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The Influence of the Implementation of Small Learning Communities on Student Test Outcomes and School Attendance in an Urban School District

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THE INFLUENCE OF THE IMPLEMENTATION OF SMALL LEARNING COMMUNITIES
ON STUDENT TEST OUTCOMES, AND SCHOOL ATTENDANCE IN AN URBAN
SCHOOL DISTRICT

By

WALTER I. CAMPBELL

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Submitted in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education
Seton Hall University

2009
APPROVAL FOR SUCCESSFUL DEFENSE

Doctoral Candidate, Walter Campbell, has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this Summer Semester 2009.

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ABSTRACT

The influence of the implementation of Small Learning Communities on student test outcomes, and school attendance in an urban school district.

The researcher investigated the influence of the implementation of the Small Learning Communities on student test outcomes, and school attendance rates in an urban school district. One major objective of the study was to determine whether the implementation of small learning communities did lead to higher student test outcomes and better attendance rates as were found in some previous research studies.

The primary measures used were students' first and fourth marking cycle grades on language arts and on math to assess student test outcomes. The number of absences recorded in homeroom attendance measured student attendance. Paired t-tests were used to analyze students' marking cycle grades, and students' attendance. Paired t-tests were also used to examine the effects of gender and socioeconomic status on student test outcomes, and student attendance rate.

Data revealed that the implementation of small learning communities did have a significant influence on student test outcomes on language arts. The influence of the implementation of small learning communities on student test outcomes on language arts was more significant for males than for females. The data also showed that the implementation of small learning communities significantly influenced test outcomes of students in the low-SES group. Notably, the data showed that the implementation of small learning communities had a significant negative influence on the attendance rate of boys in the study.
ACKNOWLEDGEMENTS

This dissertation was truly the work of God. Though I physically did all the work, the inspiration to start and complete this challenging, yet exciting journey, was provided by the belief that I could do all things through Christ who strengthens me. A number of people walked with me as I moved from the start of my first doctoral class to the completion of the final leg of this journey. For this I am eternally grateful, and would like to extend my appreciation and gratitude to all of them.

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To all my friends and family, thank you for your love, support and encouragement throughout my doctoral journey. To my children, Dr Faunda Campbell, and Nicol Campbell, thank you for enduring my numerous conversations on various topics on my study. The thoughts and insights you provided were invaluable to me. Finally, I want to thank the beacon of my life, my wife Dr. Margaret P. Campbell who was the main inspiration God provided me for this journey. Thank you for your continuous and selfless support and encouragement at every stage of my study.
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INTRODUCTION, PROBLEM, AND PURPOSE

Introduction

The re-authorization of the Elementary and Secondary Education Act (ESEA) in 2002 created a frenzy of activities aimed at ensuring accountability within the United States education sector. Commonly referred as No Child Left Behind (NCLB) the legislation included among its provisions the requirement that students in all publicly funded schools across the U.S. show Annual Yearly Progress (AYP). This legislation mandated that students in all public schools must achieve and maintain satisfactory benchmarks in student achievement set by the US Department of Education (USDOE). This requirement has been challenged by school districts across the country as unconstitutional based on the historical recognition that education is a state function. The 6th circuit U.S. Court of Appeals recently (1/7/08) found NCLB unconstitutional by requiring states and school districts to fund the testing requirements of the law.

The determination by the courts of the unconstitutionality of NCLB meant that each state was free to set its own standards for AYP. However, in the state of New Jersey (NJ) school districts, by the mandate of the New Jersey Department of Education (NJDOE), continued to be governed by the federal AYP that were set to access federal education funding. Faced with this mandate, personnel in many school districts implemented school-reform models and programs aimed at addressing the problem of low student achievement, or achievement gaps, especially those highly visible gaps, such as poverty and race, and test-score gaps.
Student achievement at the Orange High School, located in the Abbott school district of Orange, NJ, has been below the NJ state averages for many years. Low levels of student achievement have become a matter of serious concern for the leadership of the district, particularly against the backdrop of the AYP requirements originally imposed by NCLB. The Orange school district’s response to reversing years of low student achievement at the Orange High School has been to implement the First Things First school reform model.

In September 2006 the Orange school district launched the First Things First (FTF), Small Learning Communities Initiative in both its middle school, and in its high school. The Orange Board of Education listed the two major objectives of this initiative as: (a) Strengthening relationships among students and adults; and (b) Improving engagement, alignment and rigor of teaching and learning in every classroom, every day.

FTF is a school reform model that includes three components: (a) Small Learning Communities (SLCs), (b) Family Advocate System, and (c) Instruction Improvement Efforts.

Small learning Communities

Small learning communities (SLC) consist of groups of up to 350 students who share the same core subjects’ teachers for several years. The SLC’s are organized around broad themes such as “Science and Technology” and “Visual Arts”.

Family Advocate System

In this system students are matched with a staff member, in most cases a teacher within the SLC, who is responsible for monitoring that student’s academic, social, and emotional
progress. The advocate works with the student and maintains close liaison with the student’s parents in order to ensure his or her academic and social success.

Instruction Improvement Efforts

Teachers are expected to work with their colleagues to ensure the alignment of the curricula to state and local standards. Teachers are also involved in professional development (PD) to ensure that classroom instructions are rigorous and engaging. However, given the research on the influence of professional development on student achievement, how would this be achieved? Tienken and Achilles (2005) re-analyzed the NAEP 2000-2003 data base, and concluded that there was insufficient evidence to support positive influence of teacher professional development on student test outcomes. Yoon et al, (2007) reviewed 1300 studies on the effect of professional development on student achievement in math, science, and reading and English/language arts. The researchers found that only 9 of the 1300 studies met the What Works Clearinghouse evidence standards. The nine studies showed that teachers who received an average of 49 hours of intensive and content-focused professional development can help boost the achievements of their students by as much as 21 percentile points.

The three components of the FTF model are inter-related: each part must be effectively implemented for the initiative to achieve the overarching objective of improved student outcomes. The formation of SLCs with students organized into small classes is the necessary first step. This is followed by the attachment of each student to what Breaking Ranks I (NASSP, 1996) called a Personal Adult Advocate (PAA) to counter the development of anonymity which can affect students in large comprehensive high schools (Klonsky & Klonsky, 1999). Finally, the model requires improvement in instructional alignment, engagement, and rigor. Finn (1993)
posited that engagement in school is best viewed as a behavioral trait that he labeled "participation." The researcher contended that participation can be seen at four different levels and may assume different forms as students move through grades. As students participate in school-related activities, Finn (1993) argued that they begin to develop a sense of belonging as they gain rewards for success; students develop a feeling of identification with school and the school community. A major assumption of the participation-identification model is that great participation by students is followed by a sense of being comfortable with school-related activities, which should in turn translate into students performing well academically.

Rigor, under the FTF model, is seen as teachers providing students with a high quality of education. Tienken (2008) challenged the usual definition of rigor; he asked the question "But what is rigor and do we really want it in education?"

According to Tienken (2008) the use of the word rigor by educators tends to suggest quality, while the definition of the word by the well-regarded Webster Online Dictionary (2008) suggests the feeling of stiffness. The writer argued that rigor should be replaced by quality, a word that is subject to different interpretations but which is nevertheless appropriate within the context of improvements in education because it can be assessed.

The SLCs are the physical structures on which the FTF model operates, the Family Advocate System and the PAA are the relationship structures which should create the caring connections among students and teachers, and the Instruction Improvement Efforts are the prerequisites for the development and nurturing of more efficient ways of delivering instructions.

The implementation of the FTF school reform model at the Orange High School involved reconfiguring the school into small learning communities (SLCs), with each learning community
having its individual instructional theme. Four SLCs were implemented in the high school:-
Law, Health, Arts, and Business.

Research studies over many years on small schools have shown that students in small
schools tend to perform better academically and socially than do students in large comprehensive
high schools (Copland & Boatwright, 2004; Howley, 2003; Lackney, 2002) with more resources,
and wider curriculum offerings. Wainer and Zwerling (2006) argued that many studies in which
the researchers concluded that students in small schools perform better academically than
students in large comprehensive high schools were based on flawed methodology. The authors
contended that many researchers based their findings on only one end of the performance
distribution, even though small schools are represented nearly equally at both tails. Matt (2004)
cautionsed that “Smallness, in and of itself, is not a recipe for excellence” (p.772). These studies,
along with the pressures of the NCLB mandates, have resulted in a push in many school districts
to break up large comprehensive high schools into SLCs.

Funding for SLCs has come primarily from the USDOE in the form of grants of over
$145 million annually, and the Bill and Melinda Gates Foundation which has invested over $1.6
billion between 2000-2006 toward establishing small independent schools, and reconfiguring
large high schools into smaller schools and smaller learning communities. That changed,
however, in October 2005 (Thompson, 2005) when the Gates foundation shifted its emphasis
towards giving support to improving classroom instruction in school districts where students
have demonstrated academic improvement. One question in 2009 that still needs to be answered
is “Do SLCs work?”
Context of the Study

This study was done in a large, small-city urban high school that had 1,200 students, 93 faculty members, and 4 administrators. The school had been cited by New Jersey State Department of Education (NJDOE) for the last 5 years (2003-2008) as a school in need of improvement. The "in need of improvement" label indicates that the school's students did not make Annual Yearly Progress (AYP) in language arts and math, in conformity with the benchmarks set by NCLB. The 2007 NCLB report issued by the NJDOE showed that the Orange High school was assigned an "in need of improvement" classification of '5', meaning that the school was in the planning for restructuring stage. The AYP performances of the Orange High School for the past 3 years compared to the performance of other schools in the DFG of A, and also compared to statewide schools' performances are highlighted in Table 1, and Table 2 (NJDOE, 2009).

The Orange School district has been classified as an ‘A’ district under the District Factor Grouping (DFG) designation established by the state of New Jersey. New Jersey is the only state within the United States that uses this classification system to rate the socioeconomic status (SES) of public school districts. The system incorporates 10 DFG groupings, A being among the poorest and J being among the wealthiest. DFG is calculated based on six variables which are closely associated with SES: (a) Percent of adults with no high school diploma, (b) Percent of adults with some college education,(c) Occupational status, (d) unemployment rate, (e) Percent of the adults in poverty, and (f) median family income(NJDOE,2006). The Orange high school has a DFG classification of A. Students in schools districts in NJ with a DFG classification of A have low test scores at state administered standardized test compared to the test scores of students in the wealthier I and J districts as shown in Table 3 (NJDOE, 2009)
Table 1

*High School Proficiency Assessment (HSPA) Language Arts (LAL) scores of students at the Orange High School, 2006-2008*

<table>
<thead>
<tr>
<th>LANGUAGE ARTS LITERACY</th>
<th>Year</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>School</td>
<td>2007-08</td>
<td>53.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-07</td>
<td>51.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005-06</td>
<td>38.7%</td>
</tr>
<tr>
<td>District</td>
<td>2007-08</td>
<td>53.5%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>2006-07</td>
<td>51.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td></td>
<td>2005-06</td>
<td>38.7%</td>
<td>4.9%</td>
</tr>
<tr>
<td>DFG</td>
<td>2007-08</td>
<td>55.1%</td>
<td>2.5%</td>
</tr>
<tr>
<td></td>
<td>2006-07</td>
<td>36.3%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>2005-06</td>
<td>52.4%</td>
<td>5.1%</td>
</tr>
<tr>
<td>State</td>
<td>2007-08</td>
<td>71.1%</td>
<td>12.3%</td>
</tr>
<tr>
<td></td>
<td>2006-07</td>
<td>66.3%</td>
<td>19.4%</td>
</tr>
<tr>
<td></td>
<td>2005-06</td>
<td>61.9%</td>
<td>22.8%</td>
</tr>
</tbody>
</table>
Table 2

*High School Proficiency Assessment (HSPA) Mathematics scores of students at the Orange High School, 2006-2008*

<table>
<thead>
<tr>
<th>MATHEMATICS</th>
<th>Year</th>
<th>Proficient</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>School</td>
<td>2008-08</td>
<td>27.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-07</td>
<td>23.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005-06</td>
<td>19.5%</td>
</tr>
<tr>
<td></td>
<td>District</td>
<td>2007-08</td>
<td>27.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-07</td>
<td>23.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005-06</td>
<td>19.5%</td>
</tr>
<tr>
<td></td>
<td>DFG</td>
<td>2007-08</td>
<td>38.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-07</td>
<td>36.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005-06</td>
<td>38.8%</td>
</tr>
<tr>
<td></td>
<td>State</td>
<td>2007-08</td>
<td>51.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-07</td>
<td>50.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005-06</td>
<td>49.7%</td>
</tr>
</tbody>
</table>

The percentage of students in each DFG who scored proficient or advanced proficient in the language arts and mathematics of the HPSA (NJDOE, 2006, 2007, 2008) is highlighted in Table 3.
Table 3

Percentage of Students in Each DFG Who Scored Proficient or Advanced Proficient in Language Arts and Mathematics on the HSPA (NJDOE, 2006, 2007, 2008)

<table>
<thead>
<tr>
<th>DFG</th>
<th>Language Arts</th>
<th>Mathematics</th>
<th>LAL</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Average</td>
<td>Mean</td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>57.5%</td>
<td>62.3%</td>
<td>200.6%</td>
<td>45.2%</td>
</tr>
<tr>
<td>B</td>
<td>75.6%</td>
<td>75.9%</td>
<td>215.3%</td>
<td>66.5%</td>
</tr>
<tr>
<td>CD</td>
<td>80.3%</td>
<td>82.6%</td>
<td>220.0%</td>
<td>60.7%</td>
</tr>
<tr>
<td>DE</td>
<td>86.6%</td>
<td>87.8%</td>
<td>226.3%</td>
<td>77.6%</td>
</tr>
<tr>
<td>FG</td>
<td>89.0%</td>
<td>90.1%</td>
<td>229.0%</td>
<td>81.7%</td>
</tr>
<tr>
<td>GH</td>
<td>91.0%</td>
<td>91.9%</td>
<td>232.4%</td>
<td>86.0%</td>
</tr>
<tr>
<td>I</td>
<td>94.9%</td>
<td>95.3%</td>
<td>238.8%</td>
<td>91.0%</td>
</tr>
<tr>
<td>J</td>
<td>97.0%</td>
<td>97.4%</td>
<td>243.9%</td>
<td>94.6%</td>
</tr>
<tr>
<td>STATE</td>
<td>88.0%</td>
<td>85.4%</td>
<td>227.6%</td>
<td>81.1%</td>
</tr>
</tbody>
</table>

Berliner (2005) contended that there is a strong association between family and youth poverty and student achievement. Michel (2004) conducted a study of the 2004 New Jersey Assessment of Skills and Knowledge (NJASK) 4 results and found that SES is the most significant predictor of student achievement on the NJASK. The data highlighted in Table 2 seems to correlate the significant relationship between poverty and student achievement.

The Orange school district has 8 elementary schools, 1 middle school, 1 high school, and one alternative high school. The student population of the high school is mostly African American students (91%), a Hispanic population of 8%, and Asian 1% (NJDOE, 2008). The
high school is located in the city of Orange. The population of the city is 32,868, with an ethnic make-up somewhat different in 2006 from the high school enrollment, consisting of African American (75%), Hispanics (11%), and Asian (1%) (Orange Profile, 2006).

Statement of the Problem

With the renewed emphasis on accountability as evidenced by students' performance on standardized tests, the State of New Jersey has mandated that educators seek out avenues to improve their school's academic standing. Students are required to meet AYP requirements dictated by the NJDOE. It is surprising that this AYP process from NCLB continues given that (a) education is a state function, and (b) the unfunded federal testing requirements of NCLB were declared unconstitutional by the 6th circuit Federal Appeals Court (1/7/2008). Under the original AYP mandate all students were expected to attain proficiency in Language Arts Literacy (LAL) and Math by the year 2014. Students are expected to show yearly incremental increases between 7-10% in LAL, and 9-15% in Math. Each school proficiency statistic in each area (reading and math) and student subgroup will be compared with the statewide benchmarks (NJDOE 2002).

