
CM4028	W		4	229
CM4029	B		4	185
CM4030	W		4	256
CM4034	W		4	242
CM4035	W		4	216
CM4039	W		4	228
CM4040	W		4	236
CM4042	W		4	202
CM4043	H		4	245
CM4045	H		4	197
CM4047	H		4	247
CM4050	W		4	229
CM4051	W		4	201
CM4053	H		4	248
CM4054	W		4	261
CM4056	W		4	202
CM4057	W		4	247
CM4058	W		4	245
CM4059	A		4	260
CM4060	W		4	223
CM4061	W		4	248
CM4062	H		4	223
CM4067	W		4	223
CM4068	W		4	200
CM4069	W		4	245
CM4070	H		4	226
CM4071	W		4	247
CM4072	W		4	233
CM4077	I		4	236
CM4078	W		4	239
CM4079	H		4	159
CM4080	W		4	205
CM4081	W		4	242
CM4082	H		4	261
CM4083	H		4	233
CM4084	B		4	220
CM4086	W		4	164
CM4087	H		4	208
CM4088	W		4	202
CM4089	W		4	271
CM4090	H		4	208

Appendix E

ANOVA Tables

English Low Achievers

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	39	206.5385	18.61217	2.98033	200.5051	212.5718	166.00	239.00
2.00	66	213.5909	19.40736	2.38888	208.8200	218.3618	148.00	245.00
3.00	35	207.4286	21.07868	3.56295	200.1878	214.6694	129.00	235.00
4.00	37	205.6757	17.95992	2.95259	199.6875	211.6638	160.00	242.00
Total	177	209.1638	19.43554	1.46086	206.2808	212.0469	129.00	245.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2117.922	3	705.974	1.898	.132
Within Groups	64364.326	173	372.048		
Total	66482.249	176			

Post Hoc Tests

Multiple Comparisons

LAScore

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-7.05245	3.89574	.272	-17.1587	3.0538
	3.00	-.89011	4.49106	.997	-12.5407	10.7605
	4.00	.86279	4.42663	.997	-10.6207	12.3462
2.00	1.00	7.05245	3.89574	.272	-3.0538	17.1587
	3.00	6.16234	4.03324	.423	-4.3006	16.6253
	4.00	7.91523	3.96137	.193	-2.3613	18.1917
3.00	1.00	.89011	4.49106		-10.7605	12.5407
	2.00	-6.16234	4.03324	.423	-16.6253	4.3006
	4.00	1.75290	4.54811	.980	-10.0457	13.5515
4.00	1.00	-.86279	4.42663	.997	-12.3462	10.6207
	2.00	-7.91523	3.96137	.193	-18.1917	2.3613

	3.00	-1.75290	4.54811	.980	-13.5515	10.0457

English Non-Low Achievers

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	87	228.7701	18.27675	1.95947	224.8748	232.6654	146.00	277.00
2.00	85	233.9882	15.17163	1.64559	230.7158	237.2607	195.00	265.00
3.00	89	226.4045	21.67095	2.29712	221.8395	230.9695	151.00	258.00
4.00	101	228.7129	15.98333	1.59040	225.5576	231.8682	139.00	261.00
Total	362	229.3978	18.04939	.94865	227.5322	231.2634	139.00	277.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2670.216	3	890.072	2.772	.041
Within Groups	114936.502	358	321.052		
Total	117606.718	361			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-5.21812	2.73264	.226	-12.2714	1.8352
	3.00	2.36562	2.70140	.817	-4.6071	9.3383
	4.00	.05724	2.62087	1.000	-6.7076	6.8221
2.00	1.00	5.21812	2.73264	.226	-1.8352	12.2714
	3.00	7.58374*	2.71743	.028	.5697	14.5978
	4.00	5.27536	2.63739	.190	-1.5321	12.0828
3.00	1.00	-2.36562	2.70140	.817	-9.3383	4.6071
	2.00	-7.58374*	2.71743	.028	-14.5978	-.5697
	4.00	-2.30838	2.60501	.812	-9.0323	4.4155
4.00	1.00	-.05724	2.62087	1.000	-6.8221	6.7076
	2.00	-5.27536	2.63739	.190	-12.0828	1.5321
	3.00	2.30838	2.60501	.812	-4.4155	9.0323

English: Low Achievers/Hispanic

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	18	202.2222	15.56601	3.66894	194.4814	209.9630	169.00	233.00
2.00	36	211.9167	21.38674	3.56446	204.6804	219.1529	148.00	243.00
3.00	23	203.9565	22.79649	4.75340	194.0986	213.8145	129.00	235.00
4.00	23	211.6522	16.96684	3.53783	204.3152	218.9892	178.00	242.00
Total	100	208.2800	20.03082	2.00308	204.3054	212.2546	129.00	243.00

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-9.69444	5.73534	.334	-24.6901	5.3012
	3.00	-1.73430	6.25233	.993	-18.0817	14.6131
	4.00	-9.42995	6.25233	.437	-25.7773	6.9174
2.00	1.00	9.69444	5.73534	.334	-5.3012	24.6901
	3.00	7.96014	5.30348	.441	-5.9064	21.8267
	4.00	.26449	5.30348	1.000	-13.6020	14.1310
3.00	1.00	1.73430	6.25233	.993	-14.6131	18.0817
	2.00	-7.96014	5.30348	.441	-21.8267	5.9064
	4.00	-7.69565	5.85869	.557	-23.0138	7.6225
4.00	1.00	9.42995	6.25233	.437	-6.9174	25.7773
	2.00	-.26449	5.30348	1.000	-14.1310	13.6020
	3.00	7.69565	5.85869	.557	-7.6225	23.0138

