Running Head: School Calendar and Student Achievement

TITLE I ELIGIBLE SCHOOLS: A STUDY OF YEAR-ROUND VS. TRADITIONAL CALENDARS AND THE EFFECT ON STUDENT ACHIEVEMENT

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Submitted to

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Submitted in Fulfillment for the Requirements for

61-683 Research Paper
Fall 2012

November 11, 2013

ABSTRACT

The debate between the year-round school year vs. the traditional school year has been an ongoing one. For what groups of students would a year-round schedule benefit? In this study, schools eligible for Title I funds are compared. ACT and SAT scores from twelve year-round Title I eligible high schools in California are compared with twelve traditional calendar high schools that were Title I eligible during the 2010-2011 school year. The results of this study show that although all test scores were higher from the year-round high schools, no significant difference was found between the two school calendars compared.

INTRODUCTION

Background, Issues and Concerns

The debate of changing from a traditional school calendar to a year-round calendar is one that many educators have grappled with increasingly over the last two decades. With higher expectations and more accountability being put in place, many teachers, administrators and even students are feeling the pressure to perform. Many teachers would agree that the traditional three month summer break leads students to forget much of what they've learned the previous school year, requiring a substantial amount of time to review in the fall. This is one of the reasons some educators are questioning whether the way a school calendar is comprised impacts student achievement.

Some believe that the traditional school calendar was first comprised to meet the needs of an agrarian society. Schools scheduled breaks during planting and harvesting seasons so students could be home to help their families. Today, the number of farming families has decreased in most urban areas leading many to ask why districts continue to uphold such a schedule. Cuban (2008) supports the idea that the traditional school year stemmed from parents, and later lobbyists for camps and the tourist industry, lobbying for students to have summer vacations. Does a year-round schedule make a substantial enough difference to make the switch? Or does the year-round school year take away the often much-needed summer break? A number of research studies have been done to answer these very questions. But one question that remains is whether or not socioeconomic status plays a role in a student reaching his/her learning potential and if the type of school calendar can truly make a difference for kids who come from families

on the lower end of the socioeconomic scale or who have fewer advantageous opportunities available to them.

This leads many to wonder about students from low-income homes living at or below the poverty line. How are they best served? In 2001 President George W. Bush initiated the No Child Left Behind legislation to increase accountability with the goal of making sure *every* student is successful. With this legislation, schools allotted Title I funds must meet adequate yearly progress (AYP) for all students, including every subgroup, as measured by standardized testing (GreatSchools, 2011). Now more than ever, the pressure is on for school districts to ensure the success of *every* student. Would initiating a year-round school calendar create more success for schools receiving Title I funds?

Practice under Investigation

The practice under investigation will be comparing standardized test data from California high schools that were all eligible for Title I funding during the 2010-2011 school year. Half of these high schools operated on a year-round calendar; the other half operated on a traditional calendar. The National Center for Education Statistics was used to identify the twenty-four Title I eligible high schools that were used for this study. Test data was provided from the California Department of Education online archives and includes ACT scores and SAT scores for Reading, Writing, and Math from the 2010-2011 testing year.

School Policy to be Informed by Study

Every school is required to help all students achieve their best. Part of this process is planning for the needs of each school's specific students. Schools must know their

students in order to make decisions that are beneficial for them. This study is intended to shed more light on the effectiveness of a year-round calendar specifically in schools receiving Title I funding, so schools can make informed decisions about how to design their school year to best serve the needs of their students and community.

Conceptual Underpinning

Many educators agree that when learning is continuous and filled with consistent opportunities for practice, students are better able to retain learned information. The common phrase, “If you don’t use it, you lose it,” holds truth for many. Many students may admit that over the summer break, they do forget many of the things they learned during the school year. Being out of school breaks the continuity of learning and takes away those consistent opportunities to revisit, practice and apply. This idea lays some of the groundwork for the theory behind the year-round school schedule. Taking away the summer break, in theory, would solve this issue of summer learning loss. School districts want to make decisions that are best for their students so some are considering the year-round calendar. Diminishing the amount of learning loss that happens over the long summer break is one of the reasons why.