As an integral part of this accountability drive, many school districts in NJ have been mandated to adopt school reform models (Abbott v. Burke, 1998) as part of the adequacy requirement of the court decisions. The Orange school district is an Abbott district, and must honor this mandate. The district implemented the Comer whole school reform (WSR) model. Students' achievement in the district's eight elementary schools during the past 6 years has been mixed when compared to the state's benchmarks. The performance of students in the district's middle school, and in the high school at the Grade Eight Proficiency Assessments (GEPA), NJASK 8, and the High School Proficiency Assessment Test (HSPA) continued to be below the
state’s benchmarks. (NJDOE, 2007, 2008). In addition, many parents in the city of Orange were reluctant to enroll their children in either the Orange Middle School or the Orange High School because of perceptions of serious discipline problems at both schools.

The Orange School District is currently classified by the NJDOE as a district in need of improvement. The current status has led the leadership to consider the reconfiguration of the middle and high schools into small learning communities. This move has serious implications for school leadership and instructors especially in the high school which prepares students for post-secondary education, and for the world of work. The critical issue for consideration is being able to examine the influence of the implementation of SLCs on students’ academic achievement, and student attendance at the Orange High School.

Purpose of the Study

The researcher’s purpose for this study was to examine the influence of the implementation of SLCs on student test outcomes, and student attendance (ATT) in the Orange High School. A myriad of issues such as scheduling, staffing levels, placement of students in particular communities, reconfiguration of space allocations for each community, instructions, course offerings, and leadership structures needed to be resolved prior to implementation of SLC’s in September 2006. Were all these issues resolved satisfactorily? Even if all the implementation issues were resolved satisfactorily, what differences have been observed in students’ academic achievement and social behaviors, since the implementation of SLCs?
Research Questions

The major questions that guided this study were:

1. What is the difference, if any, between students test outcomes (STO) on Language Arts as seventh graders prior to the implementation of SLC and students’ test outcomes (STO) on Language Arts as ninth graders after experiencing the SLC treatment?

2. What is the difference, if any, between students test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs, and students’ test outcomes (STO) on Math as ninth graders after experiencing the SLC treatment?

3. What is the difference, if any, between overall student attendance (ATT) rates as seventh grade students prior to the implementation of SLCs, and overall students attendance (ATT) rate as ninth grade students after experiencing the SLC treatment?

4. What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs, and the test outcomes of male and female students as ninth graders after experiencing the SLC treatment?

5. What differences, if any, exist between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?

6. What is the difference, if any, in students’ SES for outcomes (STO) as seventh graders prior to the implementation of SLCs, and SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?
7. What is the difference, if any, in students' SES for outcomes (ATT) as seventh graders prior to the implementation of SLCs and SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?

Significance of the study

A study aimed at examining the influence of the implementation of the SLCs in the Orange High School is useful for many reasons. First, it can provide information on the actual experiences so far with the implementation of this school reform model. Second, the study will highlight the challenges involved in the change process. Third, the study will give an indication of whether or not the First Things First (FTP) model can be successfully replicated in an urban environment such as Orange, NJ. Fourth it will alert administrators to decide whether to fund or not to fund SLCs in the future.

Brief Description of Design and Methods

In this mixed-method study the researcher studied the problem using a non-experimental research design. Johnson (2001) contended that it is appropriate to identify non-experimental quantitative research design by matching the objective of the study with a specific time dimension. The overriding research objective in this study was to evaluate and explain the influence of the implementation of the SLC model on specific student outcome variables. The time dimensions were the 2005-2006 and 2007-2008 school years, using normally collected data.
The researcher used a time series approach to evaluate the influence of the implementation of the SLC on student test outcomes and student attendance at the Orange High School. The selected design allowed the researcher to determine significance in student academic and social outcomes following the implementation of the SLC structure.

The main focus of the study was the examination of student test outcomes, and student attendance as seventh graders in the Orange Middle School prior to the implementation of the treatment, SLCs. These outcomes were compared with the test outcomes, and attendance rates of the same group of students after being exposed to SLCs as ninth graders at Orange High School. The researcher checked the sample to determine whether it approximated to the characteristics of the study's population.

A table of baseline data (see table 3) was developed to show the test outcomes of students within Orange high and the Orange school district, which has a DFG classification of A, for the years 2006-2008. Comparative data on students test outcomes were also provided for all other DFG districts in New Jersey during that same period.

Limitations of study

This study was limited by the following:

(a) The major limitation was obtaining objective information on student test outcomes, and attendance data.

(b) The researcher used marking cycle grades that were not necessarily determined objectively, and as such was subject to reliability risks. In any school, marking cycle grades are determined differently by each teacher. There is a greater risk of subjectivity of grades in an SLC, where teachers and students are expected to form
a closer bond.

(c) The researcher was unable to find a comparison group of 9th grade students that mirrored the characteristics of students within the Orange High School in New Jersey, that had not been exposed to the SLC structure. This weakness influenced the robustness of the findings.

(d) There was only one year of post-SLC marking cycle grades available for the study. Grades are not yet available for other years to allow the researcher to use average grades which can provide stronger results in analyses.

(c) The researcher needed to conduct a cohort analysis to ensure that the ninth graders who experienced SLC were also seventh graders, one year prior to the implementation of SLC. Backward tracking was done to get ninth graders who were in Orange Middle School as seventh graders 2 years prior.

(f) Additionally the researcher had no control over student mobility, assignments, training, or instructional methods.

Delimitations of Study

The researcher delimited the study to one large urban high school in a small city. The study participants were restricted to students who were ninth graders during the 2007-2008 school year, and who were also seventh graders in the Orange Middle school, one year prior to the implementation of the SLC structure. This study included student outcome data only for the years 2005-2006 and 2007-2008.
The study was de-limited to student test outcomes from the implementation of FTF. Even though the other parts of the FTF structure are in place, namely the Family Advocate system and the improvement in instructions, the researcher made no attempt to investigate their implementation.

Definition of Terms

The following are definitions that are relevant to this study:

*Abbott School District*- Certain poor schools districts identified as containing lower-achieving students as measured by scores on standardized tests such as the NJASK, GEPA, HSPA and other achievement tests (NJDOE, 2000).

*Attendance*—the number of days a student is absent from the homeroom, will be subtracted from 100% of the days possible. Attendance is taken daily during the homeroom period.

*DFG*- District Factor Grouping (DFG) designation was established by the state of New Jersey to measure the socioeconomic status (SES) of students and families in public school districts. New Jersey is the only state within the United States that uses this classification system to rate the SES of persons in public school districts.

*FTF*- A school reform model that includes three components:

*Small Learning Communities.* Small learning communities (SLC) are made up of groups of up to 350 students who share the same core subjects teachers for several years. SLC's are organized around broad themes such as 'Science and Technology' and 'Visual Arts'.

*Family Advocate System.* In this system, students are matched with a staff member, in most cases a teacher within the SLC, who is responsible for monitoring that student academic,
social, and emotional progress. The advocate works with the student as well as maintain close liaison with the student’s parents in order to ensure his or her academic and social success.

*Instruction Improvement efforts.* Teachers are expected to work with their colleagues to ensure the alignment of the curricula to state and local standards. Teachers are also involved in professional development to ensure that classroom instructions are rigorous and engaging.

*HSPA*- An abbreviation for High School Proficiency Assessments, is a standardized test mandated by the state of New Jersey as a pre-requisite for graduation from a public high school.

*NJASK*- An abbreviation for New Jersey Assessment of Skills and Knowledge is a standardized test used by the state of New Jersey for public school students, grades 3-8.

*SES* is a measure of the poverty level of individuals. In the public school system a students’ SES status is the determination of whether or that student qualifies for free or reduced lunch under the Federal lunch program. SES is different from DFG but the state of New Jersey uses SES to define DFG.

*Small Learning Communities (SLCs) and small schools:* Smallness at the High school level can assume any of the following forms:

*Small learning communities in a larger school:* the division of a big school into cluster or houses, in which teams of teachers create small, personalized environments. The interdisciplinary teams share the same group of students, normally no more than 80 students per team. The Orange High School has been reconstituted using this model.

*Distinct small schools in one building:* Creating separate, autonomous, small schools within one large building or location. Each school in this configuration will have its own administrators, faculty, and students. There is an equitable assignment of students based on race and ethnicity.
Small, freestanding schools: Small, free standing schools (population of approximately 400 students) which have their own facilities and staff (National Forum to Accelerate Middle 
- Grades Reform, 2004).

Outline of the Study

In Chapter I the researcher presented an introduction/contextual framework, statement of the problem, the purpose of the study, the research question, limitations and delimitations of the study, definition of pertinent terms and a brief statement of the design and methods. Chapter II includes a review of the relevant research, theory and literature on Small Learning Communities. Chapter III describes the design and methodology in detail and the research model, the sampling, the description of instruments used, the method of data collection and analysis. Chapter IV includes the results and findings of the study. In chapter V the researcher presents a summary of the findings, discussions, conclusions, and recommendations for practice, policy, and future research.
Chapter II

REVIEW OF RELEVANT RESEARCH, THEORY AND LITERATURE

This review is organized under five major headings that are important to understanding the usefulness of this study. The areas of focus are research on school size, definition of school size, related literature on small school structures, implementation experiences, and the underlying theoretical framework of the psychological sense of community.

Research on School Size

During the first half of the twenty-first century, there was some amount of research work on the relationship between the size of school and student behaviors (Dawe, 1934, Isaacs, 1953, Larson, 1949, as cited in Barker and Gump 1964). The publication of the work of Barker and Gump (1964), however, provided the impetus for an upsurge in research studies on the effectiveness of small schools.

Barker and Gump’s work occurred at a time when there was a widespread belief among educators that large comprehensive high schools were much more effective in educating children than small high schools. Conant (1959) argued that small schools with classes of fewer than 100 students per class could not offer a wide enough curriculum to cater adequately to the needs of American high school students. Following Conant’s work, the number of elementary and secondary public schools declined from about 200,000 in 1940 to about 62,037 in 1990. This decline occurred against a backdrop of a 70 percent growth in the U.S. population during that same time period (Cotton, 1996).
Barker and Gump (1964) conducted a comprehensive study of the relationship between school size and students behaviors. The researchers analyzed the data from 52 high schools in Eastern Kansas ranging in size from 35 to 2,287 students. Intensive studies were done on school size and student behaviors in 13 schools, while limited investigations were done in the remaining 39. Barker and Gump found that that there was a greater participation by students in small schools in extra-curricular activities than students in the larger high schools. The authors concluded that small schools are best, and that the assumptions that large schools are superior to small schools are not necessarily true. Barker and Gump wrote,

We were impressed to find clear evidence of greater participation in school activities by small school students than by large school students in all public records available. The differences were so great as to suggest not only that they were statistically significant differences but that they pointed to a different way of student life in small and large schools. (p.62)

Finn (1993) posited that engagement in school is best viewed as a behavioral trait that he labeled "participation." The researcher contended that participation can be seen at four different levels and may assume different forms as students move through grades. As students participate in school related activities, Finn argued, they begin to develop a sense of belonging as they gain rewards for success; students develop a feeling of identification with school and the school community. A major assumption of the participation-identification model is that great participation by students is followed by a sense of being comfortable with school related activities which should in turn translate into students performing well academically.
The work of Barker and Gump provided new evidence that contradicted the widely held notion at that time that large comprehensive high schools were much better than small schools. In addition, even though the study did not offer a clear relationship between school size and academic behavior, it laid the foundation for additional studies on the relationships between school size and student behaviors. The reliability of this data should, however, be questioned. The fact that there was not a rush towards embracing the findings of Barker and Gump suggested that there needed to be additional studies on this issue.

Cotton (1996) reviewed 103 studies on the relationship of between school size and some aspects of schooling. The analysis focused on 69 of these studies: 49 from primary sources (studies and evaluations), 14 from secondary sources (reviews and syntheses), and 6 from documents (reviews and studies). The findings were reported under the headings of quality of curriculum, cost-effectiveness, academic achievement, student attitudes, social behavior, extracurricular participation, attendance, dropouts, belongingness/alienation, self-concept, interpersonal relations, college variables, and teacher attitudes. Cotton reported that based on the analysis of the studies there was agreement among the different researchers that students in small schools performed better than students in large schools in every area, except academic achievement. According to Cotton, about half of the researchers found no difference between students’ achievement in large schools and students’ achievement in small schools. The researchers, however, found that in small schools academic achievement of minorities and low socio-economic status students (SES) were higher than their counterparts in large high schools. The general assumption that resulted from these studies was that small schools were better than large schools.
The National Association of Secondary School Principals (NASSP), acknowledged the need for reforming large comprehensive high schools with the publications of two important reports—Breaking Ranks and Breaking Ranks II (1996, 2004). These reports pointed to the need to make the high school of the 21st century more student-centered, more personalized in programs, and noted the need to create conditions that would produce and sustain academic rigor. The reports acknowledged that high school principals must take responsibilities for the quality of their schools and the eventual success of the students who attended these schools. Breaking Ranks II underlined the need for collaboration in each high school among the principal, teachers, support staff, and members of the school community.

Additionally, Breaking Ranks II recommended the reconfiguration of large comprehensive high schools and the creation of smaller learning communities through the development of new small high schools, creating schools-within-schools in large high schools, and educating the public about the benefits of personalized learning environments.

Cutshall (2003) posited that the recommendations that emanated from Breaking Ranks I and Breaking Ranks II were based on the belief of the association “that students take more interest in school when they have a sense of belonging and that students benefit from a more intimate setting in which their presence is more readily and repeated acknowledged” (p.23). Cutshall highlighted success stories of the creation of small schools in Baltimore, Maryland, Sacramento, California, Oakland, California, and Montgomery County Maryland in showing that size does matter. The author asserted that the challenge facing school planners, administrators and educators was how to create new small schools or redesign large comprehensive high schools into small school environments.
The Bill and Melinda Gates foundation has contributed more than $1.4 billion in education grants since 1999 (Shaw, 2006). Most of the money has been given specifically towards improving schools. Most of the grant money from the foundation had been used towards reconfiguring unsuccessful large comprehensive high schools into small independent schools in states such as Washington, New York, and Illinois. This huge amount of spending on small schools was based on the belief by the founders of the foundation that it was necessary to overhaul many of the large comprehensive high schools in an effort to reduce the dropout rates, and prepare all students for college or the world of work (Thompson, 2005). These were indeed high expectations from the Bill and Melinda Gates Foundation. However, were these expectations realistic? In October 2005, the foundation shifted its emphasis from breaking up large comprehensive high schools into small independent schools. According to Thompson (2005), the new emphasis is now on giving support to improving classroom instructions in school districts where students have demonstrated academic improvement.

The US Department of Education (USDOE) has provided funding for SLCs. In 2000 the U.S. Department of Education allocated $42 million in grants to districts and schools to create SLC's in schools with over 1000 students (Wasley & Lear, 2001). That amount increased to $120 million in 2001.

**Definition of Small Schools**

After years of discussions, researchers and educators are yet to reach a consensus on the size configuration of a small school. In making a case for school size, Barker and Gump (1964) focused intensively on 13 schools. Ten schools had student populations between 35 and 438, while three schools had student populations of between 925 and 2287. The numbers used in their
research implied that the definition of a small school could be applied to any that had an upper limit of less than 500 students.

Howley (1994) argued that school size is not only determined by the total number of students enrolled in a school but also on the number of students enrolled by grade. Citing an example, Howley contended that a ninth grade school with 1500 hundred students can be considered as 4 times larger than a 9-12 school with the same number of students enrolled. Additionally, Howley (1994) cited the state of Florida, which has legislatively mandated 900 students as the upper limit for new high schools, 700 for new middle schools, and 500 for new elementary schools.