English: Non-Low Achievers/Hispanic

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	22	224.0909	15.31233	3.26460	217.3018	230.8800	203.00	258.00
2.00	34	233.4118	14.74453	2.52867	228.2672	238.5564	195.00	260.00
3.00	33	220.1515	20.75621	3.61319	212.7917	227.5113	177.00	251.00
4.00	34	226.8235	20.70496	3.55087	219.5992	234.0478	139.00	251.00
Total	123	226.3659	18.79888	1.69504	223.0104	229.7214	139.00	260.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3083.300	3	1027.767	3.055	.031
Within Groups	40031.237	119	336.397		
Total	43114.537	122			

Multiple Comparisons

LAScore

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-9.32086	5.01845	.252	-22.3975	3.7557
	3.00	3.93939	5.04823	.863	-9.2148	17.0936
	4.00	-2.73262	5.01845	.948	-15.8092	10.3440
2.00	1.00	9.32086	5.01845	.252	-3.7557	22.3975
	3.00	13.26025*	4.48195	.019	1.5816	24.9389
	4.00	6.58824	4.44838	.452	-5.0029	18.1794
3.00	1.00	-3.93939	5.04823	.863	-17.0936	9.2148
	2.00	-13.26025*	4.48195	.019	-24.9389	-1.5816
	4.00	-6.67201	4.48195	.448	-18.3507	5.0066
4.00	1.00	2.73262	5.01845	.948	-10.3440	15.8092
	2.00	-6.58824	4.44838	.452	-18.1794	5.0029
	3.00	6.67201	4.48195	.448	-5.0066	18.3507

English: Low Achievers/White

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	15	206.6000	16.59088	4.28375	197.4123	215.7877	166.00	235.00
2.00	20	210.2500	17.00426	3.80227	202.2918	218.2082	170.00	238.00
3.00	10	217.3000	15.76247	4.98453	206.0242	228.5758	182.00	231.00
4.00	6	194.5000	21.54762	8.79678	171.8872	217.1128	160.00	216.00
Total	51	208.7059	17.87098	2.50244	203.6796	213.7322	160.00	238.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2063.638	3	687.879	2.325	.087
Within Groups	13904.950	47	295.850		
Total	15968.588	50			

Multiple Comparisons

LAScore

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-3.65000	5.87502	.925	-19.2975	11.9975
	3.00	-10.70000	7.02199	.432	-29.4023	8.0023
	4.00	12.10000	8.30853	.472	-10.0288	34.2288
2.00	1.00	3.65000	5.87502	.925	-11.9975	19.2975
	3.00	-7.05000	6.66164	.716	-24.7926	10.6926
	4.00	15.75000	8.00630	.215	-5.5739	37.0739
3.00	1.00	10.70000	7.02199	.432	-8.0023	29.4023
	2.00	7.05000	6.66164	.716	-10.6926	24.7926
	4.00	22.80000	8.88219	.063	-.8567	46.4567
4.00	1.00	-12.10000	8.30853	.472	-34.2288	10.0288
	2.00	-15.75000	8.00630	.215	-37.0739	5.5739
	3.00	-22.80000	8.88219	.063	-46.4567	.8567

English: Non-Low Achievers/White

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	60	230.5833	19.85310	2.56302	225.4547	235.7119	146.00	277.00
2.00	43	233.1163	15.69988	2.39421	228.2846	237.9480	195.00	262.00
3.00	41	232.7805	20.32180	3.17373	226.3661	239.1948	151.00	258.00
4.00	49	230.3878	13.46418	1.92345	226.5204	234.2551	194.00	261.00
Total	193	231.5648	17.54717	1.26307	229.0735	234.0560	146.00	277.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	289.781	3	96.594	.310	.818
Within Groups	58827.659	189	311.257		
Total	59117.440	192			

Multiple Comparisons

LAScore

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-2.53295	3.52508	.890	-11.6701	6.6042
	3.00	-2.19715	3.57481	.927	-11.4632	7.0689
	4.00	.19558	3.39703	1.000	-8.6096	9.0008
2.00	1.00	2.53295	3.52508	.890	-6.6042	11.6701
	3.00	.33579	3.85100	1.000	-9.6461	10.3177
	4.00	2.72852	3.68656	.881	-6.8272	12.2842
3.00	1.00	2.19715	3.57481	.927	-7.0689	11.4632
	2.00	-.33579	3.85100	1.000	-10.3177	9.6461
	4.00	2.39273	3.73414	.919	-7.2863	12.0718
4.00	1.00	-.19558	3.39703	1.000	-9.0008	8.6096
	2.00	-2.72852	3.68656	.881	-12.2842	6.8272
	3.00	-2.39273	3.73414	.919	-12.0718	7.2863

English: Low Achievers/Low Income

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	15	205.2667	22.57833	5.82970	192.7632	217.7701	166.00	239.00
2.00	36	213.6667	21.36619	3.56103	206.4374	220.8959	148.00	243.00
3.00	26	203.6154	22.60279	4.43277	194.4859	212.7448	129.00	235.00
4.00	26	207.4615	17.23306	3.37968	200.5010	214.4221	178.00	242.00
Total	103	208.3398	21.02172	2.07133	204.2313	212.4483	129.00	243.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1763.558	3	587.853	1.344	.265
Within Groups	43311.549	99	437.490		
Total	45075.107	102			