Statement of the Problem

It is unknown whether a traditional school calendar or a year-round calendar is more beneficial for students in schools that are eligible for Title I funding.

Purpose of the Study

The purpose of this study is to determine if the type of school year schedule (year-round versus the traditional school year) has an impact on student achievement in schools that are eligible for Title I funding.

Research Question

RQ #1: Is there a difference in student achievement between Title I eligible schools that operate on the year-round schedule compared to Title I eligible schools that operate on the traditional school year schedule?

Null Hypothesis

Ho #1: There are no differences in student achievement between Title I eligible schools that operate on the traditional school year calendar compared to Title I eligible schools that operate on the year-round calendar.

Anticipated Benefits of the Study

The intent of this study is to identify the type of school schedule that is best for students learning in high schools that receive Title I funding. This would be good information for school districts who are considering restructuring their school year to better meet the needs of their students.

Definition of Terms

Achievement gap - the difference in learning achievement between groups of students

No Child Left Behind (NCLB) – federal act of 2001 that aims to bring all students up to the proficient level on state tests by the 2013-2014 school year and to increase accountability for results (GreatSchools, 2011)

Socioeconomic status – refers to the measure of a person's position based on factors such as income, education, occupation, and wealth

Summer learning loss – in a traditional calendar year, the knowledge that is lost over the summer break

Title I funding – financial assistance provided by the United States government to schools with high percentages of students from low-income families

Traditional calendar – a nine month school calendar year that is typically in session August/September through May/June

Year-round calendar – refers to any variation (single track or multi-track) of a school calendar that is in session twelve months of the year with breaks interspersed throughout the year; intercessions may or may not be offered during those breaks

*NAYRE defines year-round as having no more than eight weeks of vacation at one time (Ballinger, 2009).

Summary

A study was conducted to determine whether or not high schools who received Title I funding during the 2010-2011 school year scored higher on the ACT and SAT when they operated on a traditional nine month calendar or a year-round calendar. A review of literature was completed to guide this study. Because schools who receive Title I funding typically serve a number of students either living in poverty or who come from families with lower incomes, this study was designed to inform decision makers of schools who are considering the benefits of changing from a traditional school calendar to a year-round school calendar to better serve their student population and supporting community. It especially speaks to educators who are considering ways to help students who experience forgetfulness over the traditional summer break. This study is not intended to distinguish one type of calendar as being better than another. It is simply to discover whether or not a difference in student achievement exists, specifically in schools who received Title I funds in said year. It was designed with the intent of providing all

students, no matter their socioeconomic status, the best educational experience possible. Many factors go into a student's educational experience. Only one factor is under study here; that is, simply the way a school calendar is designed and how it impacts the achievement test scores of different student populations.

REVIEW OF LITERATURE

As most educators know, instructional choices are best guided by students and their individual needs. Educators must consider the whole student; their background, home life, strengths and areas of improvement, and learning style. Education in America has come a long way since the once common one-room schoolhouses that ran based on factory-like efficiency. Although these may not be completely extinct, the American economy has changed resulting in families and schools being forced to change right along with it. As needs of families change, so educators must adapt in their schools and classrooms to best serve each student.

In order to fully understand where our country stands as a whole, one must consider how many of our students are affected by financial hardship. Philip N. Cohen (2011) reported in his briefing paper prepared for the Council on Contemporary Families that the official poverty rate in 2010 was 16%, with 18.2% being children. According to this article, this is "the largest number ever recorded and is still rising" (p. 1) despite some recent economic growth putting the United States at a poverty rate higher "than all but one of the Western European, Nordic, and Anglophone countries. The poverty rate for children is more than twice as high as that for 8 of those countries" (p. 3).