Cotton (1996) reported that in the review of the 69 studies on small schools, only 27 of these studies actually offer a numerical definition for a small school. The researcher offered, “The upper limit for a ‘small school’ in those 27 documents ranges from 200 to 1000 students, and the range for a ‘large school’ is 300 to 5000 students.” (p.3). Cotton used the range of 300 to 400 students for elementary students, and 400- 800 students for high schools as the ideal size definition of a small school. Cotton contended that while there was no consensus, many researchers agree that the ideal size for any school should be between 400 and 500 students.

Lawerence et al. (2002, cited in Nguyen, 2004), supported Howley’s position in offering the following guidelines for small size:

High schools (Grades 9-12): 75 students per grade level (300 total enrollment);
Middle schools (Grade levels 5-8) 50 students per grade level (200 total enrollment);
Elementary schools (Grades 1-6): 25 students per grade level (150 total enrollment)

Stevenson (2006) contended that it is difficult to make a clear determination on the size of a
small school because “a small school in one setting may be a big school in another setting” (p.7).

Benefits of Small Schools and SLCs

The National Forum to Accelerate Middle Grade Reform (2004) analyzed an extensive body of research which suggested that small schools and SLC’s have the following significant advantages:

(a) Increased student performance, along with a reduction in the achievement gap and dropout rate;

(b) A more positive school climate, including safer schools, more active student engagement, fewer disciplinary infractions, and less truancy;

(c) A more personalized environment in which students have the opportunity to form meaningful relationships with both adults and peers;

(d) More opportunities for teachers to gather together in professional communities that enhance teaching and learning;

(e) Greater parent involvement and satisfaction; and

(f) Cost – efficiency.

The writers of the Forum contended that success of small schools and SLC’s at the middle level improves the possibilities of students being successful in high school and beyond.

In addition to an increased number of students who attend small schools graduating from high school, the findings also showed that more students are satisfied with their school
experiences, and many were less likely to dropout from school (Copland & Boatwright, 2004). Copland and Boatwright cited a comprehensive study on small schools in Chicago, which found that students who attended these schools had higher grade-point averages (GPA's) and a higher attendance (ATT) rate than did their counterparts in large urban high schools.

Researchers have also found that large school size negatively affects attendance, and students are less enthusiastic about being involved in school activities (Klonsky, 1995; Raywid, 1995). The authors also reported that in larger schools students achieve lower grade averages, and standardized test scores. In addition, the dropout rates are very high coupled with high levels of violence, and drug abuse. The results of some studies have shown, however, that smaller school size can have a negative impact on student achievement on student bodies in wealthy communities (Howley, Strange, & Bickel, 2000).

The work of Lee and Smith (1996) revealed that the economies of scale projected by supporters of school consolidation were never realized. Many school districts found that it was more expensive to operate large schools primarily because more layers of support and administrative staff were needed to handle the increased bureaucratic demands, and student misbehavior.

Other studies on smaller schools identified a genuine sense of belonging for both students and teachers, higher expectations for student engagement, and fewer distractions within the learning community (Matt, 2004). Matt argued that these conditions provide the ideal backdrop that would allow teachers to help students become more responsible for their own learning as well as establishing the culture, and developing the tools for inquiry-based learning. In this kind
of environment, the writer posited, students would be highly motivated to work hard and graduate from high school with authentic skills, and great expectations for their future.

Klonsky and Klonsky (1999) offered that small schools could create relationships that lead to teacher collaboration, student’s visibility, and the establishment of true learning communities. In other words, small schools help students to avoid the feeling of anonymity. The researchers contended that “large schools, which often process students with bar codes and ID numbers, sacrifice a sense of community and caring” (p.38). The authors pointed to the achievement of students in four small high schools in Chicago: Best Practice High School, Telpochcalli School, Chicago Vocational Career Academy, and Paul Robeson High School as evidence of how effective small schools can be in countering anonymity and helping students to succeed. The authors’ focus on real examples added some degree of credibility to the conclusions about students not “feeling lost” in the school environment.

McAndrews and Anderson (2002) posited that small schools, which the authors argued could also apply to schools-within-schools, offered students significant academic benefits with test scores being higher compared to those of students in larger schools. Small schools, the authors contended, also provide students with greater social benefits such as a more caring environment that helps to promote positive students attitudes. In addition, the dropout rate in small schools is much lower compared to larger schools, while the graduation rate is much higher in small schools than in larger schools.

While acknowledging these benefits of small schools, McAndrews and Anderson, argued that there are negatives that needed to be overcome. Some teachers worry about the possibility of losing seniority when transferred from the large school to the small school. Teachers also worry
about whether or not they would be required to teach outside of their own specialty. These issues
can affect teachers’ motivation and commitment to the small school concept.

Howley (2004) examined three bodies of work on small schools and concluded the
following:

(a) Smaller schools size is associated with higher achievement under certain conditions:

(b) Smaller schools promote substantially improved achievement equity: and

(c) Smaller schools may be especially important for disadvantaged students.

Wainer and Zwerling (2006) argued that many studies which concluded that students in
small schools perform better academically than students in large comprehensive high schools
were based on flawed methodology. The authors contended that many researchers based their
findings on looking only at one end of the performance distribution, even though small
schools are represented at both tails. Kahne, Sporte, De La Torre, and Easton (2008)
examined the performance of students in small schools in Chicago between 2001 and 2005.
The authors concluded that there were evidence to suggest that small schools do provide a
more personalized and supporting climate for students. The researchers, however, did not
find enough evidence to support improvements in academic achievement. The results of a
recent 5-year evaluation of the Bill and Melinda Gates Foundation National High Schools
Initiative (Shear et al. (2008) made a similar claim.

on the effects of small schools on student achievement in New York City. The authors found
that students who attended the small high schools had lower academic achievement than
students who attended large comprehensive high schools in New York. This study, as well as
others mentioned above seems to cast doubts on the contention of supporters of the small school reform movement, that students in small schools perform better academically than their counterparts in large high schools.

Related literature on Small School Structures

The move towards small schools and SLC’s has been predicated upon the findings of research studies on the operation of large comprehensive high schools. The reports of *Breaking Ranks* and *Breaking Ranks II* (NASSP, 1996, 2004) carried a heavy focus on the reform for large comprehensive high schools, with operating units no larger than 600 students. Both reports point to the need to create smaller learning units within large comprehensive high schools, and the use of a Personal Adult Advocate to mentor and guide each student in his/her educational experience. The federal No Child Left Behind (NCLB) Act (2002) earmarked funding for the reform of high schools with grades 9-12, and a population of more than 1000 students.

The reconfigurations of large comprehensive high schools have taken two forms: breaking these schools into separate small independent schools, and creating SLCs within the same school. A number of sources, most notably the Bill and Melinda Gates Foundation starting in 1999, have provided funding for the creation of small independent high schools. The foundation stopped funding the creation of independent small schools in October of 2005 (Thompson, 2005) based on an evaluation of the academic performance of students who attended these schools. Funding from the Gates Foundation is now focused on improving curriculum and instructions within schools in districts that have demonstrated academic improvements and
effective leadership. The NCLB Act earmarked funding for the reconfiguration of large comprehensive high schools into SLCs.

Small Learning Communities (SLCs)

There are many configurations of SLC’s. These include Schools-within schools, academies, interdisciplinary teaming, house plans, and alternative schools for at-risk students. Whatever the configuration argued Cotton (2001) the goal of each SLC is the same: creation of personalized learning environments for students and teachers. The USDOE identified four common forms of SLCs. These are academies, house plans, schools within schools, and magnet programs.

Academies

These are subgroups within schools organized around one or more themes. Academies can take different forms such as 9th grade/freshman academies and career academies. According to the Abt Associates Inc. (2002) the career academy strategy has been studied more than any other SLC design. The writers highlighted studies done by Stern et al., (1989); Elliot, Hanser, and Gilroy, (1998); and Kemple and Snipes, (2000). The researchers found positive relationships between career academy participation and improvements in academic and behavioral outcomes. Viadero (2008) reported that the findings from a 15 year research project showed that although students who attended career academies and students who attended traditional high schools have an equal chance of attending college, students who attended career academies earned more money by their mid-20’s.

Career academies integrate academic and vocational instruction, provide work-based learning opportunities, and prepare students for college or the workplace. The academies forge
working partnerships with local employers. One of the major emphases of career academies is building relationships between students and adults (teachers), worksite supervisors and other employer representatives.

*House Plans*

In these configurations, students within a large high school are divided into groups of several hundred, either across grades or according to grade levels. Students take some of their classes or all of their classes with their house members and from their house teachers. House plans can take either the year-long or multi-year format. Generally, each house has its own discipline plan, social activities, student government, and other extra-curricular activities. Students can, however participate in the activities organized by the larger school.

*Schools Within – Schools (SWS)*

These small autonomous subunits are located in larger school buildings. SWS represent the only independent form of smaller learning community. Their organizational forms distinguish them from other types of smaller learning communities. Generally, schools –within-schools do not report to the principal of the host school but to the superintendent or his/her designate. SWS have their own cultural identity, own programs, personnel, students, budget, and school space. SWS, like other types of SLC designs, foster supportive relationships between and among teachers and students by having the similar groups of students take core courses with the same group of teachers each year, which allow students to receive support from their peers, teachers, and other adults.
Raywid (2002) offered that the implementation of the school-within schools in New York City also included schools headed by teacher leaders who reported to the principal of the building. The success of many these schools, contended Raywid, depended upon the philosophy of the principal towards small schools and small learning communities.

Abt Associates Inc (2002) reviewed numerous studies on SWS and reported that students who attended this type of SLC exhibited improvements in academic, behavioral and attitudinal outcomes.

Magnet Programs

Magnet programs generally have a “specialty core focus (such as math, science, creative arts, or a career theme or cluster) to attract students from the entire school district” (U.S. Department of Education, 2001a, 2001b). Some magnet programs have special admission policies (such as test scores, teacher recommendations, interviews, and report card grades) and are open only to students who are interested in the area of core focus. Studies conducted by Blank (1984) and Gamoran (1996) (as cited in Abt Associates Inc, 2002) found that students who attended magnet programs had better academic achievement than did their counterparts who attended traditional large schools.

Some urban schools districts have implemented the First Things First (FTF) school reform model. According to the Institute for Research and Reform in Education (IRRE) (2004), the reform model that has three components:
(a) SLC’s- groups of up to 350 students who share the same core subjects and teachers for several years. SLCs are organized around broad themes such as “Science and Technology” and “Visual Arts” and represent a form of magnet programs.

(b) Family Advocate System- under this system students are matched with a staff member, in most cases a teacher within the SLC, who is responsible for monitoring that student academic, social, and emotional progress. The advocate works with the student as well as maintain close liaison with the student’s parents/guardians in order to ensure his or her academic and social success. The Family Advocate or the Personal Adult Advocate (PAA) is responsible for helping to personalize the learning environment for students. Breaking Ranks and Breaking Ranks II highlighted the importance of the PAA in helping to develop and implement a personal plan for progress for each student (NASSP, 1996, 2004).

Other researchers (Croninger & Lee, 2001, Eccles et al., 1993; Finn & Achilles, 1999;) have suggested that the key to a student’s educational success seems to be the teacher-student relationship. Pitts (2005) found that the presence of the PAA has helped students to cope with the transition to high school, and was perhaps the most useful component of the school’s transition program. Black (2006) posited that students who receive caring support from teachers are more likely to have higher academic achievement. The researcher quoted the study of 300 programs by Weissberg and Durlak that incorporated social-emotional learning (SEL) which concluded that these programs significantly improve students’ academic performance.

(c) Instruction Improvement efforts

Teachers are expected to work with their colleagues to ensure the alignment of the curricula to state and local standards. According to IRRE (2004) the three instructional goals are:
(a) Engagement: students are actively involved – emotionally, behaviorally, and cognitively – in their academic work.

(b) Alignment: learning materials, student work – and the assignments that produce it – reflect academic standards important to the district and state and offer opportunities for students to master the methods used on their state’s high stakes assessments; and

(c) Rigor: teachers set high standards for all students, make those standards clear to students up front, embed those high standards in everything they do and everything that they ask students to do, and regularly review progress toward those standards. (p.8)

Finn (1993) posited that engagement in school is best viewed as a behavioral trait that he labeled “participation.” The researcher contended that participation can be seen at four different levels and may assume different forms as students move through grades. As students participate in school-related activities, Finn (1993) argued that they begin to develop a sense of belonging as they gain rewards for success; students develop a feeling of identification with school and the school community. A major assumption of the participation-identification model is that great participation by students is followed by a sense of being comfortable with school-related activities, which should in turn translate into students performing well academically.

The school studied in this current evaluation has implemented the FTP reform model in order to raise the academic outcomes and behavioral outcomes of students, many of whom are at-risk students. Finn and Achilles (1999) offered that engagement behaviors are critical for at-risk students to overcome obstacles, and become successful in school.

Oxley (2001) asserted that there is consensus among many researchers and educators that the essential feature of any SLC is an interdisciplinary team of teachers that shares a significant amount of instruction time with a group of no more than 500 students in a particular area.
designed for their collaboration. Felner et al. (2007) posited that “the label of ‘small learning communities’ makes clear that the central focus across efforts is the creation of conditions that engage students, support learning, and enhance development.

Cotton (2001) posited that the successful implementation of the new SLC’s required the existence of conditions and practices listed under five broad categories. The categories were self-determination, identity, personalization, support for teaching, and functional accountability.

Self-determination

According to Cotton (2001), self-determination refers to the ability of SLCs to function as autonomous units. Being autonomous requires each SLC to have broad decision-making authority. It also implies that the SLC has its own physical space where students will take all or most of their classes. In addition, the staff of the SLC would have control over the schedule, the budget, curriculum, instruction, and personnel. Cotton’s position was consistent with Raywid’s (1996) argument that autonomy needed to be supplemented by the related elements of separateness and distinctiveness. Separateness, according to Raywid, can be interpreted as being both “literal” and “metaphoric”. The literal interpretation involves the designation of specific rooms and areas for the operation of the SLC. The metaphoric interpretation refers to the need for teachers and students to identify themselves with the particular unit rather than with the entire building. Raywid(1996) defined distinctiveness as special attributes that are specific to a particular SLC that differentiates it from other SLCs. Career academies are a good example of distinctiveness. Each academy has a specific goal and the courses to attain this goal differ to some extent in each program.
Mayhan and Edmunds (2004) asserted that SLCs are successful when they are autonomous units with the decision-making authority inherent in a school. However, many SLCs fail to reach that level of autonomy because many of the traditions of the large school remain, and many of the services such as the library and the cafeteria remain centralized, and this limits independent decision-making.

Identity

Identity implies that the focus is on the SLC having a clear vision/mission. SLCs need to have a clear sense of purpose, which guides the development and implementation of the programs of that unit. The development of the vision/mission, and the programs emanating there from should occur with the involvement of all the stakeholders.

Personalization

Personalization involves members of SLCs knowing each other very well. One advantage of the small schools’ setting is that teachers can easily identify and respond to students’ particular strengths and needs. As such, it is easier for teachers to offer differentiated instructions to students, thus eliminating the need for academic tracking with all of the negative consequence. Personalization in SLCs is greatly facilitated by the use of the Personal Adult Advocate who coordinates the relationship among the teacher, the student, and the parent.
Support for teaching and Learning

Teachers within SLCs assume the authority as well as the responsibility for educating their students. The leadership responsibilities of successful SLCs, according to Cotton (2001), reside not only with the principal but with every member of the SLC team. In successful SLCs both the teachers and administrators take responsibility for instructions within the SLCs, as well as make administrative decisions about matters directly related to students.

Generally, SLC interdisciplinary team members are actively involved in their professional development and work together to develop rigorous, relevant, and cohesive programs. This seems to suggest that the functioning of interdisciplinary teams tend to create professional learning communities among teachers in SLCs.

