USING CLASS-SIZE REDUCTION AS A TOOL TO CLOSE THE
ACHIEVEMENT GAP FOR ELL STUDENTS FROM A LOW
SOCIO-ECONOMIC BACKGROUND: A ONE SCHOOL
CASE STUDY

A Thesis
Presented
to the Faculty of
California State University, Chico

In Partial Fulfillment
of the Requirement for the Degree
Master of Arts
in
Education
Curriculum and Instruction Option

by
La Tonya E. Cruthird

Spring 2011
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DEDICATION

This thesis is dedicated to my two guardian angels,
Anna Lane and Martha Marie Harrison.

Even though you are not here to celebrate with me,
I can feel you smiling down on me.

I would also like to dedicate this thesis to my daughter
Jasmine Janaye Anderson-Cruthird.

You are my hero, and the wind beneath my wings.
ACKNOWLEDGMENTS

I would like to extend my deepest appreciation and respect to my graduate committee chair Dr. Cris Guenter. Thanks for your assistance, constructive encouragement, and advice. I would also like to extend my gratitude to Dr. Michael Kotar. Thanks for your patience and expertise.

My special thanks goes to Claire Hansen. Thanks for accepting my late night phone calls and for making last minute edits for me.
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ABSTRACT

USING CLASS-SIZE REDUCTION AS A TOOL TO CLOSE THE ACHIEVEMENT GAP FOR ELL STUDENTS FROM A LOW SOCIO-ECONOMIC BACKGROUND: A ONE SCHOOL CASE STUDY

by

La Tonya E. Cruthird

Master of Arts in Education
Curriculum and Instruction Option
California State University, Chico

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The study investigates whether or not class-size reduction was a key factor in helping English language learners close the academic achievement gap, or if other factors were involved. Other factors that could have affected student achievement were implementation and resource allocation, teacher qualifications, classroom practices, parental involvement, and student motivation. Hypothesis 1 stated that class size reduction does play a part in helping English language learners achieve proficiency in English language arts and mathematics. Hypothesis 2 stated that a change in curriculum and how the curriculum is presented can affect the academic achievement of English
language learners. Hypothesis 3 stated that class size influences behavior. The results supported the first hypothesis. The second hypothesis was supported. The results supported the third hypothesis.
CHAPTER I

INTRODUCTION

Background of the Study

Park Avenue Elementary School located in Yuba City, California was the subject of a one-school case study, with emphasis on student achievement for English learners and economically disadvantaged students in fourth and fifth grades. Park Avenue Elementary School has an enrollment of 584 students, all of which are considered socioeconomically disadvantaged. Of the 584 students enrolled 357 are English learners. Currently Park Avenue Elementary School has 33 teachers, which are fully credentialed and qualified as indicated by the No Child Left Behind (NCLB) Act of 2001.

Although Park Avenue School has made consistent progress regarding “Academic Performance Index (API)” (California Department of Education 2009), the school often fell short in meeting its “Adequate Yearly Progress (AYP)” (California Department of Education 2010b). Despite their efforts Park Avenue School was classified as a low performing school. Park Avenue’s designation as a low-performing school qualified the school to receive funding through the “Quality Education Investment Act of 2006 (QEIA)”, “which assists school serving low-income and minority students and English learners close the achievement gap by reducing class-size, improving teacher and principal training, and adding counselors to high schools” (QEIA, 2006, para 2.). QEIA funding will be provided to Park Avenue School over the next seven years, in the amount
of “$500 for K-3” students and “$900 for each student in grades 4 and 5” beginning in the 2006-2007 through 2013-2014 (Mallory & Nee, 2010, p. 6). At this point it is unclear whether schools that are successful under QEIA will continue to receive additional support from the state after 2014.

The Quality Education Investment Act (QEIA) targets schools in the bottom 20% of the 2005 Academic Performance Index (API) rankings whether or not they are making progress (EdSource, 2007, p. 1, para 4). Park Avenue Elementary School failed to meet its Academic Performance Index (API) for the 2006-2007 and 2007-2008 school years. When compared to similar schools, Park Avenue was ranked a 2 “(well below average)” (California Department of Education, 2007) for the 2006-2007 and 2007-2008 school years. Similar schools were ranked 9 “(well above average)” and 5 “(above average)” for 2006-2007 and 2007-2008 school year respectively. “Schools and districts are expected to address established performance levels determined by QEIA” (Mallory & Nee, 2010). Schools must exceed their Academic Performance Index (API) targets averaged over the first three years of full funding and meet annual targets. Thereafter, they must also agree to teacher qualification criteria. Schools will lose funding if they do not reach their three-year goals by 2010-2011. Schools must ensure their teachers are highly qualified according to No Child Left Behind (NCLB) criteria (EdSource, 2007, p 2, para 1). As a condition of their school’s participation districts must:

1. Complete an academic review for each participating school.
2. Ensure that school administrators have exemplary qualifications and.
3. Provide professional development.
4. Provide fiscal and evaluation data for annual reviews by the superintendent of public instruction.
5. Consult with union representatives.
6. Ensure that QEIA funding is spent on QEIA schools.
7. Ensure teacher experience levels are met and professional development, defined broadly to include such activities as time to collaborate or analyze; pupil data is provided at an average of 40 hours per year per teacher.
8. Meet all requirements under Williams lawsuit settlement.

