Comparison of Eighth Grade California Standards Test in Sixth through Eighth Grade and Kindergarten through Eighth Grade Schools

A Thesis Presented to
The Faculty of the School of Education
California State University Channel Islands
In (Partial) Fulfillment
of the Requirements for the Degree
Masters of Arts

by
Mary E.H. Lang
August 2009
Abstract

This research examined the academic success rate of exiting eighth grade students in the state of California from both kindergarten through eighth grade configured schools and sixth through eighth grade configured schools. This study was conducted using publicly available data on the California State Department of Education homepage. The research looks at a three-year comparison of California Standards Tests (CST) for the following subjects: language arts, algebra 1, social science and science. These results were analyzed to determine if there was a relationship between grade configuration and academic success.
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Introduction

The state of California has many different grade configurations that school districts can choose to implement. Some districts choose to have kindergarten through fifth grade school, sixth through eighth grade middle schools, and then students enter high school. Another common configuration is to have kindergarten through eighth grade schools, then the students enter high school. Another option is the have kindergarten through sixth grade, then seventh and eighth grade junior high schools and then students enter high school. All these configurations have their pros and cons and many researchers have conducted comparison studies to see if there is a correlation between grade configuration and academic success.

Many parents believe that grade configuration and academic success are linked. My experience with parents shows that many have concerns when it comes to which grade configuration better prepares middle school aged children for high school. Some parents believe that students who attend a kindergarten through eighth grade configured school are not ready for high school. From a 2009 survey conducted at Camarillo Academy of Progressive Education, a k-12 charter in Camarillo, California, the top five reasons that parents choose a kindergarten through eighth grade configured school over a traditional sixth through eighth grade middle schools are: more one on one time attention from the teachers, smaller class sizes, fewer behavior problems (fewer cliques and bullying), increased parental participation and sense of community among peers. Some of the concerns expressed from those parents were: fewer competitive sports programs, fewer elective choices, and students being more responsible for their own education.
(teachers at the kindergarten through eighth grade configured school will seek out
students who are struggling instead of struggling students having to go to the teacher).

Review of Literature

Research supporting a relationship between grade configuration and academic success

There are many research studies that support a positive relationship between
grade configurations, more specifically a kindergarten through eighth grade configured
school, and academic success. Herman (2004) believes that returning to the kindergarten
through eighth grade configured school may be one of the best means to meeting the
physical, academic, social, mental and emotional challenges of middle school students (p.
35). Hough (2005) discovered through his research that students in grades six, seven, and
eight who attended “elemiddle” schools (defined as schools that contain grades
kindergarten through eighth in a single school setting), scored higher than their peers in
other grade configured schools as measured by standardized achievement tests and state
assessment exams. He found that the “elemiddle” schools have higher levels of parent
involvement and are smaller in size (p. 8).

Offenberg (2001) conducted a longitudinal study of the effects of kindergarten
through eighth grade configured schools and six through eighth grade middle school
achievement and the effects the grade configuration had on the students’ academic
achievement in high school. His study of 80 different schools (40 kindergarten through
eighth grade and 40 sixth through eighth grade) in Philadelphia concluded that students in
the kindergarten through eighth grade configured schools had higher academic success
than those in the sixth through eighth grade configured middle schools. In his
longitudinal research he found that students who attended a kindergarten through eighth
grade school were eleven percent more likely to be accepted into the most challenging high schools. Offenberg also found that students who attended kindergarten through eighth grade had a higher grade point average while attending high school than their peers who attended a traditional sixth through eighth grade middle school. Offenburg acknowledges that his study did not take into account that kindergarten through eighth grade configured schools may have fewer eighth grade students than sixth through eighth grade configured schools and this may be a factor in the higher achievement reported (p.28).

According to Simmons and Blyth (1978) the decline in self esteem that occurs during the middle school years, could be linked with the difficult transition to middle school at the same time as pubertal development. Their research found that the transition from a kindergarten through fifth grade school to a sixth through eighth grade school is detrimental to students’ self esteem, especially the females (p. 151). Eccles and Midgley (1991) also found that middle school creates an “alienating environment” that has a negative impact on a students’ sense of belonging and connection to their school. They found that most kindergarten through eighth grade systems are more personal than the traditional sixth through eighth grade middle schools and have many advantages for early adolescents (p. 531).