Understanding where our country stands on the poverty scale helps us to understand the need for additional funds and resources to improve education for all students. According to GreatSchools (2011), schools receive Title I funds "if at least 35 percent of the children in the school attendance area are from low-income families or at least 35 percent of the enrolled students are from low-income families" (Title I Schools section, para. 1). According to the U.S. Department of Education (2011), Title I funds are

granted “to help ensure that all children meet challenging state academic standards” (Program Description section, para. 1). They also report that unless at least 40% of the student population comes from low- income families (often measured by eligibility for free or reduced lunch), the funds must be focused on children “who are failing, or who are most at risk of failing” (Additional Information section, para. 2). GreatSchools (2011) reports that “currently over half of all public schools [in the United States] receive funding under Title I” (Title I Schools section, para.1). This fact alone fuels the purpose behind this study; it is important to recognize that there are many students impacted by Title I funding in American schools today.

Title I funds were one of the results of the Elementary and Secondary Education Act and have been around since 1965 (U.S. Department of Education, 2012). According to the U.S. Department of Education (2011), the funds were intended to bridge the gap in educational discrepancies (a.k.a. achievement gap) between children from poverty and children of more affluent neighborhoods. In 2001, President George W. Bush passed the federal law known as No Child Left Behind (NCLB). This law requires that all schools receiving Title I funding must meet AYP, or Adequate Yearly Progress, as measured by standardized tests chosen by the state (GreatSchools, 2011). Thus, schools must work hard to ensure that all students are getting the best education possible. One of the ways some schools are tackling this is through a year-round calendar.

As of 2006-2007, over 2,700 public schools serving over 2 million students utilized a year-round calendar, according to the National Association of Year Round Education (Ballinger, 2009). Of those, the majority were elementary schools followed by middle schools then high schools. At the time these statistics were taken, California

served the most students with this type of school calendar. For this reason, California was chosen for this research project as the state from which to retrieve data.

There are several reasons districts choose to transfer to a year-round calendar. One of the problems most classroom teachers face in a traditional calendar year is effects of what Alan Dessoff (2011) calls the "summer slide" when school starts up again in August or September. Research shows that students regress over the summer vacation for a number of reasons. Harris Cooper (2003) writes about three common concerns from educators and parents. First, he quotes that "children learn best when learning is continuous" (p. 2). He mentions that the long summer break leads to forgetting which then requires a significant amount of time to review material at the start of the new school year (p. 2). Second, "the long summer break can have a greater negative impact on the learning of children with special educational needs" (p. 2). Because educators must ensure *every* student receives the appropriate support they need, the summer break can throw in an additional challenge. And third, students of lower socioeconomic status (SES) are negatively impacted due to the different opportunities available to them over the summer. For example, some families can afford to send their children to summer camps, while other parents cannot. Vanessa St. Gerard (2007) quotes Harris Cooper in her own article. She reports that in 1996, Cooper found that "all students lose some of their math and spelling skills, and many lose reading skills over the period of the traditional summer break" (p. 57).

The National Summer Learning Association (2009) cites research alluding to the summer break contributing to the achievement gap that exists between students. They report research by Alexander, Entwisle, and Olson (2007) that states, "More than half of

the achievement gap between lower- and higher-income youth can be explained by unequal access to summer learning opportunities. As a result, low-income youth are less likely to graduate from high school or enter college" (National Summer Learning Association, 2009, Know the Facts section, bullet 3). Because of these unequal opportunities, this leads some to question if a year-round school calendar can help to alleviate these differences.

In the work of Shields and Oberg (1999), when considering student achievement, they found many studies where no difference in student achievement between year-round and traditional school year calendars was found, however no decline in achievement occurred with making the change to year-round. Through their own research, they've concluded two possible theories why. First, they found that many of the schools who change their calendar to year-round also tend to modify some curriculum and change instructional practices at the same time. Second, that the shorter intermittent breaks help students to remember more of what they have been taught, thus possibly attributing to improvement in learning. As stated in the text of Shields and Oberg (1999), they conclude through their own studies of literature and others' research that, "particularly for students from less-advantaged families, there is considerable learning loss during the long summer vacation" (pp. 128-129).