Prior to receiving funding through QEIA, a typical fourth and fifth grade class at Park Avenue elementary School consisted of 32-36 students, with one assigned, fully credentialed teacher. The students made consistent growth in both English Language Arts (ELA) and mathematics. Park Avenue Elementary School met its “State Accountability: Academic Performance Index (API)”, but failed to meet its “Federal Accountability: Adequate Yearly Progress (AYP)” for the 2005-2006 school year (California Department of Education, 2010c) and was labeled Program Improvement I for failure to meet proficiency requirements for English Language Arts (ELA). With a lot of hard work consistency, and effort Park Avenue Elementary School was able to meet and/or exceed their “Federal Accountability: Adequate Yearly Progress (AYP)” (California Department of Education, 2010c) for the 2006-2007 and 2007-2008 school years and was removed from Program Improvement (PI). However, their successes was short lived, as Park Avenue Elementary School failed to meet their “Federal Accountability: Adequate Yearly Progress (AYP)” (California Department of Education, 2010c) for both English Language Arts (ELA) and Mathematics for the 2009-2010 school year. If Park Avenue Elementary School fails to meet its “Federal Accountability: Adequate Yearly Progress (AYP)” (California Department of Education, 2010c) for the 2010-2011 school year the school will again be designated as Program Improvement (PI).
Since receiving QEIA funds, class sizes have been dramatically reduced to 17-24 students in a typical fourth and fifth grade class. The smaller class sizes have contributed to a continuous increase in student achievement. However, the school is currently in program improvement (PI) status for failure to meet its annual yearly progress (AYP) goals.

Statement of the Problem

Was class-size reduction a major factor in helping the students at Park Avenue Elementary School close the achievement gap and meet their “State Accountability Academic Performance Index (API)” (California Department of Education, 2009) and “Federal Accountability: Adequate Yearly Progress (AYP)” (California Department of Education 2010b)? According to Stecher and Bohnstedt (2000), other factors that could have effected student achievement were the implementation of new curriculum, resource allocation, teacher qualifications, classroom practices, parental involvement, and the student’s overall desire to learn.

The Purpose

The purpose of this study is to determine if Class-Size Reduction alone was key to helping students at the selected school improve their test scores, or if other factors existed.

Theoretical Basis and Organization

Smaller class-sizes greatly affect the educational process, as well as student achievement. However, to get the maximum benefits of class-size reduction classes must
be reduced to 15 students or less. According to the California Teacher’s Association (CTA) (2003) smaller class-sizes positively effects student achievement due to less noise and distractions, which result in better student behavior. McRobbie (1996) states, “schools must deliberately use smaller classes as an opportunity to change instruction, adopt new curricula, changing teaching methods to focus more on providing students with more individual attention; and, increase parental involvement” (p. 5, para. 2).

Based on the above findings, the present study hypotheses are:

- Class size reduction does play a part in helping English Learners achievement proficiency in reading and mathematics.
- A change in curriculum and how this curriculum is presented can affect the achievement of students.
- Class size influences behavior, thus causing less noise, distractions, and an increase in positive behavior.

Limitations

Some limitations of the study are:

- The core group of students in the study are migrant and often leave school for several months at a time.
- Was the use of Houghton Mifflin curriculum for reading consistent among all teachers?
Definition of Terms

**Academic Performance Index (API)**

The Academic Performance Index (API) is a single number ranging from a low of 200 to a high to 1000 that reflects a school’s and local educational agency’s (LEA) or a subgroup’s performance levels based on the results of statewide testing. The API is also used as an additional indicator for federal Adequate Yearly Progress (AYP) requirements. (California Department of Education, 2009)

**Achievement Gap**

“The disparity in academic performance between groups of students, poor versus wealthy schools and between minority and non-minority students” (McCall, Hauser, Cronin, Kingsburg, & Houser, 2006, p. 2, para. 1).

**Adequate Yearly Progress (AYP)**

The measure by which schools, districts, and states are held accountable for student performance under Title I of the No Child Left Behind (NCLB) Act of 2001. Under NCLB Adequate Yearly Progress (AYP) is used to determine if schools are successfully educating their students, (Education Week, 2004, para. 1)

**Class Size Reduction**

The purpose of the Class Size Reduction Program is to ensure that children in public school in kindergarten and grades 1 to 3, inclusive, receive instruction in classrooms where there are not more than 20 pupils. (California Education Code, Section 52122 (ii))

**Economically Disadvantaged**

This number shows the percentage of students eligible to participate in the federal free and reduced –price lunch program or for other public assistance. Participation in these programs is often used as a measure of family income level at a school. (Academic Excellence Indicator System, 2003, para. 1)

**English Learner**

“A student who speaks one or more languages other than English and who is just developing proficiency in English” (Teaching Reading, 2010, “English language learner,” para. 1).
No Child Left Behind Act of 2001

NCLB focuses on reducing class and racial gaps in school performance by creating common expectations for all. NCLB requires schools and districts to focus their attention on the academic achievement of traditionally under served groups of children, such as low-income students, students with disabilities, and students of major racial and ethnic subgroups. NCLB authorizes each state for defining major racial and ethnic subgroups itself. (USLegal, 2010, para. 2)

Poverty

“The state or condition of having little or no money, goods or means of support; condition of being poor; indigent” (“Poverty,” 2010).

Program Improvement (PI)

All Title I funded schools and local education agencies (LEAs) that do not make Adequate Yearly Progress (AYP) as identified for Program Improvement (PI) under the Elementary and Secondary Education Act (ESEA). (California Department of Education 2010, para. 1)

Socio-Economic Status

“Any measure which attempts to classify individuals, families, or households in terms of indicators such as occupation, income, and education” (Marshall & Scott 1998).

Williams Act of 2004

“The Eliezer Williams, et al, vs. State of California, et al, states that all public school students should have equal access to instructional materials, safe, and decent school facilities, and qualified teachers” (California Department of Education, 2010.)
CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Schools across the country are searching high and low for ways to bolster test scores and increase student proficiency in reading and mathematics. Some schools have found success, while others have failed. The push to increase student achievement is especially prevalent in schools where the population is predominantly poor, minority, or English language learners. Schools are reorganizing, purchasing new curriculum, providing professional development for teachers, investing in technology, reducing class sizes, and providing an environment conducive to educational success. The concept that all students will be proficient in English Language Arts (ELA) and mathematics has eluded many.

Schools can provide interventions to help students become proficient in the English language, English Language Arts (ELA), and mathematics; however, a child living in poverty comes to school with an entirely different set of challenges to overcome. These are challenges the school may or may not be equipped to address. Many schools fail to realize they can enhance the learning environment of students, but not the home environment.