Simmons and Blyth (1978) found that kindergarten through eighth grade configured schools supported students’ involvement with their peers and extracurricular activities. The researchers also stated that students in their study reported a greater sense of belonging as compared to students in a sixth through eighth grade configured middle school (p. 158). Gewertz (2004) interviewed a principal from Baltimore whose school
was participating in a district wide grade restructuring which turned the kindergarten through fifth grade schools into kindergarten through eighth grade schools. The principal, Shuronia B. Jacox, said, “The young teenagers don’t act up as much as they do in the stand-alone middle schools. They serve as tutors, safety patrols, and role models for the youngest students, walking them protectively to the cafeteria for lunch. The eighth graders have been here so long that teachers know all their siblings, their troubles and their birthdays” (p. 1). According to Look (2001), by the end of eighth grade, students in the kindergarten through eighth grade configured schools showed higher self esteem, less victimization and bullying by other students, greater levels or participation in extracurricular activities and healthier adolescent development than students who attend a sixth through eighth grade configured middle school (p. 1).

Wallis (2005) brings up the point that kindergartens through eighth grade schools are better positioned to implement the ideas of the middle school model. She states, “Not only do these more intimate schools tend to foster strong teacher-student relationships, but they often put their older students in positions where they can exercise judgment and leadership. Along with grownup responsibilities, kindergarten through eighth grade schools tend to still offer the occasional and still wanted hug from a teacher” (p. 166).

Yecke (2006) believes that “contemporary middle schools have become places where discipline is often lax and intermittent. In this year of flexible education options, kindergarten through eighth grade schools and traditional sixth through eighth grade middle schools can coexist, provided that the middle schools embrace standards and accountability. The key to renewing middle grade education in the United State is to treat it as education rather than as a time for personal adjustment” (p.22).
Another factor affecting academic success is school transitions. Students who attend a kindergarten through eighth grade configured school only transition once between kindergarten and high school. On the other hand, students who attend a kindergarten through fifth grade than a sixth through eighth grade middle school and then a high school must go through two school transitions. Alspaugh (1999) found a significant achievement loss during each transition year. His study indicated that most students recovered from this loss after a single year, and that students with fewer school transitions would need fewer years to make up for achievement gaps lost during school transitions. Alspaugh studied 16 rural and small-town school districts looking at students who attended a sixth through eighth grade configured school and those who attended a kindergarten through eighth grade configured school. “The findings imply that students placed in relatively small cohort groups for long spans of time experience more desirable outcomes” (Alspaugh, 1998 p. 25)

Research that supports no relationship between grade configuration and academic success

As school budgets decrease across the state of California many schools are looking at grade configurations as a way to close campuses to save money. These school districts, parents, principals, teachers and policymakers are requesting research to help determine what grade configurations best meet the needs of the students in various grade levels. The Northwest Regional Educational Laboratory (NWREL) concluded that very little evidence exists to determine a correlation between grade configuration and academic success. Paglin and Fager (1997) conducted a controlled study showing that sixth graders who attended a kindergarten through eighth grade configured school had a higher academic success rate than sixth graders at a middle school, but didn’t
demonstrate how the grade configuration affected or didn’t affect the academic success of students at any other grade level. The NWREL found that many studies do not control for school size and social economic factors both which may attribute to academic success rather than grade configuration.

Many educators feel that there is not a magic grade configuration that will cause all students to be academically successful. There are so many other factors that attribute to academic success and trying to find a make a controlled correlation between academic success and grade configuration is not possible. Herman (2004) stated that researchers need to remember, “No grade configuration is as important as instructional leaders, skilled and creative teachers, high and reasonable expectations for students, visionary central office staff, strong parental involvement, community support and equitable fiscal resources” (p. 36). To create effective schools, school districts need to study strengths and weaknesses of the various configurations to make the best decisions for their individual school district. “Rather than debate which grade configuration is best for middle grades, we would be better off expending our energy creating a curriculum that intellectually engages and inspires young adolescents, pushing for organized structures that support high-quality relationships, and finding better ways to reach our families and communities” (Beane & Lipka, 2006, p.30). Anfara and Buehler (2005) note that “no sequence of grades is perfect or, in itself, guarantees student academic achievement and healthy social and emotional development” (p. 57).
Theoretical Template

The reoccurring theme in most of the articles about the relationship between grade configuration and academic success can be defined through the resource dependency theory. According to Euske and Roberts (2001) “The theory (resource dependency) is founded on the assumption that organizations are dependent on their environment for resources and services required for survival” (p.52). Parental involvement was a repeated factor for success in every article. Parents were seen as an important resource to the academic success of students. Middle school programs are dependent on the resources they can pull from the outside environment. Another requiring factor was extracurricular activities and the affects they had on students’ self esteem. The articles showed a positive relationship between extracurricular activities and positive self-esteem. Higher student self-esteem had a positive correlation with academic success.