Wells and Feun (2008) conducted a two-part study of the formation of professional learning communities (PLCs) among teachers in six high schools in Michigan. Teachers at 24 high schools were trained in the development of PLCs. One year after the training the researchers conducted an evaluative study among teachers at six of the schools. Wells and Feun (2008) found that there were resistance to the implementation of the some of the most important element of successful PLC’s as outlined by Hord (1997, as cited in Wells and Feun, 2008).

These included -:

(a) Intentionality of purpose- working in PLCs to improve teacher and student learning;

(b) Collaboration –working in teams, instead of in isolation, for the purpose of analyzing student learning;

(c) Results-driven focus-reviewing outcomes as primary in importance over input of materials;
(d) Action plans to interrupt failed learning; and

(e) Shared practice and collective inquiry-studying best educational practices

The results of the study brings into focus the challenges that still remain in the creation of professional learning communities, which seems to be an essential component in the successful implementation of SLCs.

Functional Ability

In achieving functional ability, SLC teams use multiple forms of performance assessments that require students to demonstrate their learning, and in the process determine the success of the SLC. Ancess and Ort (1999, as cited in Cotton 2001) studied successful small schools in New York and reported that each of these schools “has developed a performance assessment system that enables teachers and students to assess their work using multiple indicators and multiple assessments and that facilitates continuous improvement” (p.38). Assessment of student learning is personalized and among the measures used are students’ appraisals. In addition, Cotton (2001) contended that functional ability also includes support for SLCs by school districts, state and federal agencies, networking with other small learning communities, and thoroughgoing implementation characterized by constant re-evaluation and adjustments.
Implementation Experiences

Cotton (2001) concluded that based on the studies reviewed, that size alone is not enough for successful implementation of new small learning communities. Underlining the insufficiency of size in the achievement of small school reform, Oxley (2001) contended that, small size is interdependent with site-based management, interdisciplinary teacher teams, heterogeneous student groups, as well as the collaborative planning and learning processes and learning goals that allow such structures to have their desired effect: strong individual identity and development in combination with a sense of belonging and interdependence. (p. 7)

Other researchers (Meier, 2002; Noguera, 2002; Vander Ark, 2002) offered support to Cotton's contention that smallness alone cannot guarantee the successful implementation of new SLCs, and that other conditions and practices must be present. Vander Ark (2002) presented a somewhat different slant in relationship to leadership by contending that smallness need to be supplemented by the existence of a strong leader who can provide clear vision, embrace the role of instructional leader, and foster collaboration. This seems somewhat different from the notion of shared leadership and shared decision making which connotes strong levels of collaboration among the policy actors.

Raywid (2002) offered "The challenge of downsizing require more than simply making schools smaller. To achieve the purposes of downsizing, the new education units need to look different from the old ones and depart from them in fundamental days" (p. 47). Raywid (2002) argued that the successful implementation of new SLCs required the establishment of new
structural frameworks, as well as the creation of new policies needed to support the new structures.

Ancess (2008) opined that many small high schools still operate like large comprehensive high schools. According to Ancess, the curriculums of many of these schools are still test-prep biased instead of being focused on the development of the analytical skills of students. The writer concluded that many small high schools have detoured away from the goals established some 30 years by the small school movement which was “to serve students who were alienated, disengaged, and failing in traditional secondary schools, and teach them to use their minds well” (p.49).

The researcher identified four ingredients that are essential for small schools to fulfill their mission of reaching children, and getting them to use their minds. These are: the development of caring relationships, the creation of unified communities of learning, provision of a safety net for students, and the provision of intellectually transformative experiences to students. Ancess (2008) highlighted the value of creating caring relationships by pointing out that students have reported that efforts such as unwavering teacher access, support, and pressure are critical in getting them to achieve at higher levels and graduate.

Darling-Hammond and Friedlaender (2008) reported on the findings of a study of the operations of five urban small high schools in California that have defied the odds in supporting the success of low-income minorities’ students. The researchers identified three elements that were common to all five schools: personalization, rigorous and relevant instructions, and high levels of professional learning and collaboration.

In all five schools, the researchers reported that teachers served as PAAs and were assigned to groups of 15-20 students. The teachers met with the groups several times a week and stayed
with the same group for 2-4 years. The schools were able to hire additional staff, which enabled the implementation of small class sizes of no more than 25 students. In addition teachers had a class load of between 50-100 students, and taught fewer classes for longer blocks of time which allowed them to get to know the students better, and the students to know the teachers better. Darling-Hammond and Friedlaender (2008) posited, “by knowing students well, teachers are able to tailor instructions to students’ strengths, needs, experiences, and interests” (p.16). The researchers further added, “personalization substantially influenced students’ investments in learning by nurturing strong relationships and accountability between students and teachers both in the classroom and advisory periods” (p.16). The findings in this study supported Pitts (2005) finding on the positive effects of the use of PAAs.

In reporting on the implementation of rigorous and relevant instructions, Darling-Hammond and Friedlaender (2008) highlighted the case of a special education student who moved from a large high school and enrolled in one of the five small high schools. On enrollment as a 10th grader this student was reading at a fifth grade level but with caring support improved within 1 year to almost 11th grade reading level. The researchers pointed out that all five schools provided students with a curriculum that allowed students to learn intellectual and research skills, and apply these skills to real-world problems.

The argument can be made that this should be done in all high schools. Researchers have found, however, that large comprehensive high schools do not create the learning environment that allows minorities and low SES students to be very successful. Nye (1995) found that “in inner-city schools, both small class size and the S (small) class type appear to be important considerations in improving student achievement in reading and mathematics” (p.126). Nye
suggested that the findings of his study showed that an analysis of tests scores revealed that “small school size apparently contributes to a narrowing of the minority –White gap” (p.126).

Darling –Hammond and Friedlaender (2008) findings on professional learning and collaboration revealed that in all five schools teachers were allotted large amounts of time for collaboration, design of curriculum and instruction, and learn from each other. Teachers organized summer retreats to review student learning, plan and organize instruction for the new school year, review advisory practices and student support programs and activities. The researchers reported that in the five schools teachers were allocated 7-15 days for professional learning, in addition to weekly common planning time. The researchers offered that the schools in the study were able to help their students to be successful in spite of the limitations such as funding, and adhering to the accountability guidelines of the California department of education.

Supovitz and Christman (2005) examined the performance of SLCs in participating schools in Cincinnati and Philadelphia. In Cincinnati teams of three to four teachers worked with the same students over many years. Philadelphia featured SLCs organized as schools within schools. The researchers found that in both cities the school environments in participating schools were positively influenced. In Philadelphia, the teachers in the participating schools felt that school was safer and more orderly, and that students seem very connected to their learning communities. As such, the reform model was very popular with teachers in both cities. Supovitz and Christman (2005) contended, however, that in both cases the reforms failed to enhance instructional focus. The major reason advanced for this observation was that in each case very little time was spent on discussing instructional issues.

Jehlen and Kopkowski (2006) examined the operation of two reconfigured high school in Kansas City, Kansas, and Oakland, California. In 1997, Kansas City educational authorities
reconfigured the 1200 students' strong Wyandotte High School, breaking it up into eight self-contained units or SLCs. Teachers gradually embraced the concept, after initial objections. One year after the implementation of the First Things First (FTF) reform model the school's dropout rate decreased and the graduation rate increased. Tardiness decreased from 2000 in 1997 to 24 in 1998. In 2003, 4% of tenth graders scored at the proficiency level or better on the Kansas State Assessment tests compared to 1% in 2000. In addition, reading scored improved by 15% during 1997-2003. The authors found that this level of success was achieved mainly because teachers were integrally involved in the decision making process.

Jehlen and Kopkowski (2006) noted that implementation of SLC's at Wyandotte High School posed the following challenges:

(a) Extra work for teachers, especially those who functioned as coordinators of their learning communities;

(b) Adherence to a theme meant fewer course offerings for students; and

(c) Great difficulty assigning teachers to subject areas.

Life Academy in Oakland, California, a 260 student's stand-alone small school was carved out of the 1500 student Castlemont High School. Life Academy had a biotech theme. Students received 2 years credit toward a California biotech certificate when they graduated from that school and attended college. Teachers at Life Academy performed a number of administrative functions in addition to their teaching duties.

The authors contended that Life Academy suffered similar problems such as excessive teacher workload and fewer course offerings for students. In addition, the Academy was affected by severe budget cuts that affected the hiring of enough qualified teachers. Students and teachers
however emphasized the positives, which included a safer school environment characterized by less violence, and fewer discipline problems.

The mixed results from the implementation of the small school/SLC school reform model has led to a rethinking by the Bill and Melinda Gates foundation on financing of new small high schools. Thompson (2005) reported that in October of 2005 the Gates foundation changed its emphasis on reconfiguring large comprehensive high schools into smaller one. Instead, the foundation changed its grant giving to give money only to “selected school districts with a track record of academic improvement and effective leadership” (p.1). According to Thompson the educational leaders within the foundation concluded that it was better to focus efforts on improving classroom instruction and mobilizing the resources of the entire district rather than on breaking up large high schools. The change in direction by one of the major funding sources of new high schools creation seems to mirror the contention of Cotton (2001) and Raywid (2002) that smallness by itself is insufficient to generate the needed improvements in school outcomes.

Shaw (2006) surveyed the fate of many of the small schools created by funding from the Gates foundation in the state of Washington and reported that none of these small schools have yet to yield significant results. The writer cited Tyee high school in Seattle, Washington, which showed promising results after being converted into three small high schools but failed to meet the high expectations of the Gates foundation. Shaw reported that the Gates foundation believes that most of the schools that received its grants have made good progress, and are educating more low-income students in challenging classes, many of whom are on the college tract. The results of a 5-year evaluation study of Gates foundation National High School Initiative (Shear et al., 2008) found that the establishment of small schools and smaller learning communities have created a climate that foster stronger student engagement and significantly higher student
attendance. However, the researchers did not find any significant improvement in academic achievements. The question then is “Should large sums of money be continued to be invested on the establishment of small schools, and SLCs?

Theoretical Framework

The successfully implementation of the small learning communities model requires a great deal of teamwork. It requires teachers and students working together to create a school culture that fosters a psychological sense of community. Sarason (1974) first discussed the concept of psychological sense of community (PSOC) in the book *The Psychological Sense of Community: Prospects for a Community Psychology*. Sarason offered the definition of PSOC as “the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger and stable structure” (p. 157).

McMillan and Chavis (1986) expanded on Sarason’s work and abbreviated the concept to “Sense of Community”. The writers identified four basic elements that must exist for a ‘sense of community’ to exist: (a) membership, b) influence, c) integration, and fulfillment of needs, and d) shared emotional connections.

*Membership*

Being part of a community requires that an individual must possess the attributes that make them a ‘fit’ within that particular community. Membership distinguishes ‘us’ from ‘them’ and creates an atmosphere that allows for closer intimacy and a sense of belonging.
**Influence**

This issue works like a two-way street. The community influences its members to act and the members in turn influences others within the community.

**Integration and fulfillment of needs**

The primarily reason for becoming a member of a community is the fulfillment of an underlying need. The fulfillment of that need is facilitated by participating with others within the community.

**Shared Emotional Connection.**

Shared emotional connection is made up of a number of things such as the quality of the interactions, increased importance of a shared event, increased personal interaction, closure to events, and the quality investment in group activities.

Chavis, Hodge, McMillan, and Wandersman (1986) developed a Sense of community Index (SCI) to measure the effectiveness of the four elements. The instrument is made up of 12 True/False items, with an internal reliability estimate of .80. Initially developed to measure a sense of community in neighborhoods, this instrument has found applicability in schools.

Bryk & Driscoll, 1988; Petty, Andrews & Collett, 1994; Royal & Rossi (1996) examined sense of community and schools. The writers found that a higher sense of community correlated positively with the following variables:

(a) Higher engagement in student activities; (b) higher achievement in mathematics;
(c) more interest in academics; (d) lower levels of disruptiveness in classes and classroom disorder; (e) lower student dropout rates from high school; and (f) positive feelings by students that their teachers care and work very hard for the students benefits.
The literature on small schools and small learning communities suggested that there are numerous positive benefits for students in schools where the school reform model was implemented. Of particular significance is the positive impact of small schools and SLCs on the academic achievement of minorities, and students of low socio-economic status.

The literature also suggested that "reducing the size of school is a necessary, but not a sufficient condition for improving school quality" (Noguera, 2002, p.61). Successful implementation of the small school/SLC model requires the presence of some other conditions and practices. While there have been some success stories, there has also been some failures. The question that this study would hopefully answer, is "Can the model be implemented successfully in a large urban high school in New Jersey?"
Theoretical Framework of Wall to Wall SLC

1. Students have core classes in the same building
2. SLC teachers have common planning time
3. All SLC teachers have same students
4. All students have homeroom with one SLC teacher

EXPECTATIONS
1. Membership on team develops
2. Shared emotional connection occurs
3. Integration and fulfillment of teacher and student needs
4. Teacher and students influence one another

Hypothesized Results / PSOC

- Improved behavior of students
- Improved Attendance
- Improved GPA
- Students needs are better met

Figure 1- Theoretical Framework.
Chapter III
DESIGNS AND METHODS

The focus for the study was an evaluation of the influence of the implementation of Small Learning Communities (SLCs) on student test outcomes (STO), and student attendance rates (ATT) in an urban high school. In this chapter, the researcher presents details of the research design and the methods used to conduct the study. This chapter is organized under the following sub-sections: (a) research design, (b) methods and procedures and (c) data collection and evaluation analysis steps.

Design

The researcher studied the problem using an ex post facto design since the SLC was implemented prior to the present study. Johnson (2001) contended that it is appropriate to identify non-experimental quantitative research design by matching the objective of the study with a specific time dimension. The overriding research objective in this study was to evaluate and explain the influence of the implementation of the SLC model on specific student outcome variables. The time dimensions are the 2005-2006 and 2007-2008 school years, using normally collected data. Based on the models developed by Johnson (2001) this study would be considered cross-sectional and explanatory, or a Type 8 design (p.10).

The researcher used a time series approach to evaluate the influence of the implementation of the SLC on student test outcomes and student attendance at the Orange High School, Orange, New Jersey. In using this design, the researcher had no control over variables such as assignments and technical quality. In addition there was no true control group, which
made the design somewhat weaker than originally desired, but this is the way that school is usually conducted. The design, however, allowed the researcher to determine significance in student academic and social outcomes following the implementation of the SLC structure.

Fox, Anglin, and Romeberg (1977) posited that the time series design and analyses offered researchers the advantages of:

(1) predicting meaningful changes in the observed variable;
(2) observing the existence of the setting in other time and context frameworks;
(3) interpreting and describing the intervention as a dynamic and changing event;
(4) using a variety of approaches to for inferring the intended, and the unintended effects. (p.45)

Three major limitations of the time series approach are:
(a) the number of observations that are usually necessary during the time period being observed;
(b) the non-existence of an adequate pre-intervention data base; and
(c) the non-availability of perfectly reliable data.

Researchers using mostly quantitative methodologies also share this concern about reliable data. (Fox, et al., 1979). In spite of these limitations, Lin and Lawrenz (1997) referred to the work of Mayer and Lewis (1979), Mayer and Kozlow (1980) and Farnsworth and Mayer (1984), which showed that the use of the time series design could yield reliable and valuable data in education research.

Because it was not possible to set up an experimental condition, the evaluator had no opportunity to assign students to conditions or teachers to groups. This post hoc evaluation was done after wall-to-wall SLCs were implemented at Orange High School. The researcher used available data on student test outcomes, and student social behavior outcomes 1 year prior to the
intervention, and 1 year after the students experienced SLCs as ninth graders. The independent variable in this study was SLC, while the dependent variables were student test outcomes, and student attendance (ATT). The post hoc evaluation reflected the nature of how the business of school is normally being conducted.