The aim of this literature review is to explore the use of class-size reduction to close the achievement gap for English learners from a low socioeconomic background.
Class Size Reduction

Class-size reduction (CSR) was initially implemented in kindergarten through third grades, however, all students benefit from smaller classes. According to Thompson and Cunningham (2001), “smaller classes promote increased learning, and the longer students are in smaller classes, the more they benefit.” English learners, minorities, and students from socio-disadvantaged backgrounds are more successful in smaller classes, which helps to close the achievement gap. “Class-size reduction (CSR) was designed to close the achievement gap between middle class and minority students from a low socio-economic background” (Schwartz, 2003, p. 2, para. 2). In order to reap the benefits of class-size reduction (CSR), McRobbie (1996) states, “Class-size reduction must be used deliberately and must be part of a comprehensive approach in which schools plan creatively and comprehensively to improve instruction.” The deliberate use of class-size reduction includes the purchase of new curriculum, professional development for teachers, setting high expectations for students, and engaging students in the learning process.

Smaller classes encourage a learning environment where teachers focus more on educating students, and less on discipline. “As a result many low performing schools are showing improved reading achievement, more individualized instruction, and better classroom management” (Cohen, Miller, Stonehill, & Geddes, 2000, p. 13). Research shows that class-size reduction (CSR) has far reaching benefits for students. “Smaller classes not only improve student behavior and discipline but also their citizenship and participation in and extracurricular” (Achilles, 2003, p. 8). The National Education Association (2008, p. 2) states the “students with poor attendance are discovering
academic success in smaller classes.” Students enrolled in smaller classes tend to make rapid educational gains compared to their peers in larger classes. Even after moving to larger class in middle and high school the academic gains continue to increase. Students enrolled in smaller classes at the elementary level are more likely to graduate high school and college with honors. The National Education Association (NEA) (2003, p. 1) “supports a class-size of 15 students in regular programs and even smaller for students with exceptional needs”

Smaller classes not only improve the learning experience for students, but teachers also benefit from smaller classes. Krieger (2003, p. 4, para. 2) contends that teachers in smaller classes “use more facial expressions” and “make more eye contact” with their students. Smaller classes allow teachers to incorporate small group instruction, more direct instruction and teach school curriculum quicker and more in-depth, which benefits all students. One of the top reasons class-size reduction increases learning in smaller groups is, “kids can’t get away with not participating, they have to participate. They can’t hide in a corner, they are a part of what’s going on -and if they are a part of what’s going on, they are learning” (California Teachers Association, 2003, p. 3, para. 4). Class-size reduction provides educators an opportunity to identify and provide support with learning disability. Early identification means the student has the necessary support to be successful in school (National Education Association, 2008, p. 3, para. 1).

Class-size reduction has proven effective for all students, regardless of their background. Smaller classes also encourage more parental involvement, parent-teacher contact, and parent satisfaction (WestEd, 1999, p. 2, para. 3). Dr. Charles Achilles, a professor at Seton Hall University, states, “Test scores in California are happily going up.
All group of students have gone up, which has been consistent with all class reduction programs” (California Teachers Association, 2003, p. 2, para. 7).

Class-size reduction is effective however, it comes with a hefty price tag. Small classes means hiring more teachers, and finding space to accommodate the new classes. “The burden of implementation falls disproportionately on urban schools, suffering from poverty, overcrowding, and language barriers, and the need to provide many special services” (Jespen & Rivkon, as cited in Schwartz, 2003, p. 4, para. 3).

Many districts ponder the cost associated with class-size reduction however; the lack of smaller classes has a much higher cost for students of poverty. Minority students from a low-socioeconomic background experience a higher dropout rate and reduced learning potential. The perceived cost of class-size reduction often does not outweigh the benefits to students and society (National Education Association, 2008, p. 3, para. 1).

Although many schools have enjoyed higher test scores, smaller class-sizes and an increase in parental involvement, simply placing students in smaller classes does not automatically equate to higher student achievement. McRobbie (1996, p. 5) “argues that no one knows what is the optimal class-size.” Other comments raised are:

1) How long do students need to be in small classes?
2) Is class-size reduction worth the cost?
3) Is the necessary infrastructure in place to support class-size reduction?
4) Should class-size reduction be used in conjunction with other strategies?

(McRobbie, Finn, & Harman, 1998)
Poverty and Education

“Poverty is not just about money it is how an individual does without resources and with all of the baggage that goes along with being poor” (Slocumb & Payne, 2000, p. 29, para. 1). Smaller classes have proven to close the achievement gap for all students. However, students from low socio-economic backgrounds arrive at school with a unique set of challenges. Some challenges faced by these students include but are not limited to are “limited health care, lack of high quality preschool programs, home life, and poverty” (Kopp, 2009, p. 10). However, the opposite of this trend is evident in families with higher incomes. “Higher income families have access to better resources than students from lower income families” (University of Michigan, n.d, p. 2, para. 1). In many instances schools are not equipped to handle the special educational and social needs of students from a low socio-economic background. According to Kopp (2009, p. 10), “the situation is compounded by the fact that schools were not designed to put children facing extra disadvantages on a level playing field with students in other areas.”

Forces outside of school also have an amazing influence on student achievement. The environment in which a student lives can either positively or negatively effect their educational achievement. The areas where these students reside are often crime and drug ridden, with very few positive adult role models (University of Michigan, n.d., p. 1, para. 1). Students of poverty have lack opportunities outside of school to develop complex language and academic vocabulary. There are also few opportunities to pursue ambitions, explore cultural awareness, and build self-confidence. These students are typically not read to by their parents. The lack of opportunities can result in the lack
of motivation, low self-esteem, and academic failure. Children of poverty are often at risk of academic and behavior problems. Such behavior may include delays in language development and reading, as well as “aggression, violence, social withdrawal, substance abuse, irregular school attendance, and depression” (Pellino, 2001, p. 1, para. 3).

Research suggests that students in impoverished communities may not feel confident in the educational environment. Failing schools are usually located in impoverished communities. “Failing schools are usually filled with poor, minority students and English language learners” (University of Michigan, n.d., p. 2, para. 1). No matter how serious their problems, all disadvantaged students can achieve in better schools than worse ones. In some cases, parents and teachers may not have high expectations for the students’ educational success. This lack of concern results in a “learned helplessness” that needs to be overcome before they are able to live up the standards of education, and thus escape poverty (Orfield & Lee, 2005, p. 37, para 2).