Research Question

What is the relationship between middle grade school configuration and academic success? How do eighth grade California Standards Test (CST) results compare in sixth through eighth grade and kindergarten through eighth grade configured schools? Does it affect specific academic areas differently?

Personal Assumption

I believe my research will find a relationship between academic success and grade configuration. From looking at test scores from 2006, 2007 and 2008, I will find that there is a relationship between those eighth grade student test scores from the kindergarten through eighth grade configured school and those who attend a sixth through eighth grade configured school. I anticipate my data analysis of eighth grade test
scores to determine that kindergarten through eighth grade configured schools have higher academic success rates than sixth through eighth grade configured schools. I believe that the greatest discrepancy between scores will be in the areas of Language Arts and Social Sciences. I anticipate that the math scores will be similar with the scores from the kindergarten through eighth grade scoring only slightly higher than those who attend a sixth through eighth grade configured school.
Method

Context

This study used eighth grade CST results from 2006, 2007 and 2008. The students were tested on math, science, social studies and language arts. Academic success was defined as the percentage of students who score in the proficient or advanced bands in each testing category. CST information is publicly available on the Internet for groups that are greater than ten students. This study looked at CST data from forty similar schools located in various regions of California.

Participants

To select the schools for this study and determine that they were similar, a list of all kindergarten through eighth grade configured schools in the state of California was created using the Great Schools website. These schools were then put into three categories; small, medium, and large sized schools. A small kindergarten through eighth grade school was defined as those schools with less than 475 students currently enrolled. A medium sized kindergarten through eighth grade configured school was defined as those schools with a student enrollment range of 476 through 750 students. Large kindergarten through eighth grade configured schools was defined as those whose enrollment exceeded 751 students. This study focused on middle sized schools. The first step was to select the kindergarten through eighth grade schools eliminating any schools that did not meet the middle school size requirement. Next the schools had to have been in existence for at least three years and had not changed grade configurations in those three years. Lastly no two schools in the same district or town were chosen. This left
twenty kindergarten through eighth grade schools that were determined to be eligible for
the study.

To find the matching twenty middle schools, random school districts were
selected off the Great Schools website. The school district or town could not match the
list from the kindergarten through eighth grade school list. The middle school had to
have an enrollment between 476 and 750 students to be eligible. The middle school also
had to have been in existence for at least three year with the same grade configuration.
The first twenty randomly selected schools that met all three criteria were chosen to be in
the study.

Table 1 shows the demographic information available on each of the forty
selected schools. The information provided in Table 1 was adapted from information
located on the California STAR website (http://star.cde.ca.gov).
<table>
<thead>
<tr>
<th>School</th>
<th>Grade</th>
<th>Zip</th>
<th>City</th>
<th>School</th>
<th>Class</th>
<th>% Economically</th>
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<td>K-8</td>
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<td>Adelanto</td>
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<td>78.2</td>
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<td>Herald</td>
<td>510</td>
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<td>37.7</td>
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<td>Atwater</td>
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</table>
The CST is part of the California Standardized Testing and Reporting (STAR) program. The purpose of the STAR program is to determine if students are acquiring the knowledge and skills identified in the California academic standards. Students attending California public school who are registered in grades two through eleven participate in the STAR program each spring. The number of tests varies per grade level. All schools must administer the CST within a 21-day window. The window is ten days before and ten days after the day when 85 percent of the instructional year is completed. Teachers throughout California administer the CST in the same manner, following a test administration handbook and are required to view a video each year explaining the process of how to accurately administer the test to students. This controls for teacher input and the amount of time each child has to prepare for the exam.