To address the problem of baseline data, the researcher presented data on student test outcomes (GEPA/NJASK 8) at the Orange NJ., Middle School and Orange school district, and other middle schools within the various District Factor Groupings (DFG) in the state of NJ 2 years prior to the implementation of the SLC intervention, and 2 years after the implementation of SLC (Table 4). Table 5 presents baseline data on the students’ test outcomes (HSPA) at Orange High School and Orange school district, and other high schools within the various DFG’s in the state of NJ, 1 year prior to the implementation of SLC, and 2 years after students experienced SLC as ninth graders.

The data in table 4 show that students in the Orange Middle school performed lower at the state benchmark Grade Eight Proficiency Assessment(GEPA) than their counterparts in the DFG of A, lower than middle school in other DFG’s, and performed below the state’s benchmarks.
Table 4

Percentage of Students Who Scored Proficient or Advanced Proficient in LAL and MATH on the GEPPA /NJASK 8 at the Orange Middle School Compared with Students in Other DFG's (NJDOE, 2006, 2007, 2008)

<table>
<thead>
<tr>
<th>DFG</th>
<th>Language Arts</th>
<th>Mathematics</th>
<th>Language Arts</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Mean</td>
<td>Average Mean Scale scores</td>
<td>Average Mean Scale scores</td>
<td>Average Mean Scale scores</td>
</tr>
<tr>
<td></td>
<td>05-06</td>
<td>05-06</td>
<td>05-06</td>
<td>05-06</td>
</tr>
<tr>
<td>A</td>
<td>%</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Orange School Dist.</td>
<td>31.4</td>
<td>33.3</td>
<td>195.9</td>
<td>20.0</td>
</tr>
<tr>
<td>B</td>
<td>62.4</td>
<td>75.9</td>
<td>204.5</td>
<td>50.0</td>
</tr>
<tr>
<td>CD</td>
<td>68.3</td>
<td>70.6</td>
<td>209.7</td>
<td>57.1</td>
</tr>
<tr>
<td>DE</td>
<td>75.1</td>
<td>77.3</td>
<td>213.6</td>
<td>63.6</td>
</tr>
<tr>
<td>FG</td>
<td>79.3</td>
<td>81.6</td>
<td>217.6</td>
<td>70.6</td>
</tr>
<tr>
<td>GH</td>
<td>83.5</td>
<td>85.9</td>
<td>222.3</td>
<td>74.5</td>
</tr>
<tr>
<td>I</td>
<td>88.4</td>
<td>90.3</td>
<td>226.8</td>
<td>81.3</td>
</tr>
<tr>
<td>J</td>
<td>93.1</td>
<td>93.7</td>
<td>232.1</td>
<td>94.6</td>
</tr>
<tr>
<td>Correlation</td>
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<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>A-J STATE</td>
<td>72.3</td>
<td>74.2</td>
<td>213.6</td>
<td>80.3</td>
</tr>
</tbody>
</table>
Table 5

Percentage of Students Who Scored Proficient or Advanced Proficient in LAL and MATH on the HSPA at the Orange High School Compared with Students in Other DFG


<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>57.5</td>
<td>198.7</td>
<td>45.2</td>
<td>197.8</td>
</tr>
<tr>
<td>O H.S</td>
<td>43.3</td>
<td>197.8</td>
<td>22.5</td>
<td>181.6</td>
</tr>
<tr>
<td>Orange School Dist.</td>
<td>43.3</td>
<td>197.8</td>
<td>22.5</td>
<td>181.6</td>
</tr>
<tr>
<td>B</td>
<td>75.6</td>
<td>214.5</td>
<td>66.5</td>
<td>213.4</td>
</tr>
<tr>
<td>CD</td>
<td>80.3</td>
<td>219.0</td>
<td>60.7</td>
<td>216.2</td>
</tr>
<tr>
<td>DE</td>
<td>86.6</td>
<td>226.2</td>
<td>77.6</td>
<td>222.9</td>
</tr>
<tr>
<td>FG</td>
<td>89.0</td>
<td>229.2</td>
<td>81.7</td>
<td>226.7</td>
</tr>
<tr>
<td>GH</td>
<td>91.0</td>
<td>232.6</td>
<td>86.0</td>
<td>232.9</td>
</tr>
<tr>
<td>I</td>
<td>94.9</td>
<td>240.1</td>
<td>91.0</td>
<td>240.0</td>
</tr>
<tr>
<td>J</td>
<td>97.0</td>
<td>244.7</td>
<td>94.6</td>
<td>246.7</td>
</tr>
<tr>
<td>STATE</td>
<td>88.0</td>
<td>227.6</td>
<td>81.1</td>
<td>227.3</td>
</tr>
</tbody>
</table>

The data in Table 5 show that students at Orange High School performed lower at the state benchmark High School Proficiency Assessment (HSPA) than their counterparts in the DFG of A, lower than high schools in other DFG’s, and performed below the state’s benchmarks. The researcher used the data in Table 4 and Table 5 as a baseline, and for comparison purposes.
Methods and Procedures

This study is a mixed methods study. The researcher employed both quantitative and qualitative measures. Johnson and Onwuegbuzie (2004) contended that the mixed methods approach is not a replacement for the quantitative or qualitative approach in education research. They argued that mixed methods should be seen as a third approach and offered “many research questions and combinations of questions are best and most fully answered through mixed methods solutions (p.18). Patton (2006) contended that one of the major strengths of using the mixed methods approach to study educational issues is the “flexibility and adaptability of such methods” (p.i).

The independent variable in this study was the SLC structure while the dependent variables are student test outcomes (STO), and student attendance (ATT). Analyses were done to determine whether different subgroups of students (gender, and socio-economic status (SES)) had the same or different experiences.

Kremper and Achilles (1979) posited that an evaluation outline could be a useful tool to structure evaluation activities during the planning and the operation stages. Such an outline includes that the researchers should:

1) Encompass appropriate elements for review

2) Cover all aspects of the project

3) Provide a framework for the project and the evaluation (p.20)

The researcher analyzed and interpreted the data on student test outcomes (STO), and attendance rates (ATT) during the 2007-2008 school year. The results were compared to the performance of this same group of students on these two variables prior to the implementation of the SLC model (2005-2006). The researcher also analyzed the results of the interaction of
gender, and SES (free/reduced lunch, or fully paid lunch) against the variables STO, and ATT. Inferences were also made about the possible influence of PSOC among students and teachers.

The program evaluation was conducted on-site with the approval of the district’s interim superintendent. The researcher obtained permission to go ahead with the study. There is no obligation on the researcher to evaluate the SLC from the funding source. Since the study only required the use of public information and proprietary data, the researcher was granted Institutional Review Board exemption from full review. In conformity with the IRB requirements, the researcher completed the on-line Protection of Human Subjects Seminar. Appendix A contains the permission letter from the Orange School District, Orange, New Jersey; Appendix B, the Human Participation Protections Completion Certificate; and Appendix C, the Institutional Board Non-Review Certification.

Data Collection

The following data were collected at the school site for the sample:

(a) 2007-2008 marking cycle grades (1 and 4) in Language Arts literacy (LAL) and Math; (b) 2005-2006 marking cycle grades (1 and 4) in Language Arts and Math; (c) NJASK 8 test scores; (d) student attendance records for 2005-2006 and 2007-2008; (e) gender classification of students; and (f) SES classification of students.

A data sheet that identified each student only by a coded number was used to collect the data. A copy of the data-collection form is attached in Appendix D.
Confidentiality

All participants were given a coded identification number assigned by the principal or designee to protect the identity of the students. Only the coded identification numbers were written on all student marking period grades, and attendance records prior to being released.

To preserve anonymity and confidentiality of participants whose data were selected, post hoc output data collected for each participant in the study were assigned a numerical code. All references to participants were made using assigned numerical codes. Student anonymity and confidentiality were preserved. Only the building principal or designee had access to student identities and other personal information.

The data were sorted into gender and ethnicity based on the numerical codes assigned by the building principal or designee, and put into categories. The data were securely stored in a locked file cabinet in a room at my home and would be kept for a period of three years. With the exception of a statistical mentor, no additional person had access to the data. The researcher ran a test of reliability estimates on the data collected.

The data by group (e.g., gender, SES) were used to answer the following seven research questions:

1. What is the difference, if any, between students test outcomes (STO) on LAL as seventh graders, prior to the implementation of SLC and students’ test outcomes (STO) on Language Arts as ninth graders after experiencing the SLC treatment?

2. What is the difference, if any, between students test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs, and students’ test outcomes (STO) on Math as ninth graders after experiencing the SLC treatment?
3. What is the difference, if any, between overall student attendance (ATT) rates as seventh grade students prior to the implementation of SLCs, and overall students attendance (ATT) rate as ninth grade students after experiencing the SLC treatment?

4. What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs, and the test outcomes of male and female students as ninth graders after experiencing the SLC treatment?

5. What differences, if any, exist between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?

6. What is the difference, if any, in students' SES for outcomes (STO) as seventh graders prior to the implementation of SLCs, and SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?

7. What is the difference, if any, in students' SES for outcomes (ATT) as seventh graders prior to the implementation of SLCs and SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?

Any observed differences were tested for statistical significance ($p \leq 0.05$); and educational significance was estimated to provide effect sizes.

Population and Sample

The population for this study consisted of 270 students who were ninth graders during the 2007-2008 school year, in one large, small city high school. The sample comprised 85 tenth graders from the Orange High School, Orange, NJ, who were exposed as ninth graders in an
SLC during the 2007-2008 school year, and who were also seventh graders at the districts middle school in the 2005-2006 school, 1 year prior to the implementation of this reform model within the school district. The researcher cross-checked the sample for characteristics matches with the population.

Validity of Tests and Reliability of the Data

Valid and reliable data are critical to the time series design and analysis (Fox, Anglin, & Romeberg, 1977). The NJDOE (2007) asserted that “it is required by federal law to ensure that the instruments it uses to measure student achievement for school accountability provide reliable results” (p.88). According to the NDJOE, the classical test theory is used by the department to measure the reliability of all of its standardized tests. The department uses the Cronbach’s coefficient alpha to check on internal consistency or reliability of the research instrument. A reliability analysis done on NJASK LAL data attained a Cronbach’s coefficient alpha of 0.87 and NJASK Mathematics data attained a Cronbach’s alpha of 0.84, both of which were deemed reliable for research purposes.

The NJDOE in 2008 did not provide substantive data with regard to the validity of the NJASK tests. The information provided by the NJDOE suggests that validity of the states’ standardized tests is measured by the alignment of the NJASK and HSPA assessments to the NJ Core Curriculum Content Standards (NJCCCS), and the knowledge and skills students are expected to have mastered at the different grade levels. The NDJOE (2008) offered the following printed commentary to address test validity:

Content-related evidence supporting validity is presented in terms of the adequacy and appropriateness of the state content standards and the representation of the content
standards on the tests. Then, validity evidence based on the internal structure of NJASK is provided through a correlational analysis of NJ ASK content clusters with each other.

(p.96)

Evaluation Analyses

Paired t-tests were used to test whether differences in students test outcomes (STO) and student attendance rates (ATT) were significant prior to the implementation of the SLC and after students were exposed to the SLCs. Students STO, as measured by first and fourth marking cycle grades on Language Arts and Math in the seventh grade, and in the ninth grade were analyzed in SPSS using the independent t-test analysis. The results were compared for significance between pre-SLC performance and post-SLC performance. Similar analyses were be done using paired T-test to determine significance (p<.05) between pre-SLC student attendance rates (ATT) and post-SLC student attendance rates. The researcher conducted analyses to determine whether there were any significant differences in STO and ATT in SES between students as seventh graders (before SLC) and students as ninth graders (after experiencing SLC). Table 6 provides a summary of data sources, collection, and analyses by research question.

Summary of Chapter III

Chapter III provided information on the design and methodology of the influence of the implementation of the SLC’s on student test outcomes, and attendance in the Orange (NJ) High School. It also provided information on the methods and procedures used in the study.
Table 6

Data Sources, Collection, and Analyses by Research Question, SLC Evaluation

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Data Collected</th>
<th>From Whom / Source</th>
<th>How data were collected</th>
<th>Analysis of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1: What is the difference, if any, between student test outcomes (STO) on LAL as seventh graders prior to the implementation of SLCs and student test outcomes (STO) on LAL as ninth graders after experiencing the SLC treatment</td>
<td>Student Marking periods grades</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
<tr>
<td>RQ2: What is the difference, if any, between student test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs and student test outcomes (STO) on Math as ninth graders after experiencing the SLC treatment?</td>
<td>Student Marking periods grades</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
<tr>
<td>RQ3: What is the difference, if any, between overall student attendance (ATT) rates as seventh graders prior to the implementation of SLCs and overall student attendance (ATT) rates as ninth graders after experiencing the SLC treatment?</td>
<td>Student Homeroom attendance</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
<tr>
<td>RQ4: What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs and the test outcomes (STO) of male and female students as ninth graders after experiencing the SLC treatment</td>
<td>Student Marking periods grades</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Data Collected</th>
<th>From Whom / Source</th>
<th>How data were collected</th>
<th>Analysis of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ5: What differences, if any exist between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?</td>
<td>Student Homeroom attendance</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
<tr>
<td>RQ6: What is the difference, if any, between students’ SES for outcomes (STO) as seventh graders prior to the implementation of SLC’s and students’ SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?</td>
<td>Student Marking periods grades</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
<tr>
<td>RQ7: What is the difference, if any, between students’ SES for outcomes (ATT) as seventh graders prior to the implementation of SLCs and students’ SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?</td>
<td>Student Homeroom attendance</td>
<td>Student Information Database (Pentamation)</td>
<td>Downloaded from database and entered in SPSS</td>
<td>Paired Samples t-tests</td>
</tr>
</tbody>
</table>
Chapter IV

PRESENTATION AND ANALYSES OF THE DATA

The researcher’s purpose for this investigation was to determine the influence of the implementation of Small Learning Communities (SLCs) on student test outcomes, and attendance (ATT), in an urban high school. The focus of the data collection was therefore on student test outcomes, and student attendance.

The data was collected on a large comprehensive high school in northern New Jersey. School district administrators implemented wall-to-wall SLCs in an attempt to improve students’ academic performance and attendance. Students’ first and fourth marking period grades on language arts and math were collected. Students’ attendance information prior to the implementation of SLCs and after the implementation of SLCs was collected.

A major assumption of the FTF model is that students’ exposure to SLCs the Family Advocacy system, and improvement in instructions, would help to stimulate improved engagement and as consequence improved academic performance. Against this backdrop the researcher predicted that the students in this investigation would experience improved test outcomes and better attendance rates after being exposed to SLCs. Significance level was set at .05.

The population for the study consisted of 85 ninth-grade students who were exposed to the SLC treatment during the 2007-2008 academic year. The test outcomes and attendance (ATT) of these students were compared to their performance as seventh-graders within the same school district during the 2005-2006, prior to the implementation of SLCs. Table 7 displays selected demographics of the participants compared to the population of ninth graders 2007-2008.
Table 7

Selected Demographics of Participants Compared to the Population

<table>
<thead>
<tr>
<th>Students</th>
<th>Gender</th>
<th>Race</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low SES</td>
<td>High SES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Blacks</td>
</tr>
<tr>
<td>n</td>
<td>85</td>
<td>47</td>
<td>38</td>
</tr>
<tr>
<td>N</td>
<td>270</td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>

Seven research questions guided this study, and are reported here;

1. What is the difference, if any, between students test outcomes (STO) on LAL as seventh graders prior to the implementation of SLCs, and students’ test outcomes (STO) on Language Arts as ninth graders after experiencing the SLC treatment?

2. What is the difference, if any, between students test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs, and students’ test outcomes (STO) on Math as ninth graders after experiencing the SLC treatment?