Most students from low socio-economic background have experienced emotional trauma. The living environment is often stressful and emotionally depriving, which can result in “feelings of alienation, inadequacy, depression, and anxiety” (Brophy, 1998, p. 2, para. 2). These behaviors can also result in “aggressive or impulsive behaviors and social withdrawal” (Ciacco, 2000, p. 4, para. 1). These behaviors have a negative effect on student motivation and academic success. Effective teachers can take advantage of smaller class-size and communicate, provide guidance, structure, and challenge students. “Effective educators foster resilience in students and encourage success” (Benard, 1995, p. 3, para. 1).
According to Rothenstein (2008, p. 3, para. 2) children of poverty have little chance for success unless educators join with advocates of social and economic reform to improve the conditions from which students come to school. Teachers are key in making the difference in a child’s learning: Culturally relevant teachers understand that diversity requires new approaches to their craft (Bainbridge & Lasky, 2002). The student teacher relationship enables teachers to observe students more closely and intervene when needed. According to Leroy and Symes (2001), early detection will increase student success in school and life. Effective teachers are tuned into the culture of poverty and the many challenges these students present, and are capable of identifying and assisting at-risk students.

“The rise in the number of children in poverty has contributed to making our classrooms more diverse than ever before,” which “makes teaching and learning more challenging” (Bowman, 1994, p. 1, para. 1; Marlow & Page, 1999, p. 1, para. 2). In addition to being poor students may also be English Learners. As our schools and nation become more diverse, it is imperative that schools and educators are sensitive to the needs and differences of all ethnic groups. “Diversity presents schools with the opportunity to enhance the educational experience for all students” (Pellino, 2001, p. 4, para. 1). Slaven (1998, p. 8, para. 3) states “schools can have a powerful impact on the academic achievement and success of all children by viewing them as at-promise rather than at-risk.”

Just as teachers are key in helping at-risk students reach their full potential, so is the educational environment. Schools should provide students with a curriculum that is challenging, appropriate and aligned with state standards. “It is imperative that schools
develop positive relationships with parents and families, and get them involved with their children’s education and school activities” (Kaiser & Delaney, 1996, p. 70, para. 1).
CHAPTER III

METHODOLOGY

The purpose of the current study is to (a) determine if class-size reduction was the major reason Park Avenue School, Yuba City, California met its annual yearly progress (AYP), or if other factors such as resource allocation, teacher qualifications, classroom practices, parental involvement, or the students overall desire to learn attributed to Park Avenue School, Yuba City, California meeting its annual yearly progress (AYP).

All hypothesis were tested through data gathered from the California Department of Education as well as from the instructional facilitator at Park Avenue School.

Sample Population:

Subjects for this case study were fourth and fifth grade students, that attended Park Avenue School, Yuba City, California, paying special attention to English Language Arts (ELA) and Mathematics. California Standardized Test (CST) scores administered during the 2005-2006, 2006-2007, and 2007-2008 academic school years.

Case Study

This case study was conducted using data from California Standardized Tests over a 3-year period. Park Avenue School's student population is predominantly
English learners, from low socio-economic backgrounds. The school found itself in program improvement (PI) when it was unable to meet its annual yearly progress. As a result of not making our AYP Park Avenue School was able to receive funds from the Quality Education Investment Act (QEIA) of 2006. These funds are to assist schools in closing the achievement gap by reducing class size, improving teacher and principal training, and adding counselors to high schools.

In order to investigate hypothesis 1, children achievement was improved as a direct result of class-size reduction I compared student test scores from the California Standardized Test (CST) Demographics Report for English Language Arts (ELA) and mathematics. The Demographic Report displays the overall number of students tested, student average performance level, mean scale score percentage of students at each performance level and socioeconomic level. Test scores from 2005-2006, 2006-2007, and 2007-2008 will be evaluated to determine if test scores increased, decreased, or remained the same. To test hypothesis 2, if other factors such as resource allocation, teacher qualifications, classroom practices, parental involvement, or the students’ overall desire to learn. I will review student test scores prior to receiving QEIA funding and test scores following QEIA funding. I will also compare student achievement using old mathematics and ELA curriculum with the new ELA and mathematics curriculum.

Data Analysis

The data shows that both fourth and fifth grade student’s test scores increased over the 3-year period. The data does show the greatest increase in student achievement occurred the first year of class-size reduction. I found that as a result of class-size
reduction teachers were able to change their teaching methods by actually using more small groups, cooperative learning, and one-on-one with students that need more individualized help. Educational resources made a big difference. Each fourth and fifth grade classroom has a laptop computer, SmartBoard and projector for the teachers’ use and 5 desktop computers for student use. There are also two dedicated computer labs, one for K-3 and the other for 4th and 5th grade classes. Our school also has a full time technology teacher, speech therapist, psychologist, probation officer, health aide, and nurse.
CHAPTER IV

RESULTS

Based on the above findings the present study hypothesis that:

1. Class size reduction does play a part in helping English Learners achieve proficiency in reading and mathematics.

2. A change in curriculum and how this curriculum is presented can affect the achievement of students.

3. Class size reduction influences behavior, thus causing less noise, distractions, and an increase in behavior.

The data for this investigation was collected using student CST scores downloaded from Edusoft reflecting test scores from the 2005 – 2006, 2006 – 2007, and 2007 – 2008 school years. The demographics report for English Learners displays the overall number of students tested, student average performance level, mean scale score, percentage of students at each performance level and social economically disadvantaged students. See Tables 1-6.

