THE IMPACT OF LOOPING PRACTICES ON STUDENT ACHIEVEMENT AT A MINNESOTA INNER CITY ELEMENTARY SCHOOL:

A COMPARISON STUDY

By

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The Impact of Looping Practices on Student Achievement at a Minnesota Inner City Elementary School: A Comparison Study Carole Margaret Caauwe COMMITTEE APPROVAL AND RECOMMENDATION

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ABSTRACT

The purpose of this study is to determine if the practice of classroom looping impacts the academic achievement scores at a Minnesota inner city elementary school. Reading and math academic achievement score comparisons were used based on the Stanford Achievement Test Series 10 (SAT10). Target population consisted of 38 students from looping classrooms at School A, and 33 students from non-looping classrooms at School B. Looping students attended School A, and had been with the same teacher for two consecutive years. Non-looping students attended School B for two years, and had been in traditional one-year classrooms. Fifth grade examination scores from spring of 2005 were compared with gains made on the sixth grade examination scores from spring of 2006. Academic progress in reading and math was measured for these students through causal-comparative regression analysis.

The results of this study indicated no statistical significant academic difference in reading between looping students and the non-looping students. Because of the small sample size, a Type II error maybe a possibility. A longer and larger study would need to be completed to determine the accuracy of these results. The results of this study indicated a statistical significant academic difference in math gain scores between looping students and the non-looping students.

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CHAPTER 1

Classroom Looping Practices and Academic Achievement

This dissertation will outline a quantitative research study of the impact of looping practices on the academic achievement scores at a Minnesota inner city elementary school.

Looping is a pedagogical design reform model option used in elementary and junior high schools. Gaustad (1998) explained, "Looping is the advancing of teachers from grade to grade along with their classes of students" (p. 1). A teacher stays with the same group of students for two years or more (Grant, Johnson, & Richardson, 1996). Rasmussen (1998) stated, "Looping is at times referred to as multiyear teaching" (¶ 3). The looping model has also been called "continuous learning, continuous progress, and teacher/student progression" according to The Northeast and Islands Regional Educational Laboratory (1997, p. 3). The idea is to avoid student anonymity by creating a longer-term relationship between students and their teacher in a learning community. The looping environment offers students the opportunity to benefit emotionally, socially, and academically (Burke, 1996; Chapman, 1999; Checkley, 1995; Grant et al., 1996; Forsten, Grant, Johnson, & Richardson, 1997; Krogmann & Van Sant, 2000; Payne, 1996; Rappa, 1993). Emotional benefits were reported by students having a sense of stability, and feeling less anxious about school. Social benefits were reported as feeling a sense of community and family, with more trusting relationships, and more time to build and maintain long-term relations with a teacher and other students. The academic benefits were reported with improved academic achievement scores, and more enthusiastic attitudes toward learning in general. The looping environment offers teachers the opportunity to have a deeper understanding of their students, which will provide the opportunity to design individual curriculum and monitor individual academic progress (Berlin, 1996; Burke, 1996; Checkley, 1995; Grant et al., 1996; Krogmann & Van Sant, 2000; Newberg, 1995). Looping offers parents the opportunity to develop a closer relationship with their child's classroom teacher, to learn school expectations, and to share in the

process of educating their child (Burke, 1996; Grant et al., 1996; Hanson, 1995; Krogmann & Van Sant, 2000).

This dissertation will outline a quantitative research study of the impact of looping practices on the academic achievement scores at a Minnesota inner city elementary school. Academic achievement score comparisons will be used based on the Stanford Achievement Test Series 10 (SAT10) scores of 50 students from looping classrooms at School A, and 50 students from non-looping classrooms at School B.

Research Problem

President Bush on January 8, 2002 signed into law the *No Child Left Behind Act* (NCLB). The law contains four basic educational reform principles: stronger accountability for results; increased flexibility and local control; expanded options for parents; and an emphasis on teaching methods that have been proven to work (Educational Partnerships and Family Involvement Unit, 2002). The intent of this education reform is to improve the students' academic achievement of this country (USDE, 2002). With NCLB, individual schools and school districts would be held accountable to the state and the Federal government for academic achievement. As reported by the Minnesota Department of Education (2006a), each state has been expected to create learning standards in reading, math, and science for all of the grades. Students are then tested yearly to record their progress in mastering the state standards. Each school has been expected to make *Adequate Yearly Progress* (AYP) toward the goal of all students being proficient in reading, math, and science by the year 2013-2014. The Minnesota Department of Education oversees the academic achievement progress of all the school districts in Minnesota.