Each teacher must sign a security affidavit each year that they administer the California CST. In the affidavit teachers promise not to divulge the contents of the tests to any other person through verbal, written or any other means of communication. Teachers also promise not to copy any part of the test and keep the tests secure. The teacher cannot review any test questions with students or help students prepare their answer documents in anyway. The teacher promises to administer the test in accordance with the directions for administration given to each teacher prior to test day. At the end of the affidavit, the teacher acknowledges that he or she has been trained on how to administer the test by administration. This affidavit is another way for the state to control for the teacher administering the test.
The CST score for each student is compared to preset criteria to determine if the student’s performance on the test is advanced, proficient, basic, below basic, or fall below basic. The state of California has set the target for all students to score at the proficient and advanced levels. The CST has a scale score of 150 to 600 on each subtest. The minimum scale score to define a student scoring proficient is 350. The minimum scale score defined as advanced varies by test.

Scores are reported to individual students and they are aggregated in reports to the public for individual schools, school districts, counties and the state. The test results are also disaggregated by grade level, gender, economic disadvantage, major racial and ethnic groups, students with disabilities, and English learners for the public.

The CST’s are a large part of California’s accountability system for schools and district. The test results are the major component used for calculating each school’s Academic Performance Index (API). These results are also used for determining if elementary and middle schools are making adequate yearly progress in helping all students become proficient on the state’s academic content standards as required by the federal No Child Left Behind Act of 2001.

According to the California Department of Education website, all CST item questions are reviewed by a content-area Assessment Review Panel (ARP). The ARP is looking for content validity within the tests. Their role is to make sure that the test matches what it is intended to test and in this case that the questions are aligned with the California Content Standards for each grade level and subject. All members of the ARP have extensive experience in K-12 assessments, particularly in their subjects of expertise and are current and former teachers, program specialists, administrators, curriculum
experts and other educational professionals. In order to serve on the ARP all members must hold at least a bachelor’s degree and most have advanced degrees. The goal is to ensure that the members of the ARP are a representation of gender, geographic regions and ethnic groups in California.

The following data and test descriptions used in this research study were found in the public document California Standards Tests Technical Report for the Spring 2008 Administration written by the California Department of Educations Standards and Assessment Division. Due to confidentiality of student records, this site does not report student scores of groups of 10 or fewer students. Individual results are only available to parents or guardians of that child and can only be obtained through the school district in which the child was administered the test. This study only used group test results not individual scores. This study examined student academic success by studying the CST results of eighth graders for algebra 1, language arts, social science and science.

Language Arts. The California Language Arts test for grade eight has 75 multiple-choice questions. All questions were four-option multiple choice. This exam assesses the California Language Arts standards for grade eight. In 2008, the mean raw score was 44.20 with a standard deviation of raw scores of 14.08. The reliability of this exam was 0.93 which is above the level considered acceptable for such tests.

Table 2: CST Language Arts Reporting Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Standards</th>
<th>CST items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>Word Analysis and Vocabulary</td>
<td>9 items</td>
</tr>
<tr>
<td></td>
<td>Reading Comprehension</td>
<td>18 items</td>
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<td></td>
<td>Literary Response and Analysis</td>
<td>15 items</td>
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<tr>
<td>Writing</td>
<td>Writing Strategies</td>
<td>20 items</td>
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<tr>
<td></td>
<td>Writing Conventions</td>
<td>13 items</td>
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</table>
Algebra 1. The California Mathematics test for grade eight has 65 multiple-choice questions. All questions were four-option multiple choice. Students who completed or were enrolled in a standard-based specific course titled Algebra 1 took the Algebra 1 CST. In 2008, the mean raw score was 34.84 with a standard deviation of raw scores of 12.39. The reliability of this exam was 0.92 which is above the level considered acceptable for such tests. This exam assesses the California Algebra 1 standards.

Table 3: CST Algebra 1 Reporting Clusters

<table>
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<th>Cluster</th>
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<th>CST items</th>
</tr>
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<td>Number Properties, Operations and Linear Equations</td>
<td>1.0-5.0</td>
<td>17 items</td>
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<tr>
<td>Graphing and Systems of Linear Equations</td>
<td>6.0-9.0</td>
<td>14 items</td>
</tr>
<tr>
<td>Quadratic and Polynomials</td>
<td>10.0, 11.0, 14.0, and 19.0-23.0</td>
<td>21 items</td>
</tr>
<tr>
<td>Functions and Rational Expressions</td>
<td>12.0, 13.0 and 15.0-18.0</td>
<td>13 items</td>
</tr>
</tbody>
</table>