3. What is the difference, if any, between overall students attendance (ATT) rates as seventh grade students prior to the implementation of SLCs, and overall students attendance (ATT) rates as ninth grade students after experiencing the SLC treatment?
4. What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs, and the test outcomes (STO) of male and female students as ninth graders after experiencing the SLC treatment?

5. What differences, if any, exist between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?

6. What is the difference, if any, in students' SES for outcomes (STO) as seventh graders prior to the implementation of SLCs, and SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?

7. What is the difference, if any, in students' SES for outcomes (ATT) as seventh graders prior to the implementation of SLCs and SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?

The influence of the SLC was analyzed by comparing the students as seventh graders and as ninth graders using STO (first and fourth marking cycle grades), and ATT (days absent from the homeroom). Student SES was also analyzed for differences between before the implementation of SLCs and after students experienced SLC as ninth graders, based on the above mentioned variables. The researcher analyzed the data to determine whether or not the implementation of SLCs would lead to improve academic outcomes for students at Orange High School.

The following sections present the data and analyses results associated with the influence of the implementation of SLCs.
**Research Question 1**

What is the difference, if any, between students test outcomes (STO) on LAL as seventh graders prior to the implementation of SLCs, and students' test outcomes (STO) on Language Arts as ninth graders after experiencing the SLC treatment?

**Research Hypothesis:** Students test outcomes on language arts, as measured by first and fourth marking cycle grades, would be significantly influenced by the implementation of SLCs.

To test this hypothesis paired t-tests were used to compare the means of students’ test outcomes on language arts during the first and fourth marking cycles before the implementation of SLC as seventh graders (2005-2006) and after experiencing SLC as ninth graders (2007-2008). Students first and fourth marking cycle grades on language arts (2005-2006) were compared with their first and fourth marking cycle grades on language arts (2007-2008).

An analysis of the results of the paired t-test comparing students' performances on language arts for the first marking cycle of the 2005-2006 and 2007-2008 school years revealed significant differences in students’ outcomes between pre-SLC students as seventh graders and post-SLC students as ninth graders. The mean for LAL first marking cycle (2005-2006) was 72.63; and standard deviation =7.568. The mean for LAL first marking cycle (2007-2008) was 76.23, and standard deviation = 9.351. The mean difference was -3.6, df = 79, and the t-value = -3.143 which was significant at .002. The results are summarized in Table 8.
Table 8

*Analysis of Students Test Outcomes on LAL- First Marking Cycle*

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td>80</td>
<td>72.63</td>
</tr>
</tbody>
</table>

An analysis of the results of the paired T-Test comparing students' performances on language arts for the fourth marking cycles of the 2005-2006 and 2007-2008 school years revealed significant differences in students' outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. The mean for LAL fourth marking cycle (2005-2006) was 71.22, and standard deviation = 8.002. The mean for LAL fourth marking cycle (2007-2008) was 74.42; and standard deviation = 8.428. The mean difference was -3.205, df = 82, and the t-value = -3.081 which was significant at .003 (at or beyond p ≤ .05).

Table 9 summarizes the results of the analysis.

Table 9

*Analysis of Students Test Outcomes on LAL- Fourth Marking Cycle*

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td>83</td>
<td>71.22</td>
</tr>
</tbody>
</table>

The results suggest that the students' performance on LAL was significantly influenced by their participation in SLCs.
Research Question 2

What is the difference, if any, between students test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs, and the students’ test outcomes(STO) on Math as ninth graders after experiencing the SLC treatment?

Research Hypothesis: Students test outcomes on math as, measured by first and fourth marking cycle grades, would be significantly influenced by the implementation of SLCs.

To test this hypothesis, paired t-tests were used to compare the means of students’ test outcomes on math during the first and fourth making cycles before the implementation of SLC as seventh graders (2005-2006) and after experiencing SLC as ninth graders (2007-2008). Students first and fourth making cycle grades on math (2005-2006) were compared with their first and fourth marking cycle grades on math (2007-2008).

An analysis of the results of the paired t-test comparing students’ performances on math for the first and the fourth marking cycles of the 2005-2006 and 2007-2008 school years revealed no significant differences in students’ outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. Tables 10 and 11 summarize the results of the analysis.

Table 10

<table>
<thead>
<tr>
<th>Analysis of Students Test Outcomes on Math- First Marking Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre- SLC 2005-2006</strong></td>
</tr>
<tr>
<td>n</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>79</td>
</tr>
</tbody>
</table>
Research Question 3

What is the difference, if any, between overall student attendance (ATT) rate as seventh grade students prior to the implementation of SLCs, and overall students attendance (ATT) rate as ninth grade students after experiencing the SLC treatment?

Research Hypothesis: Students' attendance rate, as measured by the number of homeroom absences during the school year, would be significantly influenced by the implementation of SLCs.

To test this hypothesis paired T-tests were used to compare the means of students' attendance rates before the implementation of SLC as seventh graders (2005-2006) and after experiencing SLC as ninth graders (2007-2008).

An analysis of the results of the paired T-Test comparing students' attendance (ATT) rates for 2005-2006 and 2007-2008 school years revealed no significant differences between pre-SLC students as seventh graders and post-SLC students as ninth graders. The results are summarized in Table 12.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>Mean</td>
<td>72.57</td>
<td>71.60</td>
</tr>
<tr>
<td>SD</td>
<td>9.270</td>
<td>7.617</td>
</tr>
<tr>
<td>Mean diff.</td>
<td>.964</td>
<td>.857</td>
</tr>
<tr>
<td>df</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>.394</td>
<td></td>
</tr>
</tbody>
</table>

Table 11

Analysis of Students Test Outcomes on Math - Fourth Marking Cycle
Table 12

Analysis of Students Attendance Rate

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>80</td>
<td>6.03</td>
<td>5.475</td>
</tr>
<tr>
<td>80</td>
<td>7.30</td>
<td>7.052</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>Mean diff.</td>
</tr>
<tr>
<td>-1.275</td>
<td>df</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td>-1.633</td>
<td>Sig.</td>
<td></td>
</tr>
<tr>
<td>.107</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research Question 4

What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs, and the test outcomes (STO) of the same male and female students as ninth graders after experiencing the SLC treatment?

Research Hypothesis: There would be significant differences between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs and the test outcomes (STO) of the same male and female students as ninth graders after experiencing the SLC treatment.

To test this hypothesis paired t-tests were used to compare the means of test outcomes of male students' on LAL and math before the implementation of SLCs as seventh graders (2005-2006) and after experiencing SLCs as ninth graders (2007-2008). Paired t-tests were also done to compare the means of test outcomes of female students on LAL and math prior to the implementation of SLCs as seventh graders (2005-2006), and after experiencing SLCs as ninth graders (2007-2008).

An analysis of the results of the paired t-test comparing test outcomes of males on language arts for the first marking cycles of the 2005-2006 and 2007-2008 school years
revealed significant differences in students’ outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. The LAL mean of male students for the first marking cycle (2005-2006) was 71.33; and standard deviation = 6.958. The LAL mean of male students for first marking cycle (2007-2008) was 75.22, and standard deviation = 9.809. The mean difference was -3.889, df = 44, and the t-value = -2.589 which was significant at .013. The results are summarized in Table 13.

Table 13

Analysis of Male Students Test Outcomes on LAL- First Marking Cycle

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Mean</td>
<td>71.33</td>
<td>75.22</td>
</tr>
<tr>
<td>SD</td>
<td>6.958</td>
<td>9.809</td>
</tr>
<tr>
<td>Mean diff.</td>
<td>-3.889</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-2.589</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td>.013</td>
<td></td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing test outcomes of males on language arts for the fourth marking cycle of the 2005-2006 and 2007-2008 school years revealed significant differences in students’ outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. The LAL mean of male students for the fourth marking cycle (2005-2006) was 69.70; and standard deviation = 7.448. The LAL mean of male students for the fourth marking cycle (2007-2008) was 73.19, and standard deviation = 8.358. The mean difference was -3.849, df = 46, and the t-value = -2.523 which was significant at .015 (or above p ≤ .05). The results are summarized in Table 14.

The results suggest that the test outcomes of male students on language arts were significantly influenced by their participation in SLCs.
Table 14

Analysis of Male Students Test Outcomes in LAL- Fourth Marking Cycle

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>47</td>
<td>69.70</td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing test outcomes of females on language arts for the first marking cycles of the 2005-2006 and 2007-2008 school years revealed no significant differences in students' outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. No significant differences were also found in the performance of female students on language arts for the fourth marking cycles of the 2005-2006 and 2007-2008 school years. The results are displayed in Tables 15 and 16.

Table 15

Analysis of Female Students Test Outcomes on LAL- First Marking Cycle

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>35</td>
<td>74.29</td>
</tr>
</tbody>
</table>
Table 16

*Analysis of Female Students Test Outcomes on LAL- Fourth Marking Cycle*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>36</td>
<td>73.19</td>
<td>8.366</td>
</tr>
<tr>
<td>Mean</td>
<td>76.03</td>
<td>8.361</td>
</tr>
<tr>
<td>Mean diff.</td>
<td>-2.833</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-1.773</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td>.085</td>
<td></td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing test outcomes of male students on math for the first marking cycles of the 2005-2006 and 2007-2008 school years revealed no significant differences in students’ outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. No significant differences were also found in the performance of male students on math for the fourth marking cycles of the 2005-2006 and 2007-2008 school years. The results are displayed in tables 17 and 18.

Table 17

*Analysis of Male Students Test Outcomes on Math- First Marking Cycle*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>45</td>
<td>71.09</td>
<td>8.974</td>
</tr>
<tr>
<td>Mean</td>
<td>71.78</td>
<td>8.626</td>
</tr>
<tr>
<td>Mean diff.</td>
<td>-.689</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-.390</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td>.698</td>
<td></td>
</tr>
</tbody>
</table>
An analysis of the results of the paired t-test comparing test outcomes of female students on math for the first marking cycles of the 2005-2006 and 2007-2008 school years revealed no significant differences in students’ outcomes between pre-SLC students as seventh graders and post-SLC students as ninth graders. No significant differences were found in the performance of female students on math for the fourth marking cycles of the 2005-2006 and 2007-2008 school years. The results are displayed in Tables 19 and 20.

Table 19

**Analysis of Female Students Test Outcomes on Math- First Marking Cycle**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>34</td>
<td>73.53</td>
<td>9.076</td>
<td>34</td>
<td>73.18</td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing test outcomes of male students on math for the fourth marking cycle of the 2005-2006 and 2007-2008 school years revealed no significant differences in students’ outcomes between pre-SLC students as seventh graders and post-SLC students as ninth graders. No significant differences were found in the performance of male students on math for the fourth marking cycles of the 2005-2006 and 2007-2008 school years. The results are displayed in Tables 18 and 20.

Table 18

**Analysis of Male Students Test Outcomes in Math- Fourth Marking Cycle**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>47</td>
<td>72.43</td>
<td>9.995</td>
<td>47</td>
<td>70.70</td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing test outcomes of female students on math for the fourth marking cycle of the 2005-2006 and 2007-2008 school years revealed no significant differences in students’ outcomes between pre-SLC students as seventh graders and post-SLC students as ninth graders. No significant differences were found in the performance of female students on math for the fourth marking cycles of the 2005-2006 and 2007-2008 school years. The results are displayed in Tables 19 and 20.

Table 19

**Analysis of Female Students Test Outcomes on Math- Fourth Marking Cycle**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
<td>SD</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>34</td>
<td>73.53</td>
<td>9.076</td>
<td>34</td>
<td>73.18</td>
</tr>
</tbody>
</table>
Table 20

Analysis of Female Students Test Outcomes on Math- Fourth Marking Cycle

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Mean</td>
<td>72.75</td>
<td>72.78</td>
</tr>
<tr>
<td>SD</td>
<td>8.3664</td>
<td>6.494</td>
</tr>
<tr>
<td>Mean diff.</td>
<td>-.028</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>-.018</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td>.985</td>
<td></td>
</tr>
</tbody>
</table>

An examination of the results for gender outcomes showed that male students had higher mean differences (-3.889, and -3.489) on LAL compared to female students (-3.229, and -2.833). This result shows that male students performed better on LAL than female students did after experiencing SLCs as ninth graders.

Research Question 5

What difference exists, if any, between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?

Research Hypothesis: Students' attendance rates for male and female students would be significantly influenced by the implementation of SLCs.

To test this hypothesis paired t-tests were used to compare the attendance rates of male students before the implementation of SLCs as seventh graders (2005-2006), and after experiencing SLCs as ninth graders (2007-2008). Paired t-tests were also used to compare the attendance rates of female students before the implementation of SLCs as seventh graders (2005-2006) and after experiencing SLCs as ninth graders (2007-2008).
An analysis of the results of the paired t-test comparing the means of (ATT) of male students for the 2005-2006 and 2007-2008 school years revealed significant differences in students attendance rates between pre-SLC students as seventh graders and post-SLC students as ninth graders. The attendance mean of male students for 2005-2006 was 5.87, and standard deviation = 4.7. The attendance mean of male students for the fourth marking cycle (2007-2008) was 8.11, and standard deviation = 8.139. The mean difference was -2.2444, df = 44, and the t-value = -2.298 which was significant at .026. The results indicated that male students were absent an average of 8 days from the homeroom after the implementation of SLCs compared to being absent an average of 6 days from the homeroom prior to the implementation of SLCs.

An analysis of the results of the paired t-test comparing the mean (ATT) of female students for the 2005-2006 and 2007-2008 school years revealed no significant differences in students attendance rates between pre-SLC students as seventh graders and post-SLC students as ninth graders. The results are summarized in Table 21.

Table 21

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Male</td>
<td>45</td>
<td>5.87</td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>6.23</td>
</tr>
</tbody>
</table>
Research Question 6

What is the difference, if any, in students' SES for outcomes (STO) as seventh graders prior to the implementation of SLCs, and students SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?

Research Hypothesis: Student test outcomes (STO), would be significantly influenced by SES after experiencing the SLC treatment.

To test this hypothesis paired t-tests were used to compare the means of test outcomes of students with low SES, as measured by free/reduced lunch, and students with high SES, as measured by fully paid lunch, before the implementation of SLC as seventh graders (2005-2006), and after experiencing SLC as ninth graders (2007-2008).

An analysis of the results of the paired t-test comparing the language arts test outcomes of students with low SES for the first marking cycles of the 2005-2006 and 2007-2008 school years revealed significant differences in students' outcomes between pre-SLC students as seventh graders and post-SLC students as ninth graders. The LAL mean of low-SES students for the first marking period (2005-2006) was 72.00, and standard deviation = 7.623. The LAL mean of low-SES students for first marking cycle (2007-2008) was 76.18, and standard deviation = 9.463. The mean difference was -4.175, df = 56, and the t-value = -2.869 which was significant at .006 (that is p ≤ .05).

An analysis of the results of the paired t-test comparing the language arts test outcomes of students with low SES for the fourth marking cycles period of the 2005-2006 and 2007-2008 school years revealed significant differences in students' outcomes between pre-SLC students as seventh graders and post-SLC students as ninth graders. The LAL mean of low-SES students for the fourth marking cycle (2005-2006) was 70.93, and standard
deviation = 7.654. The LAL mean of low-SES students for the fourth marking cycle (2007-2008) was 74.19, and standard deviation = 8.042. The mean difference was -3.254, df = 58, and the t-value = -2.728 which was significant at .008 (that is p<.05). The results suggested that low-SES students test outcomes on language arts were significantly influenced by the SLC treatment. The results are summarized in Table 22.