Reports from Minnesota school districts to the Minnesota Department of Education have included student personal data. This data to the state has included: gender, ethnicity, English as a second language rank, Special Education rank, and economic status. Each school's Stanford Achievement Test 10 (SAT10) scores have been disaggregated according to these groups (MDE, 2006a).

Measuring student progress has been important to determine academic achievement growth (Willis, 1999). Tests have been used to determine skills and knowledge gained. Using only high stakes tests as the means of assessment has been debated by many researchers (Coash & Watkins, 2005; Kozol, 2007; Levine, 2002; Linn & Haug, 2002; Payne, 1996; Wagner, 2003). Researchers reported that there is evidence showing that the pressure of tests does improve academic achievement scores under accountability (Carnoy & Loeb, 2002; Dunne, 2000; Fuchs & Fuchs, 1993; Viadero, 2007; Willis, 1999). Other researchers have shown that high stakes tests are biased. Studies have reflected gender, ethnicity, English learner, special education, and low socioeconomic bias (Abella, Urrutia, & Shneyderman, 2005; Klein & Jimerson, 2005; Lomax, Maxwell, Harmon, Viator, & Madaus, 1995). Because accountability of academic achievement performance has been the focus, there have been questions of test bias, or cultural bias on exams. The NCLB asserts that targeted subgroups must achieve at high standards. The required level of achievement for each ethnic group, English language learners, special education students and students receiving free and reduced lunches can only be supported by test results.

Each state accountability system reports the performance of the students meeting the set standards (ERS, 2007). The scores of third graders and fifth graders are compared for progress from a previous year. According to Linn and Hang (2002), caution needs to be considered when comparing scores of groups from year to year. They believe that there is volatility from one group to another just as is possible to have volatility from one student to another from one year to the next. Kluth and Straut (2001) stated, "For standards to work, schools need caring learning communities; skilled and responsive teachers; adequate financial, human, and material resources; effective partnerships with families; and concerned and visionary leadership" (p. 46). When standards reforms are used to guide curriculum and instructions, researchers Bishop, Marie, and Bishop (2001) found that they can raise achievement.

The NCLB act requires a stronger accountability for academic achievement results (Educational Partnerships and Family Involvement Unit, 2002). Each state has been obligated to have in place an accountability process. Individual schools and school districts would be held accountable to the state for academic achievement and are required to have in place an accountability process (MDE, 2006a).

To maximize academic achievement, schools have looked to educational research for answers (Burke, 1997; ECS, 2005; Fuchs & Fuchs, 1993; Grant et al., 1996). Research has shown that looping can help to provide a learning environment where students are part of a community, where they are supported and challenged, and where they will increase their academic achievement (Burke, 1996; Grant et al., 1996; Hampton, 1997; Newberg, 1995; Shneyderman, 2000; Westheimer, 1996). Classrooms that become learning communities offer students support and guidance so that they may learn to become successful (Doll, Zucker, & Brehm, 2004; Grant et al., 1996; Newberg, 1995; Westheimer, 1996). In this classroom, students are developing skills such as communication, problem solving, motivation, and responsibility. For the at-risk student, the looped classroom can become a stable and supportive environment for those who are without a stable and supportive home environment (Berlin, 1996; Bradley, Caldwell, & Rock, 1988; Checkley, 1995; Krogmann & Van Sant, 2000; Newberg, 1995).

Stability within a looping classroom may offer students a less anxious environment (Grant et al., 1996) where they can build relationships (Burke, 1996; Casey, 2007) and learn to succeed in school (Casey, 2007; Rasmussen, 1998). The School A in this study is a Minnesota inner city elementary school. The looping pedagogical model, as stated in the School Comprehensive Improvement Plan, is being practiced to increase student achievement, reduce special education referrals, and build relationships with students and families. The School Comprehensive Improvement Plan is a document filed with the school district to inform the district of programs and initiatives planned for the next school year. Current enrollment of Kindergarten through sixth grades is at approximately 448. The student demographics from 2004-2005 (SPPS, 2004-2006) were: 2% American Indian, 32% Asian, 37% Black, 12% Hispanic, and 17% White. The poverty index, as measured by free and reduced lunch eligibility, was 89%. Students who received services as English language learners was 41% of the student body, and those who received special education services was 14%. Student academic achievement at this school has continued to improve even in an environment of high student mobility. Requirements for AYP were met in 2004, 2005, and 2006. This school did not meet AYP in 2007.

School B is this study is also a Minnesota inner city elementary school close in proximity to School A. Current enrollment of Kindergarten through sixth grades was approximately 392. The student demographics from 2004-2005 (SPPS, 2004-2006) were: 1% American Indian, 35% Asian, 39% Black, 18% Hispanic, and 7% White. The poverty index, as measured by free and reduced lunch eligibility, was 93%. Students who received services as English language learners was 48%. Students who received special education services was 18%. Requirements for AYP were met in 2005, and 2006. This school did not meet AYP in 2007.