Table 1, 2005-2006 School Year CST Demographics Report for 4th Grade, shows that 84 students were tested in English Language Arts (ELA) and Mathematics. Of the 84 students tested 37 were English language learners (ELL), and 73 were from a low socio-economic background. The mean scale score for all fourth graders tested in ELA was 322.74. The mean scale score for all English language learners was 297.76. The
Table 1

2005-2006 School Year CST Demographic Report for 4th Grade

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<th># of Students</th>
<th>Average Performance Level</th>
<th>Mean Scale Score</th>
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<td>23%</td>
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<td>25%</td>
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<tr>
<td>English Learners</td>
<td>37</td>
<td>2.32</td>
<td>297.76</td>
<td>24%</td>
<td>32%</td>
<td>32%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>Initially Fluent I-FEP</td>
<td>3</td>
<td>2.33</td>
<td>294 N/A</td>
<td>67%</td>
<td>33%</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Redesignated R-FEP</td>
<td>16</td>
<td>3.88</td>
<td>367.44</td>
<td>N/A</td>
<td>N/A</td>
<td>38%</td>
<td>38%</td>
<td>25%</td>
</tr>
<tr>
<td>Sociodisadvantaged</td>
<td>73</td>
<td>2.78</td>
<td>318.47</td>
<td>16%</td>
<td>23%</td>
<td>33%</td>
<td>21%</td>
<td>7%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>84</td>
<td>2.99</td>
<td>321.31</td>
<td>11%</td>
<td>27%</td>
<td>25%</td>
<td>26%</td>
<td>11%</td>
</tr>
<tr>
<td>English Learners</td>
<td>37</td>
<td>2.78</td>
<td>307.65</td>
<td>16%</td>
<td>32%</td>
<td>19%</td>
<td>22%</td>
<td>11%</td>
</tr>
<tr>
<td>Initially Fluent I-FEP</td>
<td>3</td>
<td>2.33</td>
<td>291 N/A</td>
<td>67%</td>
<td>33%</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
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<td>16</td>
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<td>353.81</td>
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<td>6%</td>
<td>19%</td>
<td>56%</td>
<td>13%</td>
</tr>
<tr>
<td>Sociodisadvantaged</td>
<td>73</td>
<td>2.95</td>
<td>318.58</td>
<td>11%</td>
<td>30%</td>
<td>22%</td>
<td>27%</td>
<td>10%</td>
</tr>
</tbody>
</table>
The mean scale score for students from a low socio-economic background was 318.47. The mean scale score for all fourth graders tested in mathematics was 321.31. The mean scale score for all English language learners was 307.65. The mean scale score for students from a low socio-economic background was 318.58. English language learners scored 24.98 points below all fourth graders tested in English language arts (ELA). Students from a low socio-economic background scored 4.27 points lower than all fourth graders tested in English language arts. English language learners scored 13.66 points below all fourth graders tested in mathematics. Students from a low socio-economic background scored 2.73 points below all fourth graders tested in mathematics.

Table 2, 2006-2007 School Year CST Demographics Report for 4th Grade, shows that 84 students were tested in English Language Arts (ELA) and Mathematics. Of the 99 students tested 56 were English language learners (ELL), and 88 were from a low socio-economic background. The mean scale score for all fourth graders tested in ELA was 326.25. The mean scale score for all English language learners (ELL) was 303.52. The mean scale score for students from a low socio-economic background was 319.73. The mean scale score for all fourth graders tested in mathematics was 335.05. The mean scale score for all English language learners (ELL) was 308.58. The mean scale score for students from a low socio-economic background was 327.58. English language learners (ELL) scored 22.73 points below all fourth graders tested in English language arts (ELA). Students from a low socio-economic background scored 6.52 points lower than all fourth graders tested in English language arts. English language learners scored 26.07 points below all fourth graders tested in mathematics. Students from a low socio-economic background scored 7.47 points below all fourth graders tested in mathematics.
Table 2

2006-2007 School Year CST Demographic Report for 4th Grade

<table>
<thead>
<tr>
<th></th>
<th># of Students</th>
<th>Average Performance Level</th>
<th>Mean Scale Score</th>
<th>Far Below Basic</th>
<th>Below Basic</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language Arts</td>
<td>99</td>
<td>2.96</td>
<td>326.25</td>
<td>11%</td>
<td>21%</td>
<td>38%</td>
<td>19%</td>
<td>10%</td>
</tr>
<tr>
<td>English Learners</td>
<td>56</td>
<td>2.46</td>
<td>303.52</td>
<td>16%</td>
<td>30%</td>
<td>45%</td>
<td>9%</td>
<td>N/A</td>
</tr>
<tr>
<td>Initially Fluent I-FEP</td>
<td>2</td>
<td>4</td>
<td>355</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>100%</td>
<td>N/A</td>
</tr>
<tr>
<td>Redesignated R-FEP</td>
<td>12</td>
<td>4.08</td>
<td>375.5</td>
<td>N/A</td>
<td>N/A</td>
<td>25%</td>
<td>42%</td>
<td>33%</td>
</tr>
<tr>
<td>Sociodisadvantaged</td>
<td>88</td>
<td>2.83</td>
<td>319.73</td>
<td>13%</td>
<td>22%</td>
<td>42%</td>
<td>18%</td>
<td>6%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>99</td>
<td>3.13</td>
<td>335.05</td>
<td>3%</td>
<td>35%</td>
<td>20%</td>
<td>28%</td>
<td>13%</td>
</tr>
<tr>
<td>English Learners</td>
<td>56</td>
<td>2.66</td>
<td>308.98</td>
<td>5%</td>
<td>50%</td>
<td>25%</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Initially Fluent I-FEP</td>
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<td>4.5</td>
<td>411.5</td>
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<td>N/A</td>
<td>N/A</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Redesignated R-FEP</td>
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<td>4.17</td>
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<td>67%</td>
<td>25%</td>
</tr>
<tr>
<td>Sociodisadvantaged</td>
<td>88</td>
<td>3.03</td>
<td>327.58</td>
<td>3%</td>
<td>39%</td>
<td>20%</td>
<td>26%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Table 3, 2007-2008 School Year CST Demographics Report for 4th Grade, shows that 71 students were tested in English Language Arts (ELA) and Mathematics. Of the 71 students tested in English Language Arts (ELA) 34 were English language learners (ELL), and 71 were from a low socio-economic background. Of the 72 students tested in Mathematics 72 were English language learners (ELL), and 72 were from a low socio-economic background. The mean scale score for all fourth graders tested in ELA was 337.39. The mean scale score for all English language learners (ELL) was 309.97. The mean scale score for students from a low socio-economic background was 337.39. The mean scale score for all fourth graders tested in mathematics was 348.42. The mean scale score for all English language learners (ELL) was 314.03. The mean scale score for students from a low socio-economic background was 348.42. English language learners (ELL) scored 27.42 points below all fourth graders tested in English language arts (ELA). All students tested were from a low socio-economic background. English language learners scored 34.39 points below all fourth graders tested in mathematics. All students tested were from a low socio-economic background.