Ideas to decrease summer learning loss have been explored. One of these ideas is to extend the number of days students are in school. The argument for an extended school year stems from comparing the American school system to that of other countries. In his article, Alan Dessoff (2011) reports that "President Barack Obama has called for longer school years to help American students compete with students around the globe, some of

whom attend school 25 to 30 percent longer than American students, according to Education Secretary Arne Duncan" (p. 36). For example, in the work of Harris Cooper (2003), "The National Education Commission on Time and Learning (1993) reported that most students in the United States spend between 175 and 180 days in school each year, while students in Japan spend 240 days in school" (p.4). Still others argue that adding additional days is expensive and may not actually make much of a difference (Cooper, 2003, p.4). Larry Cuban's (2008) research also supports this theory. He found, "Research showing achievement gains due to more time in school are sparse and that the few studies done are often contested" (p. 243).

A second idea is having students attend summer school programs. The Harvard Family Research Project promotes "year-round learning," which they define as "intentional, community-based efforts to connect school, afterschool, and summer learning" (Deschenes & Malone, 2011, p. 2). They hope that by providing students more equal opportunities during the summer and school year that they may not otherwise have, some of the economic differences between students can be mitigated. This study evaluated 14 programs and initiatives that shared four common principles to support kids' healthy development. They found that by accessing community resources, "it can help to close the gaps in access to services and learning opportunities, provide developmentally appropriate activities and challenges, and strengthen student-centered learning," particularly for economically and disadvantaged youth (Deschenes and Malone, 2011, p. 12). This study also heavily promotes the involvement of family and many of the programs regularly offer workshops for parents.

Other research supports the idea for summer school. Cooper (2003) reported that "although all students benefited from summer school, students from middle-class homes showed larger positive effects than students from disadvantaged homes" (p. 4). This finding may be surprising to some as many summer school programs are focused specifically on helping students who struggle so they can get the extra help they need. Research on the effectiveness of summer school is varied, probably due to the variety of programs offered from district to district.

A third idea to increase student achievement is to better involve family. It cannot be contested that family plays an important role in a learner's education. Sharon Darling (2008) reports on the importance of family in closing the achievement gap, specifically a mother's education. In addition to the summer vacation, she quotes that "learning must occur outside the classroom as well as within" (p. 245). She reports on a study when teachers diligently taught their students' parents effective reading strategies to use with their children, many reading test scores rose during the summer. Contrary to some other research, she reports that "research demonstrates parental involvement has a positive impact on children's reading acquisition, regardless of their families' socioeconomic status" (p. 246).

This leads to the fourth idea to increase student achievement (and decrease summer learning loss) which is by modifying the school calendar to year-round, thus resulting in shorter breaks spread throughout the year to replace the one long break over the summer. The overall consensus among much of the research that has been completed is that students who are less-advantaged, or come from low-income homes or communities with limited opportunities, are most positively affected by year-round

calendars as compared to students of higher socioeconomic standing or who have a variety of summer learning opportunities available to them.

When considering a year-round calendar, school districts have several options to sift through. First, there are two ways to organize a year-round calendar: single track and multi-track. With the single track schedule, students attend school the same number of days as in a traditional school year but breaks are shorter and spread throughout the year. It virtually costs the same as a traditional school year. 90% of schools who go year-round choose this track (Dessoff, 2011). Second, with a multi-track system, the student body is divided into groups with each group attending on a different track schedule (Dessoff, 2011). This set-up ends up saving districts money because they are able to serve more students per building, thus not having to build additional schools (Dessoff, 2011; St. Gerard, 2007). This helps to ease overcrowding as well (Forte, 1994; St. Gerard, 2007). With either track, schools can offer intercessions to all students. These are voluntary sessions during the short breaks that provide students enrichment opportunities or that provide extra help if needed (St. Gerard, 2007).

What do the numbers say about this idea? Much of the past and current research on educational achievement states there is no significant difference in student achievement with students attending a year-round calendar compared to students attending a traditional calendar (Dessoff, 2011; McMillan, 2001). Other data says that year-round education results in just as good, if not better, results in student achievement. As supported by Shields and Oberg (1999), “Based on district, norm-referenced, standardized test data, we have concluded, as have others (Baker, 1990; Bradford, 1993; Gandara & Fish, 1994, Peltier, 1991; Perry, 1991) that academic achievement in multi-

track YRS [year-round school] is statistically as good as or better than student achievement in traditional schools" (p. 150). One argument however is that data to support this is unreliable due to poorly designed research (Cuban, 2008).