This quantitative research project would broaden the research base which has already been completed on the looping pedagogical design model, by studying the impact of looping practices on academic achievement of the students at this Minnesota inner city elementary school who have been part of a two year looping program. Since the 2002-2003 school year approximately half of the classrooms at this elementary school had used the looping reform model. This research project on looping broadens the base of knowledge of inner city schools and the knowledge base for this individual school. The statistics may support if looping had been a viable reform model in which students gained academic achievement in this particular setting.

Delimitation of the Problem

This study compares achievement scores in reading and math for 38 sixth grade looping students, from School A, with 33 sixth grade non-looping students, from School B, at Minnesota inner city elementary schools, who have taken the SAT10 examination during 2004-2005, and 2005-2006 school years. The achievement scores of students who have been in a looping classroom for two years are compared with achievement scores of students who have been in a non-looping classroom for one-year.

Limitations of the Problem

Research has shown that using only academic achievement tests to determine students' progress should be considered with caution (Coash & Watkins, 2005; Kozol, 2007; Levine, 2002; Linn & Haug, 2002; Payne, 1996; Wagner, 2003). These education researchers remind us that tests are only one piece of the big picture in assessing student progress. Levin (2002) suggested that, "Student evaluation be based on tangible evidence of their accomplishments" (p. 329). "A

well-maintained archives of their best work" would offer each student different options to showcase their knowledge and strengths (p. 330).

Achievement tests have been used as a means to determine academic gains and to determine accountability (Linn & Haug, 2002). It is recognized that there can be test bias and cultural bias on achievement tests (Kozol, 2007; Levine, 2002; Payne, 1996; Roderick & Engel, 2001; Suter, 2000). It is understood that there can be achievement test influences: gender, ethnicity (Kozol, 2007; Slate, Jones, Sloas & Blake, 1997), English as a second language, special education (Levine, 2002), free and reduced lunch rank (Benard, 2004; Kozol, 2007; Payne, 1996), mobility, teacher qualifications, and teacher attitude (Rockoff, 2004).

Students at both schools in this study might have been limited by being assigned a looping classroom or a traditional classroom. A student attending a looping classroom might have had a personality conflict with the teacher or with other students within the class, which could have impacted academic achievement. A student attending a one-year classroom might have been overly anxious in the classroom assigned, and this could have impacted academic achievement.

Student mobility, within the school district and from outside of the district at both schools, could have limited the study in two ways. First, it was difficult to have enough students who had been in a looping classroom for two years, and those who had been in a one-year classroom for the entire school year. Second, mobility might have impacted the learning community within either of the classroom models. Students moving in and out of the classroom can be a distraction to learning and to the cohesiveness of the classroom community. There are few studies regarding the impact to the classroom of mobile students. Teachers have shared that mobile students affect "curriculum pacing and decrease social and educational attachments to fellow students and there is a need to repeat and review lessons constantly to introduce new students to the class" (Hartman, 2002, p. 229).

Research Assumptions

It was assumed that the students at School A, who were participating in a two-year classroom looping program, would show gains in academic achievement scores over students in traditional one-year classrooms. It was assumed that the achievement scores the second year would be higher than the scores achieved the first year for individual students within a looping classroom.

Assumptions were made regarding the students in the looping classrooms. It was assumed that the students strove to produce their optimum test scores on the SAT10 exam. As students move from year one to year two it was assumed that the classroom routines and the curriculum learned did carry over. It was assumed that the students were motivated to cooperate and get along within the classroom. It was assumed that the mobility of students in and out of the classroom did not impacted the academic progress of the students who remained for the two years. It was assumed that the special education students and English language learners in the classroom did not impact the academic progress of the regular education students within the looping classroom.

Many assumptions were made regarding teachers and their classrooms. It was assumed that all of the teachers were well trained and performed as would be expected in their classrooms. It was assumed that good classroom management was maintained and the classroom functions as a small community. Because of the length of time, it was assumed that teachers will build personal relationships with students and understand their needs. It was assumed that all of the teachers were teaching to all learning styles of their students, and using a variety of differentiated instructional styles, which give students a variety of learning experiences. It was assumed that the teachers had mastered the curriculum for the grades that they taught. Many assumptions were made regarding the students at School B. It was assumed that the students were motivated to learn, and were cooperative in their classrooms. It was assumed that the students strove to produce their optimum test scores on the SAT10 exam.