Table 4, 2005-2006 School Year CST Demographics Report for 5th Grade, shows that 82 students were tested in English Language Arts (ELA) and Mathematics. Of the 82 students tested 37 were English language learners (ELL), and 74 were from a low socio-economic background. The mean scale score for all fifth graders tested in English Language Arts (ELA) was 320.09. The mean scale score for all English language learners (ELL) was 288.41. The mean scale score for students from a low socio-economic background was 311.97. The mean scale score for all fifth graders tested in mathematics was 328.77. The mean scale score for all English language learners (ELL) was 293.27.
Table 3

2007-2008 School Year CST Demographic Report for 4th Grade

<table>
<thead>
<tr>
<th></th>
<th># of Students</th>
<th>Average Performance Level</th>
<th>Mean Scale Score</th>
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<th>Below Basic</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3.24</td>
<td>337.39</td>
<td>6%</td>
<td>20%</td>
<td>35%</td>
<td>24%</td>
<td>15%</td>
</tr>
<tr>
<td>English Learners</td>
<td>34</td>
<td>2.62</td>
<td>309.97</td>
<td>12%</td>
<td>35%</td>
<td>35%</td>
<td>15%</td>
<td>3%</td>
</tr>
<tr>
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<td>N/A</td>
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<td>67%</td>
</tr>
<tr>
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<td>N/A</td>
<td>9%</td>
<td>73%</td>
<td>18%</td>
</tr>
<tr>
<td>Sociodisadvantaged</td>
<td>71</td>
<td>3.24</td>
<td>337.39</td>
<td>6%</td>
<td>20%</td>
<td>35%</td>
<td>24%</td>
<td>15%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>72</td>
<td>3.35</td>
<td>348.42</td>
<td>4%</td>
<td>22%</td>
<td>35%</td>
<td>13%</td>
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</tr>
<tr>
<td>English Learners</td>
<td>35</td>
<td>2.77</td>
<td>314.03</td>
<td>9%</td>
<td>31%</td>
<td>40%</td>
<td>14%</td>
<td>6%</td>
</tr>
<tr>
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<td>5</td>
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<tr>
<td>Redesignated R-FEP</td>
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<td>4.64</td>
<td>414</td>
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<td>9%</td>
<td>18%</td>
<td>73%</td>
</tr>
<tr>
<td>Sociodisadvantaged</td>
<td>72</td>
<td>3.35</td>
<td>348.42</td>
<td>4%</td>
<td>22%</td>
<td>35%</td>
<td>13%</td>
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</tbody>
</table>
## Table 4

**2005-2006 School Year CST Demographic Report for 5th Grade**

<table>
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<th>Average Performance Level</th>
<th>Mean Scale Score</th>
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<th>Below Basic</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
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</thead>
<tbody>
<tr>
<td><strong>English Language Arts</strong></td>
<td>82</td>
<td>2.77</td>
<td>320.09</td>
<td>22%</td>
<td>15%</td>
<td>41%</td>
<td>9%</td>
<td>13%</td>
</tr>
<tr>
<td><strong>English Learners</strong></td>
<td>37</td>
<td>2.08</td>
<td>288.41</td>
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<td>19%</td>
<td>41%</td>
<td>3%</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Initially Fluent I-FEP</strong></td>
<td>11</td>
<td>2.91</td>
<td>320.36</td>
<td>9%</td>
<td>9%</td>
<td>64%</td>
<td>18%</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Redesignated R-FEP</strong></td>
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<td>3.67</td>
<td>361</td>
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<td>N/A</td>
<td>67%</td>
<td>N/A</td>
<td>33%</td>
</tr>
<tr>
<td><strong>Sociodisadvantaged</strong></td>
<td>74</td>
<td>2.61</td>
<td>311.97</td>
<td>24%</td>
<td>15%</td>
<td>45%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>82</td>
<td>2.9</td>
<td>328.77</td>
<td>11%</td>
<td>33%</td>
<td>23%</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td><strong>English Learners</strong></td>
<td>37</td>
<td>2.43</td>
<td>293.27</td>
<td>14%</td>
<td>51%</td>
<td>19%</td>
<td>11%</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Initially Fluent I-FEP</strong></td>
<td>11</td>
<td>3.09</td>
<td>341</td>
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<td>18%</td>
<td>64%</td>
<td>9%</td>
<td>9%</td>
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<tr>
<td><strong>Redesignated R-FEP</strong></td>
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<td>373.17</td>
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<td>33%</td>
<td>17%</td>
</tr>
<tr>
<td><strong>Sociodisadvantaged</strong></td>
<td>74</td>
<td>2.84</td>
<td>323.05</td>
<td>12%</td>
<td>32%</td>
<td>26%</td>
<td>19%</td>
<td>11%</td>
</tr>
</tbody>
</table>
The mean scale score for students from a low socio-economic background was 323.05. English language learners (ELL) scored 31.68 points below all fifth graders tested in English language arts (ELA). Students from a low socio-economic background scored 8.12 points lower than all fifth graders tested in English language arts (ELA). English language learners (ELL) scored 35.5 points below all fifth graders tested in mathematics. Students from a low socio-economic background scored 5.72 points below all fifth graders tested in mathematics.