Table 22

*Analysis of Low-SES students’ Test Outcomes (STO) on Language Arts*

<table>
<thead>
<tr>
<th>Marking periods</th>
<th>Pre-SLC 2005-2006</th>
<th>Post-SLC 2007-2008</th>
<th>Mean diff.</th>
<th>df</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>57</td>
<td>72.00</td>
<td>7.623</td>
<td>57</td>
<td>76.18</td>
<td>9.463</td>
</tr>
<tr>
<td>Fourth</td>
<td>59</td>
<td>70.93</td>
<td>7.654</td>
<td>59</td>
<td>74.19</td>
<td>8.042</td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing the math test outcomes of students with low-SES for the first marking period, and the fourth marking period of the 2005-2006 and 2007-2008 school years revealed no statistical significant differences in students’ outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. The results are summarized in Table 23.
Table 23

Analysis of Low-SES Students’ Test Outcomes (STO) on Math

<table>
<thead>
<tr>
<th>Marking periods</th>
<th>Pre-SLC 2005-2006</th>
<th>Post-SLC 2007-2008</th>
<th>Mean diff.</th>
<th>df</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>55</td>
<td>71.55</td>
<td>8.692</td>
<td>59</td>
<td>71.95</td>
<td>7.792</td>
</tr>
<tr>
<td>Fourth</td>
<td>55</td>
<td>72.44</td>
<td>9.228</td>
<td>59</td>
<td>71.08</td>
<td>7.259</td>
</tr>
</tbody>
</table>

An analysis of the results of the paired t-test comparing the language arts test outcomes of students with high-SES for the first marking cycles, and the fourth marking cycle of the 2005-2006 and 2007-2008 school years revealed no statistical significant differences in students’ outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. The results are summarized in Table 24.

Table 24

Analysis of High-SES Students’ Test Outcomes (STO) on LAL

<table>
<thead>
<tr>
<th>Marking periods</th>
<th>Pre-SLC 2005-2006</th>
<th>Post-SLC 2007-2008</th>
<th>Mean diff.</th>
<th>df</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>23</td>
<td>74.17</td>
<td>7.365</td>
<td>23</td>
<td>76.35</td>
<td>9.277</td>
</tr>
<tr>
<td>Fourth</td>
<td>24</td>
<td>71.92</td>
<td>8.934</td>
<td>24</td>
<td>75.00</td>
<td>9.468</td>
</tr>
</tbody>
</table>
An analysis of the results of the paired t-test comparing the math test outcomes of students with high-SES for the first marking cycle, and the fourth marking cycle of the 2005-2006 and 2007-2008 school years revealed no statistical significant differences in students' outcomes between pre-SLC students as seventh graders and post SLC students as ninth graders. The results suggest that the test outcomes of high-SES students were not significantly influenced by exposure to SLC as ninth graders. The results are summarized in table 25.

Table 25

*Analysis of High-SES Students’ Test Outcomes (STO) on Math*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marking periods</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>First</td>
<td>24</td>
<td>73.50</td>
</tr>
<tr>
<td>Fourth</td>
<td>24</td>
<td>72.88</td>
</tr>
</tbody>
</table>

*Research Question 7*

What is the difference, if any, in students’ SES for outcomes (ATT) as seventh graders prior to the implementation of SLCs, and SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?

*Research Hypothesis:* Student attendance rates (ATT) would be significantly influenced by SES after experiencing the SLC treatment
To test this hypothesis paired t-tests were used to compare the mean attendance rates of students with low SES, as measured days absent from the home -room, and students with high SES, before the implementation of SLCs as seventh graders (2005-2006), and after experiencing SLC as ninth graders (2007-2008).

An analysis of the results of the paired t-test comparing the mean attendance rates of low-SES students for the 2005-2006 and 2007-2008 school years revealed no significant differences in students attendance rates between pre-SLC students as seventh graders and post SLC students as ninth graders. An analysis of the results of the paired t-test comparing the mean attendance rates of high-SES students for the 2005-2006 and 2007-2008 school years also revealed no significant differences in students attendance rates between pre-SLC students as seventh graders and post-SLC students as ninth graders. The results are summarized in Table 26.

Table 26

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SES</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Low</td>
<td>58</td>
<td>5.95</td>
</tr>
<tr>
<td>High</td>
<td>22</td>
<td>6.23</td>
</tr>
</tbody>
</table>

The results of the analyses of the data are summarized in Table 27.
Qualitative Results

The researcher’s main focus in this investigation was the influence on student test outcomes and student attendance from the implementation of FTF. Even though the other parts of the FTF structure are in place, namely the Family Advocate system and the improvement in instructions, the researcher made no attempt to investigate their implementation. The researcher attempted, however, to make inferences on the presence of PSOC based on the four factors McMillan and Chavis (1986) identified as indicating the presence of PSOC.

Membership

In informal discussions with administrative and teaching personnel, the researcher inferred that the implementation of common planning time was useful in creating a common sense of purpose among teachers. Teachers were able at work together at these meetings to find common solutions to student issues.

Shared Emotional Connection

Shared emotional connection seems to have taken place based on the contribution of a number of teachers to a log book of activities for students within the SLCs. Among the activities developed for students were relationship building, team building, and life skills. The participation of teachers in developing these activities suggested a need to be involved in caring relationships with students.
Integration of Teacher and Student needs

The teachers the researcher spoke with informally opined that working as team, particularly during common planning time, allowed them to meet their needs in terms of being able to create closer working relationships with each other. One teacher commented that “talking with your colleagues about behavioral issues of students you both teach certainly helps not only the teachers but also the students themselves.” The inference drawn is that both the needs of the teachers and the students were being met.

Influence

Teachers believed that their interaction with students in their capacity as Personal Adult Advocates (PAA) had positive effect beyond the classroom walls. Teachers and administrators posited that the common approach to finding solutions to student issues helped students to feel better about school.

Summary

In this study the researcher analyzed the influence of the implementation of SLCs on student test outcomes and attendance using quantitative measures to assess the outcome data. The researcher also used qualitative data to make inferences on PSOC. The quantitative data were used to analyze the influence of SLC on the variables STO and ATT. The data were also used to analyze the differences in gender and SES outcomes. The qualitative data were used to make inferences on the presence of the four elements of PSOC: membership, shared emotional connection, integration and fulfillment of needs, and influence.
Chapter V includes a summary of findings, conclusions, discussion and recommendations for future research.
Table 27

Hypotheses Summary Table

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1: What is the difference, if any, between students test outcomes (STO) on LAL as seventh graders prior to the implementation of SLCs and students test outcomes (STO) on LAL as ninth graders after experiencing the SLC treatment?</td>
<td>Students test outcomes on language arts, as measured by first and fourth marking cycle grades would be significantly influenced by the implementation of SLCs.</td>
<td>This hypothesis failed to be rejected. The level of significance suggests that STO on LAL were significantly influenced by their participation in SLCs. Significance levels for the first and fourth marking cycles were .002 and .003 (at or beyond ( p \leq .05 ))</td>
</tr>
<tr>
<td>RQ2: What is the difference, if any, between students test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs and students test outcomes (STO) on Math as ninth graders after experiencing the SLC treatment?</td>
<td>Students test outcomes on Math as, measured by first and fourth marking cycle grades would be significantly influenced by the implementation of SLCs.</td>
<td>The hypothesis is not accepted. The level of significance suggests that students test outcomes on Math were not significantly influenced by their participation in SLCs. Significance levels for the first and fourth marking cycles were .850 and .394 (above ( p \leq .05 ))</td>
</tr>
<tr>
<td>RQ3: What is the difference, if any, between overall students' attendance (ATT) rates as seventh graders prior to the implementation of SLCs and overall students attendance (ATT) rates as ninth graders after experiencing the SLC treatment?</td>
<td>Students’ attendance rate, as measured by the number of homeroom absences during the school year, would be significantly influenced by the implementation of SLCs.</td>
<td>The hypothesis is not accepted. The level of significance suggests that students’ attendance rate was not significantly influenced by their participation in SLCs. Significance level was .107 (above ( p \leq .05 ))</td>
</tr>
</tbody>
</table>
Table 27 (continued)

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ4: What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs and the test outcomes (STO) of male and female students as ninth graders after experiencing the SLC treatment?</td>
<td>There would be significant differences between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs and the test outcomes (STO) of male and female students as ninth graders after experiencing the SLC treatment.</td>
<td>This hypothesis failed to be rejected for the performance of male students on LAL. The hypothesis is not accepted for the performance of male students on math. The hypothesis is not accepted for female students. The level of significance suggests that STO of male students on LAL were significantly influenced by their participation in SLCs. Significance levels for the first and fourth marking cycles were 0.13 and 0.15 respectively (at or beyond p≤.05). The level of significance suggests that the performance of female students on LAL were not significantly influenced by their participation in SLCs. Significance levels for the first and fourth marking cycles were .080 and .085 (above ≤.05). The level of significance suggests that the performance of male students on math was not significantly influenced their participation in SLCs. Significance levels for the first and fourth marking cycles were .698 and .294 (above p≤.05) The level of significance suggests that the performance of female students on math was not significantly influenced by their participation in SLCs. Significance levels for the first and fourth marking cycles were .848 and .985 (above p≤.05).</td>
</tr>
<tr>
<td>Research Questions</td>
<td>Hypothesis</td>
<td>Result</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>RQ5: What differences, if any exist between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?</td>
<td>Students' attendance rates for male and female students would be significantly influenced by the implementation of SLCs.</td>
<td>This hypothesis failed to be rejected for the ATT of male students. The hypothesis is not accepted for the ATT of female students. The level of significance suggests that the ATT of male students was significantly influenced by their participation in SLCs. Significance level for ATT was 0.26 (at or beyond p≤.05). The level of significance suggests that the ATT of female students was not significantly influenced by their participation in SLCs. Significance level for ATT was .982 (above p≤.05).</td>
</tr>
<tr>
<td>RQ6: What is the difference, if any, between students SES for outcomes (STO) as seventh graders prior to the implementation of SLCs and students SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?</td>
<td>Student test outcomes (STO), would be significantly influenced by SES after experiencing the SLC treatment</td>
<td>This hypothesis failed to be rejected for the low-SES students. The hypothesis is not accepted for high-SES students. The level of significance suggests that low-SES students were significantly influenced by their participation in SLCs. Significance levels for low-SES students for the first and fourth marking cycles were .006 and .008 (at or beyond p≤.05). The level of significance suggests that high-SES students were not significantly influenced by their participation in SLCs. Significance level for high-SES students for the first and fourth marking cycles were .775 and .318 (above p≤.05).</td>
</tr>
<tr>
<td>RQ7: What is the difference, if any, between students' SES for outcomes (ATT) as seventh graders prior to the implementation of SLCs and students' SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?</td>
<td>Student attendance rates (ATT) would be significantly influenced by SES after experiencing the SLC treatment</td>
<td>The hypothesis is not accepted. The level of significance suggests that students’ attendance rate based on SES was not significantly influenced by their participation in SLCs. Significance level for low-SES students was .075 and high-SES students .947 (above p≤.05)</td>
</tr>
</tbody>
</table>
Chapter V
SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS FOR POLICY, PRACTICE AND FUTURE RESEARCH

Summary

This chapter presents a summary of the findings, discussion, conclusions, and recommendations for policy, practice, and future research on the influence of the implementation of SLC on student test outcomes and student attendance rates. In reviewing the literature and research on school size, definition of small schools, benefits of small schools/SLCs, small school structures, SLCs, implementation experiences, and psychological sense of community (PSOC), the researcher studied the influence of SLCs on student test outcomes (STO) on language arts and math, and homeroom attendance (ATT). The researcher analyzed student test outcomes to determine differences by gender and socio-economic status (SES). In addition, the researcher made inferences on the presence of PSOC based on the four factors McMillan and Chavis (1986) identified as indicating the presence of PSOC.

The study was conducted in a small city urban high school (1200 students), in northern New Jersey. Administrators within the school district implemented wall-to-wall SLC’s in the middle school and in the high school in an effort to improve students’ academic performance. The researcher compared the performance of a group of students after being exposed to SLCs as ninth graders with the performance of these same students as seventh graders, prior to the implementation of the SLCs.
Students’ marking period grades were used as the measure of student test outcomes. Students are assigned marking cycle grades four times in each school year. For this study, the researcher utilized the first and the fourth marking cycle grades for analysis. Informal responses from teachers and administrators were used to make inferences on the presence of PSOC. Bryk and Driscoll (1988), Petty, Andrews and Collett (1994), and Royal and Rossi (1996) argued that a high sense of community leads to higher student engagement, and should as a consequence lead to higher student outcomes.

Methods of Research

The researcher utilized a quantitative research approach to analyze the responses to the research questions. Paired t-tests were used to compute the means of the students test outcomes and attendance as seventh graders, prior to the implementation of SLCs and these same students as ninth graders after experiencing the SLC treatment. The analyses were conducted on STO and ATT. Additional analyses were done on these variables with regard to gender and SES. The data used for the study were collected from the 2005-2006 school year, and the 2007-2008 school year.

Qualitative data in the form of informal discussions were collected from teachers and administrators, and recorded anonymously by the researcher. The researcher collected and analyzed the results for evidence of the four components of PSOC: membership, influence, integration and fulfillment of needs, and shared emotional connection. The researcher made inferences on the existence of PSOC from the statements by teachers and administrators.
Research Questions

Seven research questions were developed.

1. What is the difference, if any, between students test outcomes (STO) on LAL as seventh graders prior to the implementation of SLCs, and students test outcomes (STO) on Language Arts as ninth graders after experiencing the SLC treatment?

2. What is the difference, if any, between students test outcomes (STO) on Math as seventh graders prior to the implementation of SLCs, and students test outcomes (STO) on Math as ninth graders after experiencing the SLC treatment?

3. What is the difference, if any, between overall student attendance (ATT) rates as seventh grade students prior to the implementation of SLCs, and overall student attendance (ATT) rate as ninth grade students after experiencing the SLC treatment?

4. What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs, and the test outcomes (STO) of male and female students as ninth graders after experiencing the SLC treatment?

5. What differences, if any, exist between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs and the attendance rates (ATT) of male and female students as ninth graders after experiencing the SLC treatment?

6. What is the difference, if any, in students' SES for outcomes (STO) as seventh graders prior to the implementation of SLCs, and SES for outcomes (STO) as ninth graders after experiencing the SLC treatment?
Findings

Research Question 1

What is the difference, if any, between students' test outcomes (STO) on Language Arts (LAL) as seventh graders prior to the implementation of SLCs and the students' test outcomes (STO) on Language Arts as ninth graders after experiencing the SLC treatment?

Significant differences were found between student test outcomes on LAL as seventh graders prior to the implementation of SLCs and student test outcomes on LAL as ninth graders after experiencing SLCs. Students participating in the study had significantly higher test outcomes on LAL in the both the first and fourth marking periods after experiencing SLCs as ninth graders. The mean differences for the first marking period was -3.6 and for the fourth marking period was -3.205, at significance levels of .003 and .002 respectively (above p≤.05). The results showed that the exposure to SLCs did make a difference in students' test outcomes, as measured by first and fourth marking cycle grades, on LAL.

Research Question 2

What is the difference, if any, between students' test outcomes (STO) on math as seventh graders prior to the implementation of SLCs, and the students' test outcomes (STO) on math as ninth graders after experiencing the SLC treatment?
There were no significant differences found between STO on math as seventh graders prior to the implementation of SLCs and STO on math as ninth graders after experiencing the SLC treatment. The mean scores on math actually declined from 72.38 in the first marking period to 71.60 in the fourth marking cycle after students experienced SLCs as ninth graders.

**Research Question 3**

What is the difference, if any, between overall student attendance (ATT) rate as seventh grade students prior to the implementation of SLCs and the student attendance (ATT) rate as ninth grade students after experiencing the SLC treatment?

There were no significant differences found between the (ATT) of students as seventh graders prior to the implementation of SLCs and the ATT of students as ninth graders after experiencing the SLC treatment. Students were absent an average of 8 days from the homeroom after experiencing SLC as ninth graders compared with an average absence of 6 days from the homeroom, prior to the implementation of SLCs.

**Research Question 4**

What differences, if any, exist between the test outcomes (STO) of male and female students as seventh graders prior to the implementation of SLCs, and as ninth graders after experiencing the SLC treatment?