Multiple Comparisons

LAScore

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-8.40000	6.42795	.561	-25.1976	8.3976
	3.00	1.65128	6.78178	.995	-16.0709	19.3735
	4.00	-2.19487	6.78178	.988	-19.9171	15.5273
2.00	1.00	8.40000	6.42795	.561	-8.3976	25.1976
	3.00	10.05128	5.38322	.249	-4.0162	24.1188
	4.00	6.20513	5.38322	.658	-7.8623	20.2726
3.00	1.00	-1.65128	6.78178	.995	-19.3735	16.0709
	2.00	-10.05128	5.38322	.249	-24.1188	4.0162
	4.00	-3.84615	5.80113	.911	-19.0057	11.3134
4.00	1.00	2.19487	6.78178	.988	-15.5273	19.9171
	2.00	-6.20513	5.38322	.658	-20.2726	7.8623
	3.00	3.84615	5.80113	.911	-11.3134	19.0057

English: Non-Low Achievers/Low Income

Descriptives

LAScore

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	23	220.6522	21.65978	4.51638	211.2858	230.0186	146.00	250.00
2.00	28	230.3214	16.02326	3.02811	224.1083	236.5346	195.00	255.00
3.00	42	218.3571	25.69125	3.96425	210.3512	226.3631	151.00	258.00
4.00	37	224.6486	20.29808	3.33698	217.8809	231.4164	139.00	251.00
Total	130	223.1308	21.88390	1.91935	219.3333	226.9282	139.00	258.00

ANOVA

LAScore

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2631.377	3	877.126	1.869	.138
Within Groups	59147.400	126	469.424		
Total	61778.777	129			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-9.66925	6.09712	.390	-25.5440	6.2055
	3.00	2.29503	5.62019	.977	-12.3380	16.9280
	4.00	-3.99647	5.75299	.899	-18.9752	10.9823
2.00	1.00	9.66925	6.09712	.390	-6.2055	25.5440
	3.00	11.96429	5.28601	.112	-1.7986	25.7272
	4.00	5.67278	5.42699	.723	-8.4572	19.8028
3.00	1.00	-2.29503	5.62019	.977	-16.9280	12.3380
	2.00	-11.96429	5.28601	.112	-25.7272	1.7986
	4.00	-6.29151	4.88507	.572	-19.0105	6.4275
4.00	1.00	3.99647	5.75299	.899	-10.9823	18.9752
	2.00	-5.67278	5.42699	.723	-19.8028	8.4572
	3.00	6.29151	4.88507	.572	-6.4275	19.0105

English: Low Achievers/Non-Low Income

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	16	207.0625	12.94846	3.23711	200.1628	213.9622	182.00	224.00
2.00	30	213.5000	17.12379	3.12636	207.1059	219.8941	175.00	245.00
3.00	9	218.4444	10.39364	3.46455	210.4552	226.4337	200.00	230.00
4.00	11	201.4545	19.77050	5.96103	188.1725	214.7365	160.00	227.00
Total	66	210.6061	16.51002	2.03224	206.5474	214.6647	160.00	245.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.

Between Groups	1926.371	3	642.124	2.521	.066
Within Groups	15791.387	62	254.700		
Total	17717.758	65			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-6.43750	4.94052	.565	-19.4810	6.6060
	3.00	-11.38194	6.64972	.326	-28.9379	6.1740
	4.00	5.60795	6.25086	.806	-10.8950	22.1109
2.00	1.00	6.43750	4.94052	.565	-6.6060	19.4810
	3.00	-4.94444	6.06547	.847	-20.9579	11.0690
	4.00	12.04545	5.62535	.152	-2.8060	26.8969
3.00	1.00	11.38194	6.64972	.326	-6.1740	28.9379
	2.00	4.94444	6.06547	.847	-11.0690	20.9579
	4.00	16.98990	7.17318	.094	-1.9480	35.9278
4.00	1.00	-5.60795	6.25086	.806	-22.1109	10.8950
	2.00	-12.04545	5.62535	.152	-26.8969	2.8060
	3.00	-16.98990	7.17318	.094	-35.9278	1.9480

English: Non-Low Achievers/Non-Low Income

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	64	231.6563	16.13260	2.01658	227.6264	235.6861	203.00	277.00
2.00	56	235.6607	14.64026	1.95639	231.7400	239.5814	195.00	265.00
3.00	47	233.5957	14.07690	2.05333	229.4626	237.7289	200.00	258.00
4.00	58	231.5345	12.57848	1.65163	228.2271	234.8418	194.00	261.00
Total	225	233.0267	14.48087	.96539	231.1243	234.9291	194.00	277.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	653.099	3	217.700	1.039	.376

Within Groups	46318.741	221	209.587		
Total	46971.840	224			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-4.00446	2.64904	.432	-10.8620	2.8531
	3.00	-1.93949	2.78102	.898	-9.1387	5.2597
	4.00	.12177	2.62457	1.000	-6.6724	6.9160
2.00	1.00	4.00446	2.64904	.432	-2.8531	10.8620
	3.00	2.06497	2.86390	.889	-5.3488	9.4787
	4.00	4.12623	2.71223	.426	-2.8949	11.1473
3.00	1.00	1.93949	2.78102	.898	-5.2597	9.1387
	2.00	-2.06497	2.86390	.889	-9.4787	5.3488
	4.00	2.06126	2.84128	.887	-5.2939	9.4164
4.00	1.00	-.12177	2.62457	1.000	-6.9160	6.6724
	2.00	-4.12623	2.71223	.426	-11.1473	2.8949
	3.00	-2.06126	2.84128	.887	-9.4164	5.2939