Table 5, 2006-2007 School Year CST Demographics Report for 5th Grade, shows that 86 students were tested in English Language Arts (ELA) and Mathematics. Of the 82 students tested 36 were English language learners (ELL), and 74 were from a low socio-economic background. The mean scale score for all fifth graders tested in English Language Arts (ELA) was 323.98. The mean scale score for all English language learners (ELL) was 295.58. The mean scale score for students from a low socio-economic background was 319.73. The mean scale score for all fifth graders tested in mathematics was 320.43. The mean scale score for all English language learners (ELL) was 293.25. The mean scale score for students from a low socio-economic background was 315.43. English language learners (ELL) scored 28.4 points below all fifth graders tested in English language arts (ELA). Students from a low socio-economic background scored 4.25 points lower than all fifth graders tested in English language arts (ELA). English language learners (ELL) scored 27.18 points below all fifth graders tested in mathematics. Students from a low socio-economic background scored 5 points below all fifth graders tested in mathematics.
<table>
<thead>
<tr>
<th></th>
<th># of Students</th>
<th>Average Performance Level</th>
<th>Mean Scale Score</th>
<th>Far Below Basic</th>
<th>Below Basic</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language Arts</td>
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<td>2.94</td>
<td>323.98</td>
<td>13%</td>
<td>15%</td>
<td>42%</td>
<td>26%</td>
<td>5%</td>
</tr>
<tr>
<td>English Learners</td>
<td>36</td>
<td>2.28</td>
<td>295.58</td>
<td>25%</td>
<td>28%</td>
<td>42%</td>
<td>6%</td>
<td>N/A</td>
</tr>
<tr>
<td>Initially Fluent I-FEP</td>
<td>2</td>
<td>3</td>
<td>330</td>
<td>N/A</td>
<td>N/A</td>
<td>100%</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Redesignated R-FEP</td>
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<td>15%</td>
<td>60%</td>
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<tr>
<td>Sociodisadvantaged</td>
<td>74</td>
<td>2.82</td>
<td>319.73</td>
<td>15%</td>
<td>18%</td>
<td>42%</td>
<td>22%</td>
<td>4%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>86</td>
<td>2.87</td>
<td>320.43</td>
<td>12%</td>
<td>26%</td>
<td>31%</td>
<td>27%</td>
<td>5%</td>
</tr>
<tr>
<td>English Learners</td>
<td>36</td>
<td>2.42</td>
<td>293.25</td>
<td>22%</td>
<td>33%</td>
<td>28%</td>
<td>14%</td>
<td>3%</td>
</tr>
<tr>
<td>Initially Fluent I-FEP</td>
<td>2</td>
<td>4</td>
<td>361.5</td>
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<td>N/A</td>
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<tr>
<td>Redesignated R-FEP</td>
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<tr>
<td>Sociodisadvantaged</td>
<td>74</td>
<td>2.78</td>
<td>315.43</td>
<td>14%</td>
<td>27%</td>
<td>30%</td>
<td>27%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Table 6, 2007-2008 School Year CST Demographics Report for 5th Grade, shows that 89 students were tested in English Language Arts (ELA) and Mathematics. Of the 89 students tested 41 were English language learners (ELL), and 89 were from a low socio-economic background. The mean scale score for all fifth graders tested in English Language Arts (ELA) was 331.67. The mean scale score for all English language learners (ELL) was 305.93. The mean scale score for students from a low socio-economic background was 331.67. The mean scale score for all fifth graders tested in mathematics was 367.3. The mean scale score for all English language learners (ELL) was 330.63. The mean scale score for students from a low socio-economic background was 367.3. English language learners (ELL) scored 26.74 points below all fifth graders tested in English language arts (ELA). All students tested were from a low socio-economic background. English language learners (ELL) scored 36.67 points below all fifth graders tested in mathematics. All students tested were from a low socio-economic background.

Student achievement improved as a result of class size reduction. I compared test scores from the California Standardized Test (CST) Demographic Report for English Language Arts and Mathematics. The data shows that both fourth and fifth grade student’s test scores increased in student achievement occurred during the 2007-2008 school year, the first year of class size reduction. Test scores from 2005-2006, 2006-2007, and 2007-2008 were evaluated to determine if test scores increased, decreased or remained the same. The first year of class-size reduction at Park Avenue School was the 2007-2008 school year.
<table>
<thead>
<tr>
<th>Category</th>
<th># of Students</th>
<th>Average Performance Level</th>
<th>Mean Scale Score</th>
<th>Far Below Basic</th>
<th>Below Basic</th>
<th>Basic</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language Arts</td>
<td>89</td>
<td>3.13</td>
<td>331.67</td>
<td>7%</td>
<td>10%</td>
<td>51%</td>
<td>28%</td>
<td>4%</td>
</tr>
<tr>
<td>English Learners</td>
<td>41</td>
<td>2.54</td>
<td>305.93</td>
<td>15%</td>
<td>20%</td>
<td>63%</td>
<td>2%</td>
<td>N/A</td>
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<td>Initially Fluent I-FEP</td>
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<td>N/A</td>
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<td>55%</td>
<td>5%</td>
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<tr>
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<td>51%</td>
<td>28%</td>
<td>4%</td>
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<tr>
<td>Mathematics</td>
<td>89</td>
<td>3.52</td>
<td>367.3</td>
<td>6%</td>
<td>11%</td>
<td>27%</td>
<td>38%</td>
<td>18%</td>
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<tr>
<td>English Learners</td>
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<td>3</td>
<td>330.63</td>
<td>7%</td>
<td>22%</td>
<td>41%</td>
<td>22%</td>
<td>7%</td>
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<tr>
<td>Initially Fluent I-FEP</td>
<td>2</td>
<td>4</td>
<td>396.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>100%</td>
<td>N/A</td>
</tr>
<tr>
<td>Redesignated R-FEP</td>
<td>20</td>
<td>4</td>
<td>392.7</td>
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<td>N/A</td>
<td>25%</td>
<td>50%</td>
<td>25%</td>
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<tr>
<td>Sociodisadvantaged</td>
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<td>3.52</td>
<td>367.3</td>
<td>6%</td>
<td>11%</td>
<td>27%</td>
<td>38%</td>
<td>18%</td>
</tr>
</tbody>
</table>
From 2005-2008 fourth grade students increased their English Language Arts (ELA) test scores by 14.65 points. The largest growth was between 2006-2007 and 2007-2008 with an increase of 11.12. From 2008-2008 the fourth grade students increased their mathematics test scores by 27.11 points. Growth in mathematics has remained fairly steady over the 3-year period. From 2005-2006 to 2006-2007 fourth grade math test scores grew by 13.44 points. From 2006-2007 mathematics grew by 13.37 points. A summary of these results is shown in Figures 1 and 2.