The analysis of gender and SLC participation with regard to STO on LAL showed a statistically significant effect. Male students had higher test outcomes in both the first and fourth marking periods on LAL after experiencing SLCs as ninth graders. The mean differences of -3.889 and -3.489 were both significant at .013 and .015 (better than $p \leq .05$).
The analysis of gender and SLC with regard to STO on LAL for female students revealed no significant differences. Although the LAL mean for female students as ninth graders was higher than the LAL means for these same students as seventh graders, there was no statistical significance.

The examination of gender and SLC participation with regard to STO on math for male students was not significant. Notably, the STO of male students on mathematics declined after experiencing SLCs as ninth graders. The analysis of gender and SLC participation with regard to STO on math for female students showed no significant effect after experiencing SLCs as ninth graders.

The results of the effects of gender and SLC on STO indicated that male students performed better on LAL than did female students. These results suggested that students’ participation in SLCs at the Orange High School was more beneficial for male students than for female students for test outcomes on LAL.

Research Question 5

What difference exists, if any, between the attendance rates (ATT) of male and female students as seventh graders prior to the implementation of SLCs, and as ninth graders after experiencing the SLC treatment?

The results of the analysis indicated significant differences between the ATT of male students as seventh graders prior to the implementation of SLCs and the ATT of the male students as ninth graders after experiencing the SLC treatment. Male students were absent an average of 8 days from the homeroom after experiencing SLCs as ninth graders compared with an average absence of 6 days from the homeroom prior to the implementation of SLCs.
No significant differences were found between the ATT of female students as seventh graders prior to the implementation of SLCs, and female students as ninth graders after experiencing the SLC treatment. The results also indicated that male students had an average mean absence of 8 days, an increase of 2 days, after experiencing SLCs as ninth graders, while female students had an average mean absence of 6 days, which was constant, after the SLC treatment.

**Research Question 6**

What is the difference, if any, in students SES for outcomes (STO) as seventh graders prior to the implementation of SLCs and as ninth graders after experiencing the SLC treatment?

The analysis showed that the influence of SLC participation and SES on student test outcomes (STO) was significant. An analysis of the performance of low SES students on LAL showed that there were significant differences between students’ performance as seventh graders prior to the implementation of SLCs and after experiencing SLCs as ninth graders in both the first and fourth marking periods. Low-SES students had mean differences of $-4.175$ and $-3.254$, which were significant at .006, and .008 respectively (better than $p \leq .05$). The results for math test outcomes showed no statistical differences for low-SES students. Notably, the mean math scores of low-SES students declined after experiencing SLC as ninth graders.

The analysis of student test outcomes for high-SES students was not statistically significant for both LAL and math. The results seem to correlate with the research literature
on SLC which suggested that low-SES students benefit more from participation in SLC than high-SES students.

*Research Question 7*

What is the difference, if any, in students’ SES for outcomes (ATT) as seventh graders prior to the implementation of SLC’s and SES for outcomes (ATT) as ninth graders after experiencing the SLC treatment?

The analysis of SLC participation and SES on attendance rates (ATT) was not statistically significant for both low-SES and high-SES students. Low-SES students were absent from the homeroom an average of 7 days compared with an absence of 6 days for high-SES students during the school year.

*Discussion*

The major objective of the study was to determine the influence of the implementation of SLC on student test outcomes (STO) and student attendance rate (ATT). District administrators implemented the FTF program at the Orange High School in order to improve student’s academic outcomes through the creation of a more personalized environment. The wall-to-wall SLCs are only one component of the FTF model. The other two components are Family Advocacy, and improvement in instructional efforts. Based on informal discussions with three teachers and two administrators the researcher was able to infer that the four elements of PSOC - membership, shared emotional integration and fulfillment of needs, and influence - identified by McMillan and Chavis (1986) were operational to some extent within the high school where the study was conducted. The
qualitative data used to make these value judgments were gathered from teachers and administrators. A more reliable conclusion could be arrived at by formally surveying a wider cross-section of administrators, teachers and students.

The original intention of the researcher was to examine the influence of the implementation of SLCs on Student test outcomes (STO), student attendance (ATT) rates, and student discipline referrals. However, the data on student discipline referral were not available for the 2005-2006 school year. Most of the data on student discipline referrals were discarded at the end of that school year. Hence this study was restricted to STO and ATT. Two further limitations of the study were: (a) the different levels of maturation of the students in the sample which may have been a contributory factor in academic and social outcomes; and (b) the students in the sample were from an urban district with a predominant low-SES population. For the purpose of this study the researcher determined students’ SES status based on free/reduced lunch and fully paid lunch to test the impact of this variable on STO and ATT.

As outlined in Chapter IV, the results of the analysis of the quantitative data showed significant differences in the paired t-tests on STO on LAL, test outcomes for male on LAL, attendance rates for male students and STO for low-SES students. The results showed no significant differences for STO on math, test outcomes for female students, attendance rates for female students, and STO for high-SES students.

The mixed results in this study on student achievement are consistent with previous research studies. Cotton (2001) reported that based on the analysis of a number of studies there was agreement among the different researchers that students in small schools/SLCs performed better than students in large schools in every area, except academic achievement.
McAndrews and Andersen (2002), and Copland and Boatwright (2004) argued that students who participated in SLCs do show improvement in academic achievement.

Conversely, Kahane, Sporte, De La Torre, and Easton (2008) examined the performance of students in small schools in Chicago between 2001 and 2005 and concluded that while the evidence suggested that small schools/SLCs do provide a more personalized and supporting climate for students it does not point to improve student achievement. Wainer and Zwerling (2006) argued that many studies which concluded that students in small schools/SLCs performed better academically than students in large comprehensive high schools were based on flawed methodology. Shear et al., (2008) posited that a 5-year evaluation study conducted by the Bill and Melinda Gates foundation concluded that small school/SLC does not work.

One issue that the results of this study raises is whether or not the difference in student test outcomes on LAL can be attributed to true effect of the SLC? Are there other variables that can explain the significant differences in students' test outcomes on LAL. What is the influence of the teacher effect? The students were not all taught Language Arts by the same teacher. This study cannot provide the answer to any of these questions. A longer follow-up study would be needed to provide adequate answers to these questions.

The influence of the participation in SLC on LAL outcomes for male students is significant. The fact that male students performed better on average than female students on LAL after experiencing SLC's as ninth graders, as shown in Table 28, seems to suggest that the boys benefited more than the girls from exposure to SLCs.
Table 28

Comparison of Male and Female Students Pre-SLC and Post-SLC Performance of Language Arts Literacy (LAL)

<table>
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<tr>
<th>Gender</th>
<th>Pre-SLC 2005-2006</th>
<th>Post-SLC 2007-2008</th>
<th>Mean Scores</th>
<th>Mean Scores</th>
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<td>77.51</td>
<td>76.03</td>
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This finding is consistent with the research literature which asserted that the performance of minority boys (Schanzenbach, 2009) improve with small class sizes, which SLCs provide. Hence the findings of this study makes a further contribution to previous research findings which showed a direct relationship between SLCs and gender.

The performance of students on math after experiencing the SLC treatment, as shown in this study, needs to be explored much further. The fact that the math scores of students in the study, notably male students, declined after students experienced SLC as ninth graders seem to suggest that are some other variables that need to be examined with regard to students’ achievement on math at the Orange High School, Orange, New Jersey. Two contributory factors could have been teacher quality, and teacher turnover. Orange High School, like many high schools in urban school districts, continued to experience teacher turnovers particularly in subject areas of math and science. Another possible explanation could have been that in the implementation of SLCs greater emphasis was placed on LAL than on math instructions.

The influence of the implementation of SLCs on student attendance also raises some concerns. The findings of the study showed negative statistical significance for male
students, and no statistical significance for female students. This contradicts the research studies (Copland & Boatwright, 2004; Klonsky & Klonsky, 1995; Raywid, 1995) which showed that students who experienced SLCs attended school more regularly than students in traditional high schools. This conclusion is based on the assumption that SLCs helped to create a more caring environment (Klonsky & Klonsky, 1999; Matt, 2004). It was surprising to find that the average homeroom absences for male students increased after experiencing the SLC treatment, while the average homeroom absence for female students remained constant. This result could have been a direct result of the dynamics of the population in the study. Alternatively, this result could be explained by the extent to which the implementation of the family advocate system was influencing the social behaviors of male and female students.

The results for SES are consistent with the research findings (Cotton, 2001) that low-SES students benefit more from small schools/SLCs than high-SES students. Low-SES students’ participation in the SLC treatment as ninth graders had higher test outcomes on LAL than their test outcomes as seventh graders. SLC participation had no significant effect on high-SES students’, and this was consistent with the findings of previous research studies (Cotton, 2001).

The inferences on the presence of PSOC, though not supported by sufficient data, suggest that efforts are being made to create a more personalized environment at the Orange High School. The researcher is aware that family advocacy sessions are scheduled on a weekly basis with teachers in the SLCs taking on the role of Personal Adult Advocates (PAAs). The researcher is also aware that teachers do meet together for common planning
time. Whether or not all the components of the FTF program have been fully implemented is outside the scope of this study.

Conclusions

The goal of the implementation of wall-to-wall SLCs at Orange High School, New Jersey, was the improvement of students' academic and social outcomes. The results of this study indicated that the implementation of the SLCs at the Orange High School has so far yielded some important positive results. The gains made by students in LAL were very significant given recent research studies on small schools/SLCs (Kahane, Sporte, De La Tore an& Easton, 2008; Shear et al., 2008) which have raised some serious doubts about the efficacy of the small school/SLC model.

Of special significance in this study is the influence of the SLC on male students' performance on LAL. When examined in light of the research data which suggested that Black males are two-times more likely to be retained in-grade, and more likely to drop-out of school after the ninth grade (U.S. Department of Commerce Bureau of Census, 2005), these findings seemed to provide an opposing view.

The results showed that there were no significant improvements in students' attendance rate (ATT). The attendance rates for male students declined while the attendance rates for female students remained the same, after the students experienced the SLC treatment. This finding contradicts the results of other research studies (Copland & Boatright, 2004; Klonsky, 1995) which showed that students who attend small schools/SLCs attend school more regularly than students in large comprehensive high schools. These findings
suggest the need to examine the way attendance is accounted for to determine whether or not the results were in any way compromised.

The implementation of the Family Advocate System and common planning time seem to suggest that efforts have been made to create a more caring environment for students. The researcher cannot make the claim that the implementation of these components have been done correctly. That examination can be the subject of another study.

Recommendations for Practice and Policy

This study established a link between SLC’s and student outcomes. However, the gains were primarily observed in the subject area of language arts literacy. Of note is the fact that although overall student gains were observed in students’ performance in LAL, further analyses revealed that the most significant gains were made by male students. The findings of this study were, however, based on the analysis of only two years of data. The researcher, therefore, offers the following recommendations for practice and policy:

1. The findings of the study suggest the need for school leaders and members of the board of education to re-examine the implementation of SLC program to determine the components which would lend greater support to the area of math so that similar gains can be made as were observed in LAL. Because other factors such as teacher effect, and school environment could have contributed to non-improvements in student test outcomes in math, the researcher recommends a review of these factors on the continued implementation of the program.

2. Contrary to the research literature (Copland & Boatright, 2004; Klonsky, 1995; Rawyid, 1995) which suggest that SLC’s positively influence students’ attendance, this study showed a decline in homeroom attendance for male students, and no improvement in the
attendance rates for female students. It may be inferred that other factors may have influenced students’ attendance. It is therefore, recommended that policy makers within the school district review the attendance policies to find out why the gains demonstrated in previous studies did not occur.

3. The proper implementation of all the components of the FTF model is critical to the creation of caring environment, which should foster greater student engagement, and consequently lead to improvement academic and social outcomes. In this regard the creation of network of Personal Adult Advocates (PAA) (NASSP, 1996, 2004) should be given greater attention. Pitts (2005) found that the presence of the PAA has helped students to cope with the transition to high school, and was perhaps the most useful component of the school’s transition program.

4. The need for the district to collect and maintain reliable data on the implementation of the various components of the program for ongoing analyses. This is important since many programs suffer from what Fulan (2001) called the “Implementation Dip.” The implementation dip, according to Fulan (2001), is a phase where many new programs experience serious challenges, the resolution of which requires new skills and new approaches.

5. The implement of wall-to-wall SLCs creates a need for ongoing professional development for both teachers and administrator. Yoon et al.(2007) cautioned about the need to provide teachers with professional development that are intensive and content-based. Against this background district administrators need to provide faculty and administrators at Orange High School with opportunities to visit other successful SLCs, with similar student demographics, to gain better insight on making their own SLCs more successful. In addition
teachers need to be given opportunities to attend more relevant content-based professional development programs.

Recommendations for Future Research

The researcher makes the following recommendations for future research:

1. The need for a longitudinal study on the influence of the implementation of wall-to-wall SLCs in the high school studied to determine whether or not the initial gains in student outcomes in LAL are maintained. Outcomes data on student test outcomes and attendance over a longer time period would be very important data to have a true determination of the effects of SLCs.

2. There is the need for more research to determine why the gains made in LAL are not reflected in student outcomes in math. This additional investigation would provide the district with information on what changes needed to be adopted to facilitate improved students’ performance on math.

3. A comparative study need to done between students of this school and students of another high school with similar student demographics to determine if similar effects would be produced.

4. A more detailed study of the implementation of SLCs within the school should be done with inputs from more teachers, students and parents to determine the effectiveness of the model. Inputs from all segments of the stakeholders within the high school would provide the school district with more reliable information on whether or not the SLC model had been properly implemented.
5. Further investigations need to be done to explain the effects of the differences in gender outcomes. Administrators would be able to have a better understanding of what instructional strategies work best for males and what instructional strategies work best for females within the SLCs.

6. A study should be done to assess the effect of the principal as the instructional leader in the success of the SLCs. The role of the principal is very important to the success of any school. As the instructional leader he/she sets the tone for teaching and learning within the school.
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Appendix A

Letter of District Approval for Study
Dr. Judith Kronin  
*Interim Superintendent of Schools*

January 23, 2009

Mr. Campbell, Teacher  
Heywood Avenue School  
Orange, NJ 07050

Dear Mr. Campbell:

As a teacher employed by the Orange School District, you have my permission to conduct an evaluation study on the influence of Small Learning Communities on student outcomes, student attendance, and student discipline referral at the Orange High School during the 2007-2008 school year. It is my understanding that this permission would allow you access to our data only for students who were ninth graders during that school year.

This information is to be kept highly confidential. Any information that you may wish to request from students or staff, other than data, must be presented to me for approval prior to distribution.

I do look forward to receiving a copy of your findings as they relate to our students and to the district.

Best wishes with your educational endeavors.

Sincerely,

[Signature]

Dr. Judith Kronin  
*Interim Superintendent of Schools*
Appendix B

Human Participant Protections Education Completion Certificate
Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that Walter Campbell successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 03/15/2009

Certification Number: 202844
Appendix C

Institutional Review Board Non-Review Certification
IRB Non Review Certification

STUDENT: WALTER J. CAMPBELL

Title of Dissertation: THE INFLUENCE OF THE IMPLEMENTATION OF SMALL LEARNING COMMUNITIES ON STUDENT TESTS OUTCOME, DISCIPLINE, AND SCHOOL ATTENDANCE IN AN URBAN SCHOOL DISTRICT

I certify, by my signature below, that the above indicated study does not require IRB review as a result of a lack of involvement with human subjects (see OHRP flow chart) and as indicated by any or all of the following (check all that apply).

1. Historical research  
2. Public data base  
3. *Proprietary data base  
4. Freedom of Information  
5. Right to know – sunshine law

Student signature: [Signature]
Advisor approval: [Signature]

Reviewed by:  
Marty Finklestein – Higher Ed  
Daniel Gutmore – K-12

*Proprietary data that does not identify individuals
Appendix D

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