Math: Low Achievers

Descriptives

	N	*Mean*	*Std. Deviation*	*Std. Error*	*95% Confidence Interval for Mean*		*Minimum*	*Maximum*
					Lower Bound	*Upper Bound*		
1.00	*68*	*199.1324*	*22.92096*	*2.77957*	*193.5843*	*204.6804*	*149.00*	*244.00*
2.00	*88*	*210.3295*	*23.13713*	*2.46643*	*205.4273*	*215.2318*	*149.00*	*257.00*
3.00	*62*	*204.9516*	*20.71067*	*2.63026*	*199.6921*	*210.2111*	*162.00*	*247.00*
4.00	*51*	*194.4314*	*20.60025*	*2.88461*	*188.6375*	*200.2253*	*156.00*	*252.00*
Total	*269*	*203.2454*	*22.76304*	*1.38789*	*200.5128*	*205.9779*	*149.00*	*257.00*

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9709.190	3	3236.397	6.640	.000
Within Groups	129156.617	265	487.383		

Total	138865.807	268			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-11.19719*	3.56453	.010	-20.4129	-1.9814
	3.00	-5.81926	3.87665	.438	-15.8420	4.2035
	4.00	4.70098	4.08949	.659	-5.8720	15.2740
2.00	1.00	11.19719*	3.56453	.010	1.9814	20.4129
	3.00	5.37793	3.66053	.458	-4.0860	14.8419
	4.00	15.89817*	3.88523	.000	5.8533	25.9431
3.00	1.00	5.81926	3.87665	.438	-4.2035	15.8420
	2.00	-5.37793	3.66053	.458	-14.8419	4.0860
	4.00	10.52024	4.17344	.059	-.2698	21.3103
4.00	1.00	-4.70098	4.08949	.659	-15.2740	5.8720
	2.00	-15.89817*	3.88523	.000	-25.9431	-5.8533
	3.00	-10.52024	4.17344	.059	-21.3103	.2698

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Math: Non-Low Achievers

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	57	232.8070	26.18031	3.46767	225.8604	239.7536	152.00	269.00
2.00	62	234.1935	21.29715	2.70474	228.7851	239.6020	176.00	269.00
3.00	64	235.3594	21.52692	2.69087	229.9821	240.7366	187.00	267.00
4.00	84	222.7976	26.20392	2.85908	217.1110	228.4842	156.00	271.00
Total	267	230.5918	24.51626	1.50037	227.6376	233.5459	152.00	271.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7641.653	3	2547.218	4.401	.005
Within Groups	152236.849	263	578.847		

Total	159878.502	266			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-1.38653	4.41491	.989	-12.8014	10.0284
	3.00	-2.55236	4.38175	.937	-13.8815	8.7768
	4.00	10.00940	4.12871	.075	-.6655	20.6843
2.00	1.00	1.38653	4.41491	.989	-10.0284	12.8014
	3.00	-1.16583	4.28728	.993	-12.2507	9.9191
	4.00	11.39593*	4.02831	.026	.9806	21.8113
3.00	1.00	2.55236	4.38175	.937	-8.7768	13.8815
	2.00	1.16583	4.28728	.993	-9.9191	12.2507
	4.00	12.56176*	3.99193	.010	2.2405	22.8830
4.00	1.00	-10.00940	4.12871	.075	-20.6843	.6655
	2.00	-11.39593*	4.02831	.026	-21.8113	-.9806
	3.00	-12.56176*	3.99193	.010	-22.8830	-2.2405

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Math: Low Achievers/Hispanic

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	27	193.0741	22.42067	4.31486	184.2048	201.9434	149.00	244.00
2.00	43	206.7674	22.26661	3.39563	199.9148	213.6201	149.00	244.00
3.00	38	202.0789	18.76653	3.04433	195.9105	208.2474	167.00	242.00
4.00	28	199.3571	22.30631	4.21550	190.7077	208.0066	156.00	252.00
Total	136	201.2132	21.70489	1.86118	197.5324	204.8941	149.00	252.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3240.098	3	1080.033	2.362	.074
Within Groups	60358.718	132	457.263		

Total	63598.816	135			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-13.69337*	5.25068	.049	-27.3560	-.0308
	3.00	-9.00487	5.38228	.342	-23.0099	5.0001
	4.00	-6.28307	5.76771	.697	-21.2910	8.7249
2.00	1.00	13.69337*	5.25068	.049	.0308	27.3560
	3.00	4.68849	4.76101	.758	-7.7000	17.0769
	4.00	7.41030	5.19277	.485	-6.1016	20.9222
3.00	1.00	9.00487	5.38228	.342	-5.0001	23.0099
	2.00	-4.68849	4.76101	.758	-17.0769	7.7000
	4.00	2.72180	5.32579	.956	-11.1362	16.5798
4.00	1.00	6.28307	5.76771	.697	-8.7249	21.2910
	2.00	-7.41030	5.19277	.485	-20.9222	6.1016
	3.00	-2.72180	5.32579	.956	-16.5798	11.1362

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Math: Non-Low Achievers/Hispanic

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	14	227.7857	28.37436	7.58337	211.4028	244.1686	162.00	262.00
2.00	25	227.1600	21.73070	4.34614	218.1900	236.1300	176.00	260.00
3.00	20	234.1500	20.72698	4.63469	224.4495	243.8505	192.00	267.00
4.00	34	217.9412	28.54549	4.89551	207.9812	227.9012	156.00	268.00
Total	93	225.3871	25.62948	2.65765	220.1088	230.6654	156.00	268.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3579.915	3	1193.305	1.868	.141
Within Groups	56852.149	89	638.788		

Total	60432.065	92			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	.62571	8.43678	1.000	-21.4638	22.7152
	3.00	-6.36429	8.80722	.888	-29.4237	16.6951
	4.00	9.84454	8.02593	.612	-11.1693	30.8584
2.00	1.00	-.62571	8.43678	1.000	-22.7152	21.4638
	3.00	-6.99000	7.58228	.793	-26.8422	12.8622
	4.00	9.21882	6.65878	.512	-8.2155	26.6531
3.00	1.00	6.36429	8.80722	.888	-16.6951	29.4237
	2.00	6.99000	7.58228	.793	-12.8622	26.8422
	4.00	16.20882	7.12231	.112	-2.4391	34.8567
4.00	1.00	-9.84454	8.02593	.612	-30.8584	11.1693
	2.00	-9.21882	6.65878	.512	-26.6531	8.2155
	3.00	-16.20882	7.12231	.112	-34.8567	2.4391