Figure 1. Fourth grade ELA longitudinal analysis.

Figure 2. Fourth grade mathematics longitudinal analysis.
Longitudinal Analysis

From 2005-2006 the fifth grade students increased their English Language Arts (ELA) test scores by 11.58 points. There was slight growth from the 2005-2006 to 2006-2007 school year with a 3.89 point increase. From 2006-2007 to 2007-2008 school year the fifth grade test scores increased by 7.89 points. From 2005-2008 the fifth grade students increased their mathematics test scores by an amazing 38.19 points. There wasn’t any growth between 2005-2007 school years. As a matter of fact test scores decreased by 8.34 points. However, the fifth grade students showed a tremendous growth of 46.53 points between 2006-2008 (see Figures 3 and 4).

Figure 3. Fifth grade ELA longitudinal analysis.
Figure 4. Fifth grade mathematics longitudinal analysis.
CHAPTER V

DISCUSSION

Overview

The purpose of this study is to determine if class-size reduction was a key factor in helping students close the achievement gap, or determine if there were other factors involved. This study will investigate if class-size reduction alone was key to helping students at the selected school will improve their test scores, or if other factors existed. Was class-size the major factor in helping the students at the selected school close the achievement gap? Other factors that could have effected student achievement were the implementation and resource allocation, teacher qualifications, classroom practices, parental involvement, and student overall desire to learn (CSR Research Consortium 1999).

Limitations

Some limitations of the study are as listed:

- The core group of students in the study are migrants which often leave school for several months at a time.
- Was the use of Houghton Mifflin curriculum for reading consistent among all teachers?
Discussion and Evaluation of Results

Hypothesis 1

Class size reduction does play a part in helping English Learners achieve proficiency in reading and mathematics.

Class size reduction played an integral part in helping English learners obtain proficiency in both reading and mathematics. Class size reduction creates classrooms more focused on student learning than discipline. Teachers in small classes are able to build lasting and caring relationships with their students and their families. Students in smaller classes receive more one-on-one attention and direct instruction than students in larger classes. The effects of class-size reduction are dramatic and long lasting.

Hypothesis 2

A change in curriculum and how this curriculum is presented can affect the achievement of students. The previous math curriculum was very scripted, requiring the students to be placed in heterogeneous and mixed ability groups. There was no technology component associated with the curriculum. This curriculum offered very little opportunity for mastery of key concepts. The current math curriculum is very interactive. The students work in small groups at their own pace. More advanced students are challenged by the curriculum. Struggling students are given the opportunity for small group instruction and success in mathematics. All students benefit from the technology component, which creates personalized assessments with immediate feedback for each student. Adding a dedicated computer lab for fourth and fifth graders along with the addition of computers within the classroom and SmartBoard technology many students are embracing the technology component of the new curriculum. Teachers who
previously were afraid to use technology have since found a comfort level that is passed on to their students. Teachers are also teaching the current curriculum with fidelity, as it was meant to be taught, without supplementing the materials.

**Hypothesis 3**

Class size reduction influences behavior, because there is less noise, distractions, and an increase in on-task behavior. Smaller class size encourages active participation by all parties, students and teachers. Which leaves little time for behavioral problems. Students that are actively engaged do not have time to be off task or distract other students from the learning process.

The data is holding steady, currently English Learners in the fourth and fifth grades are continuously improving academically. Class-size reduction remains in place, as well as resource allocation, teacher qualifications, and classroom practices. However, a decline in parental involvement and students overall desire to learn have decreased. It has been noted that due to the current economic crisis more parents are working multiple jobs or longer hours, which does not leave sufficient time to volunteer in their children’s classrooms. Not only are parents not volunteering in classrooms many are unable to assist their children with their homework assignments. These duties have now fallen on older siblings, family members, friends, extended families and day care providers. Many students have lost a desire to learn because they are concerned about their parent’s unavailability, where they will live, now that their parent or in some instances parents are unemployed or barely making ends meet. Most students wish there was something they could do to contribute to the family. As a result many find themselves babysitting
younger siblings after school, unable to complete homework assignments, and often not getting sufficient rest.

Further Research

- Further research should concentrate on the areas of curriculum and teaching strategies, CELDT levels, whether or not the child is migrant, student home life, home language proficiency, parental involvement and parental education.

- Further research should focus on core curriculum. The curriculum should provide opportunities for front loading, accessing background knowledge, and scaffolding. The curriculum should also include Specially Designed Academic Instruction in English (SDAIE) strategies embedded in the lesson. If teachers teach the curriculum with fidelity this should make a difference in the academic performance of students.

- Further research should focus on whether or not a student's California English Language Development Test (CELDT) level affects their academic performance. There must be a correlation between a student's academic performance and their language proficiency. Also is a child is proficient in their home language will this affect their proficiency in their second language?

- Further research should focus on whether or not a student's home life affects their academic performance. Who does the child live with? What are the educational levels of the parents? Who resides in the home can either positively or negatively affect a child's academic performance. Parental involvement can also be researched to see how a parent's involvement in their child's education can affect a child's academic performance.
Further research should focus on whether migrant has a positive or negative effect on a student's academic performance.

Further research should focus on a child's academic performance once the child has left elementary school where class-size reduction was in place. Once a child leaves elementary school they are often experience larger class sizes. These larger class sizes can effect a child's academic performance.
REFERENCES


California Education Code. *Class Size Reduction. Section 52122 B (ii)*. Retrieved from [http://www.leginfo.ca.gov/cgi-bin/displaycode?section=edc&group=52001-53000&file=52120-52128.5](http://www.leginfo.ca.gov/cgi-bin/displaycode?section=edc&group=52001-53000&file=52120-52128.5)