Yet when one looks at specific schools close-up, some attribute achievement gains specifically to the year-round schedule. Teachers at Timber Lane Elementary School in Washington, D.C. believe that English Language Learners have more consistent exposure to English language with year-round schedule (Gismondi Haser & Nasser, 2003). They have also experienced increased teacher job satisfaction which equals less burnout. This certainly would have a positive effect on students. In addition, Drummond Elementary in Chicago has seen an improvement in test scores since going to a year-round schedule. 91% of the school houses low-income students (Forte, 1994). Finally, Oxnard schools in California have also experienced success. Joe Agron (1993) reports that after analyzing nine years of California Testing Program (CAP) test results at Oxnard schools, test scores have improved. Norman R. Brekke, superintendent of the Oxnard School District attributes this improvement as a result of the year-round schedule. He quotes, "Our scores have generally risen at a rate significantly greater than the state's overall CAP score growth. This has occurred with no change in the basic instructional program, other than the fact that our schools operated on a year-round schedule, allowing for shorter vacation breaks" (Agron, 1993, p. 33).

In addition to the positive reports of success from these schools having changed to a year-round schedule, there are other reasons educators have found to support this choice to change. Besides the relief of overcrowding (Forte, 1994; St. Gerard, 2007), some schools may choose to go year-round to keep kids in school when the community itself

doesn't have much to offer. Third, it can provide up to an additional month of school (Forte, 1994) and learning (depending on the track chosen and whether or not intercessions are utilized). Fourth, some data shows that such a calendar is beneficial to at-risk students and promotes a better school climate (Cooper, 2003; Dessoff, 2011; Forte, 1994; Gismondi Haser & Nasser, 2003; St. Gerard, 2007). Fifth, in non-academic results, such a calendar can decrease teacher burnout (Gismondi Haser & Nasser, 2003; Shields & Oberg, 1999). Students can benefit from teachers who have had time to reflect and feel rejuvenated. Additionally, better teacher job satisfaction means retaining more qualified teachers. Last but not least, in nonacademic terms, Shields & Oberg (1999) report from the existing literature base at the time, that secondary students who experienced year-round schooling had a positive effect on employment opportunities. The authors consider previous studies that found "that students seem more ready to learn, better maintain their motivation throughout the year, and enjoy school more than their peers on traditional calendars" (p. 129). Students also reported no issues with continuing their involvement in extracurricular activities. Students, teachers, and parents of year-round school districts seem to be having satisfactory experiences. Overall, it seems the most successful year round schools have been established in urban communities.

In conclusion, year-round school calendars offer a consistent school schedule to all students. Most research suggests that summer learning loss does indeed occur over the traditional summer break, and that keeping kids involved in learning activities over the summer does help mitigate differences between students of varying socioeconomic status. However, little research shows there to be a significant difference in student achievement between schools on a traditional calendar vs. schools on a year-round

calendar. However, some argue that very little research has been done in this area. Taking a closer look, satisfied year-round schools have reported higher test scores than their traditional school year counterparts. Some have also reported an overall improvement in school climate and teacher job satisfaction, which could be attributing factors to increased test scores. All research done in this area must be considered before drawing any permanent conclusions.

RESEARCH METHODS

Research Design

This was a quasi-experimental study. There were four dependent variables: Average ACT Score, Average SAT Reading Score, Average SAT Math Score, and Average SAT Writing Score. The independent variable was the type of school calendar; in this case, Year-round or Traditional calendar. The mean score was found in each of the four *t*-tests conducted. The mean difference (mean D) between the scores was also calculated as well as the degree of freedom (df). The p-value for all four *t*-tests was found and compared to the alpha level of 0.25.

Study Group Description

24 total high schools were randomly selected for this study. All are high schools in the state of California who were eligible for Title I funding during the 2010-11 school year. 12 of the high schools operated on a traditional school calendar while the other 12 operated on some form of a year-round schedule, whether single or multi-track. All test scores were also from the 2010-11 school year.