Math: Low Achievers/White

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	33	204.2121	24.15155	4.20425	195.6484	212.7759	166.00	244.00
2.00	33	215.5758	22.73218	3.95716	207.5153	223.6362	181.00	257.00
3.00	20	213.0000	22.99657	5.14219	202.2373	223.7627	162.00	247.00
4.00	13	192.3846	16.13763	4.47577	182.6327	202.1365	168.00	223.00
Total	99	208.2222	23.56214	2.36808	203.5228	212.9216	162.00	257.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6032.458	3	2010.819	3.949	.011

Within Groups	48374.653	95	509.207		
Total	54407.111	98			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-11.36364	5.55527	.179	-25.8912	3.1639
	3.00	-8.78788	6.39460	.519	-25.5103	7.9346
	4.00	11.82751	7.38920	.383	-7.4959	31.1509
2.00	1.00	11.36364	5.55527	.179	-3.1639	25.8912
	3.00	2.57576	6.39460	.978	-14.1467	19.2982
	4.00	23.19114*	7.38920	.012	3.8677	42.5146
3.00	1.00	8.78788	6.39460	.519	-7.9346	25.5103
	2.00	-2.57576	6.39460	.978	-19.2982	14.1467
	4.00	20.61538	8.03928	.057	-.4081	41.6389
4.00	1.00	-11.82751	7.38920	.383	-31.1509	7.4959
	2.00	-23.19114*	7.38920	.012	-42.5146	-3.8677
	3.00	-20.61538	8.03928	.057	-41.6389	.4081

Math: Non-Low Achievers/White

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	43	234.8605	22.12796	3.37448	228.0505	241.6704	173.00	269.00
2.00	31	242.1290	16.78043	3.01385	235.9739	248.2841	203.00	269.00
3.00	31	237.6774	20.74028	3.72506	230.0698	245.2850	187.00	266.00
4.00	43	223.2558	27.50333	4.19422	214.7915	231.7201	145.00	271.00
Total	148	233.6014	23.49229	1.93105	229.7851	237.4176	145.00	271.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7439.873	3	2479.958	4.846	.003

Within Groups	73687.607	144	511.719		
Total	81127.480	147			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-7.26857	5.32987	.524	-21.1224	6.5853
	3.00	-2.81695	5.32987	.952	-16.6708	11.0369
	4.00	11.60465	4.87862	.086	-1.0763	24.2856
2.00	1.00	7.26857	5.32987	.524	-6.5853	21.1224
	3.00	4.45161	5.74580	.866	-10.4833	19.3866
	4.00	18.87322*	5.32987	.003	5.0194	32.7271
3.00	1.00	2.81695	5.32987	.952	-11.0369	16.6708
	2.00	-4.45161	5.74580	.866	-19.3866	10.4833
	4.00	14.42161*	5.32987	.038	.5678	28.2755
4.00	1.00	-11.60465	4.87862	.086	-24.2856	1.0763
	2.00	-18.87322*	5.32987	.003	-32.7271	-5.0194
	3.00	-14.42161*	5.32987	.038	-28.2755	-.5678

Math: Low Achievers/Low Income

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	29	198.4828	23.14955	4.29876	189.6771	207.2884	162.00	244.00
2.00	39	206.2821	23.43406	3.75245	198.6856	213.8785	149.00	244.00
3.00	42	202.0714	21.47420	3.31354	195.3796	208.7633	162.00	242.00
4.00	32	195.2500	21.10496	3.73087	187.6409	202.8591	156.00	252.00
Total	142	200.9577	22.43442	1.88265	197.2359	204.6796	149.00	252.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2377.822	3	792.607	1.595	.193

Within Groups	68587.925	138	497.014		
Total	70965.746	141			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-7.79929	5.46648	.485	-22.0155	6.4169
	3.00	-3.58867	5.38257	.909	-17.5866	10.4093
	4.00	3.23276	5.71578	.942	-11.6318	18.0973
2.00	1.00	7.79929	5.46648	.485	-6.4169	22.0155
	3.00	4.21062	4.95758	.831	-8.6821	17.1034
	4.00	11.03205	5.31748	.167	-2.7967	24.8608
3.00	1.00	3.58867	5.38257	.909	-10.4093	17.5866
	2.00	-4.21062	4.95758	.831	-17.1034	8.6821
	4.00	6.82143	5.23119	.562	-6.7829	20.4257
4.00	1.00	-3.23276	5.71578	.942	-18.0973	11.6318
	2.00	-11.03205	5.31748	.167	-24.8608	2.7967
	3.00	-6.82143	5.23119	.562	-20.4257	6.7829

Math: Non-Low Achievers/Low Income

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	9	233.6667	19.53842	6.51281	218.6481	248.6852	193.00	254.00
2.00	23	230.0000	21.38606	4.45930	220.7520	239.2480	176.00	262.00
3.00	37	240.0000	19.29306	3.17176	233.5674	246.4326	195.00	267.00
4.00	34	217.0294	27.98754	4.79982	207.2641	226.7947	156.00	268.00
Total	103	229.6311	24.63299	2.42716	224.8168	234.4453	156.00	268.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9527.010	3	3175.670	6.004	.001