Social Science. The California Social Science test for grade eight has 75 multiple-choice questions. All questions were four-option multiple choice. Grade eight was a cumulative test of the grade six (Ancient Civilizations) and grade seven (Medieval and Early Modern Times) world history standards, as well as grade eight United States History and Geography: Growth and Conflict. In 2008, the mean raw score was 37.89 with a standard deviation of raw scores of 13.36. The reliability of this exam was 0.91 which is above the level considered acceptable for such tests. This exam assesses the California Social Science standards for grades six, seven and eight.
Table 4: CST History-Social Science Reporting Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Standards</th>
<th>CST items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Civilizations</td>
<td></td>
<td>16 items</td>
</tr>
<tr>
<td>Medieval and Early Modern Times</td>
<td>Late Antiquity and the Middle Ages</td>
<td>14 items</td>
</tr>
<tr>
<td></td>
<td>Renaissance/Reformation</td>
<td>10 items</td>
</tr>
<tr>
<td>U.S. History: Growth and Conflict</td>
<td>U.S. Constitution and the Early Republic</td>
<td>22 items</td>
</tr>
<tr>
<td></td>
<td>Civil War and Its Aftermath</td>
<td>13 items</td>
</tr>
</tbody>
</table>

Science. The California Science test for grade eight had 65 multiple-choice questions and was added to the testing schedule in 2006. All questions were four-option multiple choice. In 2008, the mean raw score was 37.51 with a standard deviation of raw scores of 11.46. The reliability of this exam was 0.91 which is above the level considered acceptable for such tests. This exam assessed the California Science standards for grade eight.

Table 5: CST Science Reporting Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Standards</th>
<th>CST items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion</td>
<td>8PCI. a-f</td>
<td>8 items</td>
</tr>
<tr>
<td>Forces, Density and Buoyancy</td>
<td>8PC2.a-g, 8PC8.a-d</td>
<td>13 items</td>
</tr>
<tr>
<td>Structures of Matter and Periodic Table</td>
<td>8PC3.a-f, 8PC7.a-c</td>
<td>16 items</td>
</tr>
<tr>
<td>Earth in the Solar System</td>
<td>8PC4.a-e</td>
<td>7 items</td>
</tr>
<tr>
<td>Reactions and the Chemistry of Living Systems</td>
<td>8PC5.a-e, 8PC6.a-c</td>
<td>10 items</td>
</tr>
<tr>
<td>Investigation and Experimentation</td>
<td>8PCIE9.a-g</td>
<td>6 items</td>
</tr>
</tbody>
</table>

Procedure

The researcher used the school name to access the CST from the STAR website. CST scores were available to the public in August following the May exam. The scores for the 2006, 2007 and 2008 exam were used for the purpose of showing academic progress of students in grade eight for this research project. Scores were gathered for Algebra 1, Science, Social Science and Language Arts. Students scored within five
bands: far below basic, below basic, basic, proficient and advanced. The target for all students in the state of California is to score proficient or advanced. If a student scored proficient or advanced in the state of California, he or she has met the benchmark for the standards of that particular grade and subject. The percentage of students who scored proficient and advanced were compared. Due to confidentiality individual scores were not compared or researched in this paper. For this research paper, students were categorized as academically successful with proficient and advanced scores on the CST.
Results

Twenty kindergarten through eighth grade configured schools were matched with twenty grade six through eighth grade configured schools. The following results were obtained from the 2006, 2007 and 2008 California Standard Test (CST) for eighth grade students in the following subtests: language arts, algebra 1, social sciences, and science. The following graphs were created using public data available on the STAR website (http://www.star.cde.ca.gov).

Figure 1 shows the STAR test scores for the 2005-2006 school year. The kindergarten through eighth grade configured schools had a higher percentage of students scoring proficient and advanced than the sixth through eighth grade configured schools in each of the four subject tests. The kindergarten through eighth grade configured schools in this study also had a higher percentage of students scoring proficient and advanced than the state averages in all subject subtests except for social studies where the percentage of k-8 students was the same as the state mean. The only subject where the sixth through eighth grade configured schools had a higher percentage of students scoring advanced and proficient was the algebra subtest. The difference between the kindergarten through eighth grade configured schools and the sixth through eighth grade configured schools studied was greatest in the subject subtests for language arts and science. In the language arts subject subtest, the kindergarten through eighth grade configured schools studied had 48.15% of students scoring proficient and advanced while the sixth through eighth grade configured schools studied only had 35.45 percent of students scoring proficient and advanced. In the science subject subtest, the kindergarten through eighth grade configured schools studied had 45.45% of students scoring
proficient and advanced while the sixth through eighth grade configured school studied only had 33.8% proficient and advanced.