Data Collection and Instrumentation

To begin with, 24 Title I eligible high schools were identified using the National Center for Education Statistics Census School District Tabulation (STP2) Maps. Archived data from the California Department of Education website was collected for the analysis. Microsoft Excel was used to organize the data. Both ACT scores and SAT scores for Reading, Writing, and Math were collected from the 2010-11 school year via the California Department of Education website.

Statistical Analysis Methods

The Statistical Analysis method was comparing student achievement to type of school calendar. Four *t*-tests were completed to determine whether or not there was a significant difference in standardized test scores gathered from 12 Title I eligible high schools in California that ran on a traditional calendar and 12 Title I eligible high schools in California that ran on a year-round calendar. A Statistical Package (ASP) software was used to complete the analysis. Microsoft Word was used to compile and organize the results.

FINDINGS

In each of the *t*-tests conducted, the scores of students attending year-round high schools were higher than those attending a traditional calendar school. A table was created for each *t*-test to depict the results of each test. Finally, two bar graphs were created (one for the ACT comparison and one for the SAT comparison) to visually represent the *t*-test results.

FIGURE 1

t-Test Analysis Results for
ACT Average Score and Type of School Calendar

Source	Mean	Mean D	*t*-test	df	*p*-value
Year-round ACT (n=12)	19.68				
Traditional ACT (n=12)	19.31	0.37	0.37	22	0.72

Note: Significant when p<=0.25

There were 24 randomly selected high schools chosen for this *t*-test based on Title I eligibility and type of school calendar. 12 of the schools operated on a year-round calendar while the other 12 operated on a traditional nine-month calendar. According to the resulting data, the mean ACT score for the year-round schools was 19.68. The mean ACT score for the traditional schools was 19.31. The mean difference (mean D) between the year-round and traditional school year scores was 0.37. The *t*-test score was also 0.37. The degree of freedom (df) was 22. The p-value was 0.72. The alpha level used was 0.25. The null hypothesis states there is no significant difference between average ACT scores of students who go year-round and average ACT scores of students who go the traditional school year. The p-value being 0.72 was not less than or equal to the alpha level of 0.25,

therefore the null hypothesis for this *t*-test is not rejected. Even though the average ACT score was higher for the year-round schools, it was not enough to declare a significant difference.

Figure 2 shows the comparison of average ACT Scores from the 2010-2011 school year. The blue color denotes scores from the schools that operated on a year-round calendar. The red color denotes scores from the schools that operated on a traditional calendar. The results show that the average ACT scores were 0.37 points higher from year-round high schools than traditional calendar high schools, denoting a minor difference

FIGURE 2

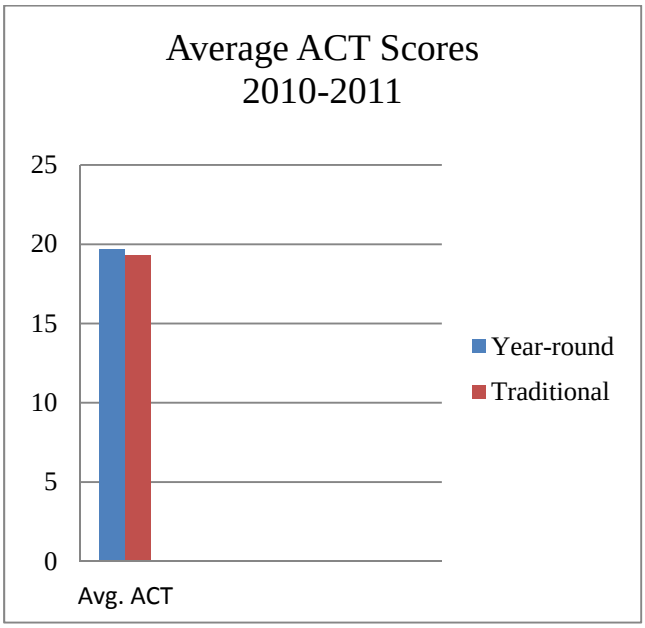


FIGURE 3

t-Test Analysis Results for
SAT Reading Score and Type of School Calendar

Source	Mean	Mean D	*t*-test	df	*p*-value
Year-round SAT Reading (n=12)	451				
Traditional SAT Reading (n=12)	441.33	9.67	0.62	22	0.54