Within Groups	52364.971	99	528.939		
Total	61891.981	102			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	3.66667	9.04259	.977	-19.9635	27.2968
	3.00	-6.33333	8.54790	.880	-28.6708	16.0041
	4.00	16.63725	8.62137	.222	-5.8922	39.1667
2.00	1.00	-3.66667	9.04259	.977	-27.2968	19.9635
	3.00	-10.00000	6.10680	.363	-25.9583	5.9583
	4.00	12.97059	6.20922	.164	-3.2554	29.1966
3.00	1.00	6.33333	8.54790	.880	-16.0041	28.6708
	2.00	10.00000	6.10680	.363	-5.9583	25.9583
	4.00	22.97059*	5.46376	.000	8.6926	37.2485
4.00	1.00	-16.63725	8.62137	.222	-39.1667	5.8922
	2.00	-12.97059	6.20922	.164	-29.1966	3.2554
	3.00	-22.97059*	5.46376	.000	-37.2485	-8.6926

Math: Low Achievers/Non-Low Income

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	40	199.7000	22.74970	3.59704	192.4243	206.9757	149.00	244.00
2.00	50	213.7000	22.41196	3.16953	207.3306	220.0694	170.00	257.00
3.00	20	211.0000	18.03214	4.03211	202.5607	219.4393	180.00	247.00
4.00	19	193.0526	20.21131	4.63679	183.3111	202.7942	159.00	236.00
Total	129	205.8992	22.80414	2.00779	201.9265	209.8720	149.00	257.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8235.843	3	2745.281	5.883	.001

Within Groups	58327.847	125	466.623		
Total	66563.690	128			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-14.00000*	4.58236	.014	-25.9321	-2.0679
	3.00	-11.30000	5.91580	.229	-26.7043	4.1043
	4.00	6.64737	6.01869	.687	-9.0249	22.3196
2.00	1.00	14.00000*	4.58236	.014	2.0679	25.9321
	3.00	2.70000	5.71521	.965	-12.1820	17.5820
	4.00	20.64737*	5.82164	.003	5.4882	35.8065
3.00	1.00	11.30000	5.91580	.229	-4.1043	26.7043
	2.00	-2.70000	5.71521	.965	-17.5820	12.1820
	4.00	17.94737	6.92028	.051	-.0725	35.9673
4.00	1.00	-6.64737	6.01869	.687	-22.3196	9.0249
	2.00	-20.64737*	5.82164	.003	-35.8065	-5.4882
	3.00	-17.94737	6.92028	.051	-35.9673	.0725

Math: Non-Low Achievers/Non-Low Income

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	48	232.6458	27.41369	3.95682	224.6857	240.6059	152.00	269.00
2.00	37	236.9189	21.42478	3.52221	229.7755	244.0623	189.00	269.00
3.00	37	240.0000	19.29306	3.17176	233.5674	246.4326	195.00	267.00
4.00	50	226.7200	24.42902	3.45479	219.7773	233.6627	159.00	271.00
Total	172	233.4244	24.03896	1.83295	229.8063	237.0425	152.00	271.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4328.202	3	1442.734	2.565	.056

Within Groups	94487.816	168	562.427		
Total	98816.017	171			

Multiple Comparisons

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-4.27309	5.18825	.843	-17.7362	9.1901
	3.00	-7.35417	5.18825	.490	-20.8173	6.1090
	4.00	5.92583	4.79226	.605	-6.5098	18.3614
2.00	1.00	4.27309	5.18825	.843	-9.1901	17.7362
	3.00	-3.08108	5.51375	.944	-17.3889	11.2267
	4.00	10.19892	5.14289	.198	-3.1465	23.5444
3.00	1.00	7.35417	5.18825	.490	-6.1090	20.8173
	2.00	3.08108	5.51375	.944	-11.2267	17.3889
	4.00	13.28000	5.14289	.052	-.0654	26.6254
4.00	1.00	-5.92583	4.79226	.605	-18.3614	6.5098
	2.00	-10.19892	5.14289	.198	-23.5444	3.1465
	3.00	-13.28000	5.14289	.052	-26.6254	.0654

Appendix F

Interviews

Date: July 30, 2008

Richard J. Ney

1:30 p.m.

Interview with Math Teacher, Mrs. Brown

4th Set of Notes

Interview with Math Teacher, Mrs. Brown

R: Good Afternoon Mrs. Brown. I would like to ask you some questions. These questions have to do with the transition from single period math classes for low achieving students to double period math classes for low achieving students. Is it ok if I record you during this interview?

Brown: Yes.

R: When did your school first introduce the double periods for math?

Brown: Uh, fall 2004.

R: Can you tell me what your understanding is of why the school transitioned to double periods versus a single period for algebra?

Brown: Um, I feel that low achieving students can benefit from having more time in the classroom, um, for such things as projects and group activities, which normally you wouldn’t have enough time to cover the whole curriculum in a single. And, if you have a double period and they can do more hands on things, such as algebra tiles and things that I use in my class, um that they can get a better feel for why they’re doing what they're doing. Um, working with other students in a small group or partners, one student can help the other, and also I find that, uh if you have more time in class, you can incorporate different types of word problems, more involved word problems, more practical every day type things that they would maybe not have as much time to do during a single period.

R: Okay, if I understand your response, you’re saying that the administration more or less made the

determination to move into double periods in order to provide an opportunity for students to learn through these methods that you're talking about?

Brown: Yes.

R: Okay, do you recall any of the background that drove administration towards making that decision?

Brown: Guessing low HSPA scores.

R: You've mentioned a number of advantages. Are there any additional advantages of double periods?