Figure 1

**Average Percent of Students with Scores of Proficient and Advanced on the STAR test for 2006**

Figure 2 shows the STAR test scores for the 2006-2007 school year. The kindergarten through eighth grade configured schools had a higher percentage of students scoring proficient and advanced on the language arts and science tests. The percent of students scoring proficient and advanced on the language arts subject subtest for the kindergarten through eighth grade schools was 53.1% compared to 40% in the sixth through eighth grade configured schools studied. Both kindergarten and eighth grade configured schools and sixth through eighth grade configured schools studied had 39.05% of students scoring proficient and advanced on the social studies subject subtest of the STAR. On the 2007 subject subtest for Algebra, the sixth through eighth grade configured schools studied had a higher percentage of students scoring proficient and advanced. The percent of students scoring proficient and advanced on the Algebra test for sixth through eighth grade configured schools studied was 49.2 and the percent of
students scoring proficient and advanced for the kindergarten through eighth grade configured schools studied was 48.75.

Figure 2

![Average Percent of Students with Scores of Proficient and Advanced on the STAR test for 2007](image)

Figure 3 shows the STAR test scores for the 2007-2008 school year. The kindergarten through eighth grade configured schools studied had a higher percentage of students scoring proficient and advanced in both language arts and science. The kindergarten through eighth grade configured schools studied had a higher percentage of students scoring proficient and advanced in all subject subtests than the statewide averages. The only subject subtest where the sixth through eighth grade configured schools studied had a higher percentage of students scoring proficient and advanced was in algebra. The percent of students scoring proficient and advanced on the algebra subtest for the sixth through eighth grade configured schools studied was 51.1 while the percent of students scoring proficient and advanced for the kindergarten through eighth grade configured schools was 49.37.
Figure 3

**Average Percent of Students with Scores of Proficient and Advanced on the STAR test for 2008**

![Bar chart showing average percent of students with scores of proficient and advanced across different subjects for 2008.]

Figure 4 shows a year by year comparison of test score results for kindergarten through eighth grade configured schools studied, sixth through eighth grade configured school studied and the statewide averages for the percentage of students who scored proficient and advanced in the language arts subject subtest. The graphs show that the kindergarten through eighth grade configured schools studied consistently had a higher percentage of students scoring proficient and advanced than both the statewide average and the sixth through eighth grade configured schools studied. The sixth through eighth grade configured schools studied consistency fell below the statewide average on the percent of students scoring proficient and advanced on the language arts subtest. The graphs show an upward trend in the percent of student scoring proficient and advanced for both the statewide average and the sixth through eighth grade configured schools. The graph shows an increase of 4.95% between 2006 and 2007 but then a decline by 3.45% from 2007 to 2008 in the percentage of students scoring proficient and advanced.
on the language arts subtest for the kindergarten through eighth grade configured schools studied.

Figure 4

![Language Arts Graph](image)

Figure 5 shows a year by year comparison of test score results for kindergarten through eighth grade configured schools studied, sixth through eighth grade configured school studied and the statewide averages for the percentage of students who scored proficient and advanced in the algebra subject subtest. In 2006 the kindergarten through eighth grade schools had a higher percentage of students scoring proficient and advanced on the algebra subtest than both the statewide average and the sixth through eighth grade configured school studied. In 2007, the kindergarten through eighth grade configured schools had a slightly fewer percentage of students scoring proficient and advanced than the sixth through eighth grade school studied. The gap between the two school configurations increased in 2008 with sixth through eighth grade configured schools again having a higher percentage of students scoring proficient and advanced on the algebra subtest. Each of the three groups represented on the graph had a decline in
the percent of students scoring proficient and advanced during the 2007 school year. A factor that might have affected the trend for the algebra test is that at the end of the 2005-2006 school year the state of California discussed passing a new law the required all eighth graders to take algebra 1 his or her eighth grade year. Currently eighth grade students can either enroll in general mathematics or algebra 1. Many school districts decided to have all or the majority of eighth graders enroll in algebra 1 for the 2006-2007 school year. This may have caused the decrease in scores as shown in year 2007 for the algebra subtest.