Note: Significant when p<=0.25

The same 24 randomly selected schools chosen for the first *t*-test were also used for this *t*-test. 12 of the schools operated on a year-round calendar while the other 12 operated on a traditional nine-month calendar. According to the resulting data of this second *t*-test, the mean SAT Reading score for the year-round schools was 451. The mean SAT Reading score for the traditional schools was 441.33. The mean difference (mean D) between the year-round and traditional school year scores was 9.67. The *t*-test score was 0.62. The degree of freedom (df) was 22. The p-value was 0.54. The same alpha level of 0.25 was used as for the first *t*-test. The null hypothesis states there is no significant difference between average SAT Reading scores of students who go year-round and average SAT Reading scores of students who go the traditional school year. The p-value being 0.54 was not less than or equal to the alpha level of 0.25, therefore the null hypothesis for this *t*-test is not rejected. Even though the average SAT Reading score was over nine points higher for the year-round schools, it was not enough to declare a significant difference.

FIGURE 4

t-Test Analysis Results for
SAT Math Score and Type of School Calendar

Source	Mean	Mean D	*t*-test	df	*p*-value
Year-round SAT Math (n=12)	468.5				
Traditional SAT Math (n=12)	449.83	18.67	0.98	22	0.34

Note: Significant when p<=0.25

Again, the same 24 randomly selected schools chosen for the first two *t*-tests were also used for this *t*-test. 12 of the schools operated on a year-round calendar while the other 12 operated on a traditional nine-month calendar. According to the resulting data of this third *t*-test, the mean SAT Math score for the year-round schools was 468.5. The mean SAT Math score for the traditional schools was 449.83. The mean difference (mean D) between the year-round and traditional school year scores was 18.67. The *t*-test score was 0.98. The degree of freedom (df) was 22. The p-value was 0.34. The same alpha level of 0.25 was used as for the first and second *t*-tests. The null hypothesis states there is no significant difference between average SAT Math scores of students who go year-round and average SAT Math scores of students who go the traditional school year. The p-value being 0.34 was not less than or equal to the alpha level of 0.25, therefore the null hypothesis for this *t*-test is not rejected. Even though the average SAT Math score was over 18 points higher for the year-round schools, it was not enough to declare a significant difference.

FIGURE 5

t-Test Analysis Results for
SAT Writing Score and Type of School Calendar

Source	Mean	Mean D	*t*-test	df	*p*-value
Year-round SAT Writing (n=12)	451.83				
Traditional SAT Writing (n=12)	442.33	9.5	0.63	22	0.54