Brown: Um, yes, well in my opinion I know that there are a lot of times when you have a lesson that you are trying to get through that you can't get through in 42 minutes it spills into the next day and you lose the continuity of the lesson. If you know the students walk away and they're focused they're not thinking about what you just were teaching, as opposed to if you can keep them there you can you know you can work yesterday's lesson into today's lesson. And, at times actually complete the lesson, try a few problems make sure they understand before they leave you to do their homework. Otherwise you know you've only done half a lesson and they go home and try to do the homework, they might not have learned it yet. So its not always that great, so it's nice if

you have the two periods you have enough time to accomplish one full lesson.

R: You mention that they can get work done in school that they might not do at home. In this particular school, have you had any issues with students doing homework?

Brown: Yes. A lot of students don't do their homework. I don't think that they feel that it's that important. They, I guess that they don't feel that they don't need to practice, and in math, if you don't practice then you know practice obviously makes perfect, and you know it's not every student that can just sit there and just look at the board and retain everything that they've just seen.

R: What are some of the disadvantages, if any of having double periods of math?

Brown: Umm, the only thing that I've found is that if you have problem students in your class, that whatever it could be I mean you can have a student who can't focus for a long enough period of time, or you could just have, I don't know, an overactive student you know whatever the case may be. If you have a problem student that can't sit for longer than 42 minutes, that becomes a problem,

and you kind of have to keep them entertained. So, you know I find that there are different ways to do that by breaking up the lesson. But other than that, I really enjoy the double periods.

R: Did you receive any kind of training, or what kind of training did you receive prior to going into the double period classroom model?

Brown: I believe we had a short workshop on it where we met with our math supervisor to discuss different things you can do to change your routine, you know, to break up the hour and a half.

R: Can you tell me some of the ways that you modified your instruction as a result of the double periods?

Brown: I definitely try to establish a routine so that they were used to how everything went. At certain times we accomplished certain things. Like everyday, when we came in we went over the homework and frequently I would have them put the problems on the board. And they can get points for going to the board, and I let them explain what they did and everything. Um, which is good because the more that they teach everyone else than the more they're going to remember what they did. Then also, you know, as opposed to if you just had a single period, you

are more likely to just read off the answers. Does anyone have any questions, and everyone says no, and if you put them on the board, and then they see something on the board they are more likely to respond to it. So, you put homework problems on the board, you have our lesson whatever it happened to be that day. It might be just a warm up and a lesson, it might be a project, it might be a group activity, whatever the case may be. Um, then after that I give them a couple problems to practice what we just did, and then again ,I'd let them go up to the board and, you know, I'd go around and see if they were working with partners, if they had any questions, whatever. And after that, I would give them whatever their assignment was for that day, and I would give them enough problems that it should keep them very busy. And that might be, hmm, it might be the last 20 to 25 minutes of class;enough that will keep them busy that if the smarter kids in the class will probably finish in class. The average student will probably have some spill over as homework. So, they knew everyday whatever they didn't finish would become homework. And then, at the end I would just circulate as they were doing their problems and we would conclude whatever the lesson was for that

day. So, we would kind of break it up into little timeframes.

R: So, if you started the double period classes in the fall of 2004, you have had more than 3 years experience with double period classes.

Brown: Yes.

R: What impact have you seen over that period of time?

Brown: Umm, I find that students that will frequently not do homework that would have normally ended up they don't do their homework, they do poorly on the quiz, they don't do well on the quizzes they don't do well on the tests, etc. etc. A lot of those students, given the time in class, and when they can be more focused, and they can have more help. If they do the problems in class, and they feel some form of success, then they tend to do better on quizzes and tests and everything else. So, you find that you get a lot more students to pass given more time.

R: Would you say that you have been able to cover more ground or less ground as a result of this?

Brown: Definitely more, definitely, and more in depth.

R: Are there any other comments that you would like to

make about double period classes?

Brown: No, I think that that's good.

R: Approximately how many minutes are in a double period class?

Brown: Aah, 88.

R: Thank you for allowing me to interview you and thank you for your time.

Brown: Thank you.

Date: July 29, 2008

Richard J. Ney

10:30 a.m.

Interview with English Teacher, Mr. Smith

3rd Set of Notes

Interview with English teacher, Mr. Smith

R: Good Morning Mr. Smith, thank you for meeting with me this morning.

Smith: Good Morning.

R: I wanted ask you a little bit about your experience with double period classes in English for low achieving students. First of all during the interview I would like to record you if I have your permission to do that?

Smith: Yes.

R: O.K. Thank you very much.

R: Mr. Smith, what do you teach?

Smith: I teach freshman English as well as two electives that incorporate students anywhere from freshman to a senior.

R: When did your school introduce double periods of English for low achieving students?

Smith: I believe it was the fall of 2004.

R: What is your understanding of why double periods were introduced?

Smith: from what I understand it was a desire to raise the HSPA test scores, to provide more intensive training and testing for the students that were lacking these skills to perform well on the HSPA.

R: What are some of the advantages of doubling the periods?

Smith: On students' needs we can try to identify perhaps some problems that can be addressed in a longer time period. There's certainly no interruption. You have a full 80 minutes to address these problems. Ah, I think it was a good concept, but in reality it was a little more difficult, at least for a teacher's perspective.

R: Why do you say it was difficult to implement?

Smith: Well, now were getting into the disadvantages. The disadvantages that I witnessed in my own class… you're taking students that have generally a very short attention span, and even though you might modify your teaching pattern so that you break up the routine, you still have students that essentially have a difficult time sitting through one period, and you double the period. And I found that students begin to tune out after a certain period of time.

R: How did you modify your instructional patterns to meet these students' needs?