Figure 5

![Algebra](image)

Figure 6 shows a year by year comparison of test score results for kindergarten through eighth grade configured schools studied, sixth through eighth grade configured school studied and the statewide averages for the percentage of students who scored proficient and advanced in the social studies subject subtest. The graph shows that the kindergarten through eighth grade configured schools studied had either a higher or equal percentage of students scoring proficient and advanced on the social studied subtest all three years compared to the statewide average and the sixth through eighth grade
configured schools studied. The graph shows that the statewide average for the percent of students scoring proficient and advanced has increased every year from 2006 to 2008. The percentage of students scoring proficient and advanced for the kindergarten through eighth grade configured schools increased by 4.6 percent between 2006 and 2007 and then had a slight decrease by 0.65% between 2007 and 2008. The eighth through sixth grade configured schools studied had a large increase of 11.35% from 2006 to 2007 and had the same percentage of student scoring proficient and advanced as the kindergarten through eighth grade configured schools studied. Then the eighth though sixth grade configured schools studied had a decrease from 2007 to 2008 by 6.25%.

Figure 6

![Social Studies](image)

Figure 7 shows a year by year comparison of test score results for kindergarten through eighth grade configured schools studied, sixth through eighth grade configured school studied and the statewide averages for the percentage of students who scored proficient and advanced in the science subject subtest. The graph shows a positive trend where all three subgroups represented are increasing their percentage of students scoring proficient and advanced each year on the science subtest. The sixth through eighth grade...
configured schools studied consistently had a smaller percentage of their students scoring proficient and advanced than both the statewide average and the kindergarten through eighth grade configured schools. The graphs show that the kindergarten through eighth grade configured schools studied consistently had a higher percentage of students scoring proficient and advanced on the science subtest than both the sixth through eighth grade configured schools and the statewide average. The gap between the percentage of students scoring proficient and advanced in the two different school configurations is consistent starting with a gap of 11.65% in 2006 and then a slight decrease to 10.2% in 2007 and then increasing to 10.55% in 2008.

Figure 7
Discussion

Limitations of the Study

This study only looks at group data available on the School Testing and Reporting website. There is no way to determine whether an eighth grader attended the K-8 structured school all nine years or if the eighth grader attended the traditional 6-8 middle schools for all three years. This study did not control for teacher differences, class size, parental involvement, parent education, socio-economic status, curriculum taught, or extracurricular activities implemented at each school site. The study also did not look at individual student improvement over time. Another limitation of the study is that no statistical significance was assessed. So while the K-8 students did better, it cannot be determined if it was a chance occurrence or a measurable difference.

Conclusion

The data from STAR supports that schools which are kindergarten through eighth grade configured have a higher percentage of students scoring proficient and advanced on the STAR in the follow subtests: science, social studies and language arts as compared to those schools with a sixth through eighth grade configuration. The only subtest where the sixth through eighth grade configured schools had a higher percentage of students scoring proficient and advanced as compared to the kindergarten through eighth grade configured schools was in 2007 and 2008 in algebra. In 2006 the kindergarten through eighth grade configured schools had a higher percentage of students scoring proficient and advanced in algebra. Although the sixth through eighth grade configured schools did have a higher percentage of students scoring proficient and advanced in both 2007 and 2008 on the algebra subtest, the gap between the those two subgroups studied was very
small .65 percent in 2007 and 1.73 percent in 2008. The kindergarten through eighth grade configured schools consistently scored higher than the state average on all subtests. The sixth through eighth grade configured schools studied had fewer students scoring proficient and advanced in language arts and science every year than the state average. In social science the only year the sixth through eighth grade configured schools had a higher percentage of students scoring proficient and advanced than the state average was 2007.

Many parents feel that kindergarten through eighth grade configured schools better meet the needs of their eighth grade child, and this study indicated that there might be a correlation between grade configuration and academic success. Those parents who feel that kindergarten through eighth grade configured schools are not able to prepare students for high school may be basing their opinion on areas other than academic success.

This study appears to lend credence to the belief that kindergarten through eighth grade configured schools academically outperforms sixth through eighth grade configured schools. There appears to be a relationship between grade configuration and academic success, the next step would be to apply the tests of significance on a sample of sixth through eighth grade configured schools and kindergarten through eighth grade schools to see if there is a significant difference or if it is chance.
References


Office of program policy analysis and government accountability. (2005). *K-8 schools*
may help school districts improve student performance (Report No. 05-02).

Tallahassee, Florida: Author.