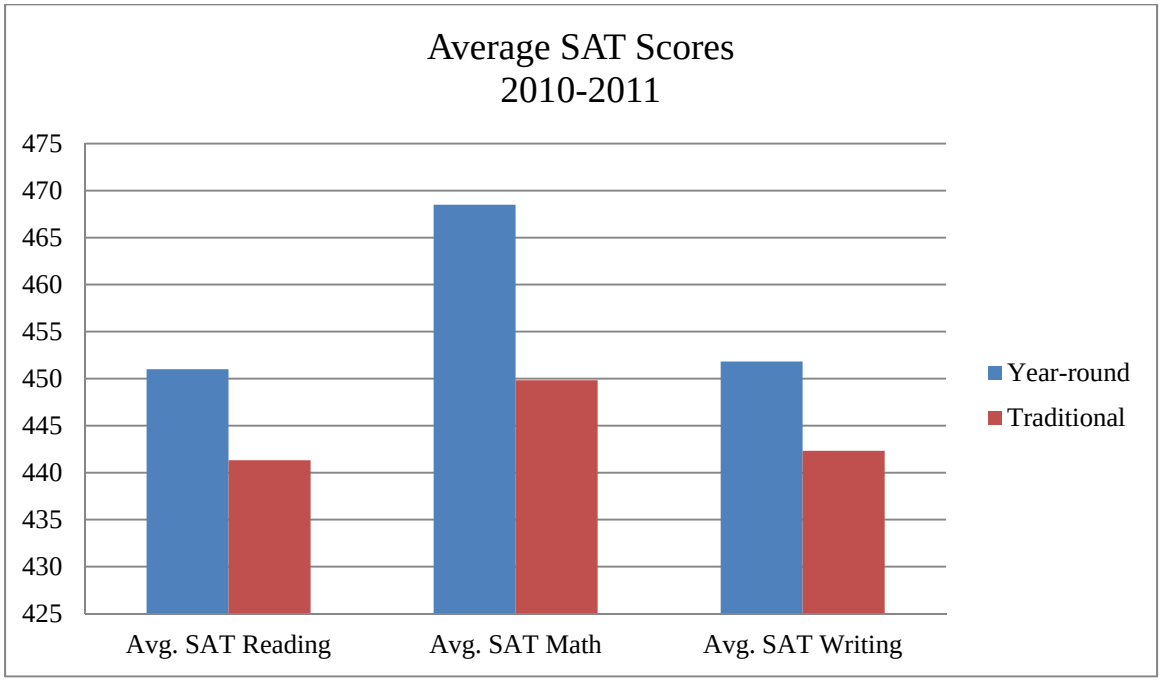
Note: Significant when p<=0.25

For this final *t*-test, the same 24 randomly selected schools chosen for the first three *t*-tests were used. According to the resulting data of this fourth *t*-test, the mean SAT Writing score for the year-round schools was 451.83. The mean SAT Writing score for the traditional schools was 442.33. The mean difference (mean D) between the year-round and traditional school year scores was 9.5. The *t*-test score was 0.63. The degree of freedom (df) was 22. The p-value was 0.54. The same alpha level of 0.25 was used for all *t*-tests. The null hypothesis states there is no significant difference between average SAT Writing scores of students who go year-round and average SAT Writing scores of students who go the traditional school year. The p-value being 0.54 was not less than or equal to the alpha level of 0.25, therefore the null hypothesis for this *t*-test is not rejected. Even though the average SAT Writing score was over 9 points higher for the year-round schools, it was not enough to declare a significant difference.

Figure 6 shows the comparison of average SAT Scores for Reading, Math, and Writing from the 2010-2011 school year. The blue color denotes scores from the schools

that operated on a year-round calendar. The red color denotes scores from the schools that operated on a traditional calendar. The results show that all SAT scores were higher from year-round high schools than traditional calendar high schools. The average SAT Reading score was 9.67 points higher in the year-round schools than the traditional calendar schools. The average SAT Math score was 18.67 points higher in the year-round schools than the traditional calendar schools. The average SAT Writing score was 9.5 points higher in the year-round schools than the traditional calendar schools.

FIGURE 6



CONCLUSIONS AND RECOMMENDATIONS

In conclusion, it was determined that in this specific study, no significant difference existed in achievement test scores between Title I eligible high schools who operated on a year-round calendar vs. a traditional calendar. It can be concluded, however that the schools used in this study that successfully operated on a year-round schedule did experience higher test scores than their traditional school calendar counterparts, particularly with SAT scores. The higher test scores could be due to positive environmental changes in the schools that resulted from a year-round schedule. However this is only a theory since it was not the focus of this particular study, therefore it is not proven. That being said, there is evidence that suggests that when learning is continuous, students tend to retain more of what they learn. Some teachers of year-round schools have noted that less time seems to be needed for beginning of the year review. By having shorter breaks spread out across the year and filled with opportunities for intercession experiences, these factors could contribute to the higher scores found in this study. It can be suggested then, that year-round school *can* have a positive effect on student achievement in schools receiving Title I funds, but to what extent cannot be determined by this study alone. Furthermore, by the calculations done within this study, the difference was not significant. It is recommended that educators pursue alternative ways to keep students educationally stimulated over the summer vacation by involving families and by making equal learning opportunities available to *all* students over the summer. For school districts considering the switch to a year-round calendar mainly to decrease summer learning loss, it is recommended they evaluate the needs of their specific student population and the community they serve before making anything final. Ask the

community for input, see what opportunities already exist for students, and continue the decision-making process from there.

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