Smith: Well, let me just explain in the beginning, because it is a double period, it's still English. So, your curriculum took priority during the first period, so it would be curriculum based. In other words, short story, whatever we were doing at that particular time, plays, ah anything that we would read, students would have to answer questions. The second half of the period was skill based, trying to improve their skills, ah writing, reading comprehension, things of that nature. Whether it was curriculum based or it was school based, I tried to get a lot of student involvement or student

participation, sometimes breaking the class up into small groups. Anything to keep them focused on their task.

R: What kind of training, if any, did you receive prior to going into double periods?

Smith: When the program was initiated we did a training seminar that was held in house, and we had a gentlemen that I believe was from Columbia University, but I could be mistaken. Came in, gave a presentation, how to implement the double period teaching. Uh, he gave us some tips on how to organize it, and he actually gave us a program to follow.

R: What were some of the elements of that program?

Smith: The elements of the program dealt with silent reading at first followed by questions, then there was a modeling procedure where we would read out loud to the students and model correct pronunciation, correct reading techniques, once again followed by a question-answer. Then there was a specific unit focusing on, it could be grammar, it could be a writing process identifying what you know what constitutes a five paragraph essay, and then we would focus on that particular skill. At the end we would summarize what we had tried to accomplish and assign any homework that was to be given for the next

day.

R: I know you talked about this already, but can you elaborate a little bit more on how you incorporated those into the classroom?

Smith: Uh, as far as, well the curriculum part we have textbooks, we have reading materials I selected as well as, you know, our textbook. The skill base we would identify the objective on the board, and we would break it down into simple components, such as writing a five paragraph essay, and we would focus on the introduction. And we would spend that period having them write, um, outlining on the board what I'm looking for, collecting samples. And then from that point, we would work on the body of the essay, and we would just take it step by step. Following that, we might go into another type of essay, that's basically what we worked on.

R: Were there any classroom issues that developed as a result of the double periods?

Smith: Only in regards to that it was a long time with one teacher. Certain teachers relate to certain students, certain students might have a difficult time with a particular teacher. If that was a problem, then the problem was magnified because you're there for a

double period. The only real problem, that I saw was that a lot of these students tuned out because sitting for two straight periods in the classroom is sometimes beyond their capability. That was the primary issue, was, was dealing with keeping them motivated for a full 80 minutes.

R: Can you remember any particular scenarios that you that you might want to reflect on?

Smith: Well, positive, I did have students say that they enjoyed being in my particular class because I infuse humor in the teaching and I try to get them to participate in and draw on their own creativity to come up with some answers. Negatively, yes other than a general sense that they were tuning out, and that I was losing them after a certain period of time. That was probably the biggest negative that I encountered. I had very few disciplinary problems in my particular class. But, there were a few students that once again did show very little interest in learning and now there sitting there for 80 minutes instead of 40 minutes and these are tough students to deal with.

R: If you had a choice of staying in the double period classes with these students or going into a single period

of instruction, what would your preference be?

Smith: My preference would be to break up the double period. You have a curriculum based class, normal length. Then to see the student again perhaps or another teacher, for the second part, just give them a little bit of a break in between so that they don't feel, they don't feel that they are sitting there for a full 80 minutes. Give them the chance to get up stretch a little bit, talk with another teacher, whatever, and then come back, whether it's with me or another teacher. So, uh, I definitely am not in favor of the double period. I think it's a good concept, I think it's addressed to the wrong students.

R: I'm going to digress just a little bit only because something just came into my mind, I was thinking about, and I was wondering if you would reflect for me a little bit about your own instructional style.

Smith: First and foremost I try to infuse a sense of respect in the classroom right from day one. Uh, I want the students to respect me as an individual and as a teacher. In doing so, I have to respect them. I think when we develop mutual respect things progress a lot more quickly. There's things that I will tolerate, things

that I won't tolerate in my classroom. Uh, I expect them to behave as a student. I try to set guidelines right from the start so we know what's acceptable, what's not acceptable. Beyond that, I try to diffuse any potential situation with a sense of humor. I try to get them to relax in class. I don't want them to feel that I'm, that it's an antagonistic situation. I never back a student down into a corner, because uh, for me its counter productive. I believe in getting students involved, I want them to come up with their own answers; I try to pick subject matter that I think is creative and stimulating. Uh, I'm a firm believer in getting them to express themselves on paper, write their thoughts down and of course, that then lends itself to skills were they can write a letter or essay that is clear cohesive. And it seems to work for me, what I do may not work for another teacher.

R: I had the opportunity to observe your class last week, and I did note that there is enormous amount of interaction with you and the students. You have a tendency to stimulate students thinking with provocative questions and you keep the students engaged through your inter active style of teaching.

Smith: I also think its important, I don't see how as a teacher you can just sit behind the desk and teach. You have to get out, circulate among the students and keep them on their toes. And it's a non stop teaching approach from the minute you get into the classroom till that bell rings. You're in there with the students circulating, lecturing if you have to, but always making sure that they are stimulated and involved.

R: Well Mr. Smith, this concludes our interview for today, I want to thank you for giving of your time and expressing your thoughts and perceptions about the advantages and disadvantages of what we call mini blocks of time for instruction.

Smith: Thank you. Before we terminate the discussion entirely, I would just like to add that I do feel that the block scheduling does have potential, but we are addressing the wrong students. I think that the potential lies with the students; I hate to say higher level, students who are more mature and honors students and level one students. These students can sit down and really benefit from a double session, so that you are in the middle of very stimulating discussion or are discussing a particularly difficult concept you can

continue on. I know in my classes we read some very challenging books like 1984, Lord of the Flies, I mean these are books that demand attention, and I really think that these students would benefit whether its in math, science or English from a double period. I just thought if I could add that.

R: I appreciate that very much. That’s very enlightening and certainly provides more perspective for me to consider as I continue my research. Thank you.