Assumptions were made regarding the teachers at School B. It was assumed that all of the teachers were well trained and performed as would be expected in their classrooms guided by the standards set forth by the Minnesota Department of Education. It was assumed that good classroom management had been maintained and that students felt safe and were provided with equitable opportunities.

Research Questions

Research at the two Minnesota inner city elementary schools compared and evaluated the academic achievement scores of students in looping classrooms and students in non-looping classrooms.

1. At School A in the study, will looping students' academic achievement scores increase following the second year in a looping classroom showing a greater gain compared to the first year?

2. At School B used in the study, what are the students' academic achievement scores in a one year non-looping classroom?

3. Will the independent variables of looping and non-looping students reflect an influence on academic achievement scores?

Research Hypotheses

Research hypotheses had been generated concerning the effect of each independent variable on each dependent variable. This study will determine the academic achievement progress of sixth graders in School A and School B. School A used a two year looping model, and School B used a traditional one-year model. Student's scores in reading and math on the Stanford Achievement Test Ten Edition (SAT 10) were analyzed using regression analysis, to determine if participating in a looping program verses a nonlooping program was academically beneficial.

Research Hypothesis

There is a statistically significant increase in reading score gains of students participating in a two year looping classroom as compared with the reading score gains of students participating in a non-looping classroom at the p < .05 level of significance.

There is a statistically significant increase in math score gains of students participating in a two year looping classroom as compared with the math score gains of students participating in a non-looping classroom at the p < .05 level of significance.

Null Hypothesis

There is no statistically significant difference in reading score gains of students participating in a two year looping classroom as compared with the reading score gains of students participating in a non-looping classroom at the $p \ge .05$ level of significance.

There is no statistically significant difference in math score gains of students participating in a two year looping classroom as compared with the math scores of students participating in a non-looping classroom at the $p \ge .05$ level of significance.

The dependent variables for this research included reading and math test scores on the SAT10. The independent variables included looping students and non-looping students.

Need for the Research

Individual schools and school districts are being held accountable to the state and the Federal government for academic achievement due to No Child Left Behind (NCLB). The accountability standards of NCLB has required all students and schools to demonstrate academic growth (Educational Partnerships and Family Involvement Unit, 2002; Gandal & Vranek, 2001; Lomax et al., 1995; Willis, 1999). Wagner (2003) has noted that the greater accountability using high-stakes testing has increased the rates of student failure and school dropping out. The public is demanding access to student information and for education accountability. In an interview with Marzano, he explained that, "Standards hold the greatest hope for significantly improving student achievement" (as cited in Scherer, 2001, p. 14). Gandal and Vranek (2001) reported that standards, assessment, and accountability are leading teachers to make changes in the curriculum and instructions. Accountability is forcing districts and schools to more clearly define goals for student learning, and how these are going to be met (Miles, 2001). Organizing resources has become a priority.

The first purpose of this study is to determine if looping classrooms do impact the academic achievement scores of looping students. The SAT10 test scores of students at a Minnesota inner city elementary school, who have been in a looping classrooms for two

years, are compared with students who attend a demographically similar neighborhood school and have been in classrooms for one-year. The second purpose of this research is to use the information gained in this study as a baseline of data about students in looping classrooms and academic achievement at this elementary school. Gathering information on looping students at this elementary school has at this point not been done. The third purpose of the research is to supply data to the staff at this Minnesota inner city elementary school, who are discussing the pros and cons of continuing to use looping as an educational design reform model.

Significance of the Research

The study provides information on whether the reform model of looping with students at this Minnesota inner city elementary school increases academic achievement scores. The quantitative results add to the limited base of similar studies with similar groups available comparing looping and non-looping students academic achievement scores. If the academic achievement scores are higher, then that suggests that the looping model at this Minnesota inner city elementary school may be a viable academic reform model.

Since the 2002 Federal No Child Left Behind law was passed requiring accountability for student academic achievement (Educational Partnerships and Family Involvement Unit, 2002), schools are looking for innovative and cost effective ways to restructure their programs to improve performance (Berlin, 1996; Bogart, 2002; Burke, 1996; George, 1996; Rasmussen, 1998). This law has forced schools to make decisions based more on student academic achievement versus what is best for the over all education of a student.

Definition of Terms

Adequate Yearly Progress (AYP)

The Minnesota Department of Education (MDE) evaluates four areas for each school to determine AYP rating. These areas are participation, proficiency, attendance and graduation. Test scores of students in five ethnic groups are tracked. Students are also tracked if they are from a low income household, are in special education or are an English language learner. It is expected that each year scores will have improved until they meet the required levels set by the NCLB (2006a).

Analysis of Covariance

The analysis of covariance is statistical method used to compare groups on one or more variables. The analysis of covariance will adjust scores of the dependent variable for differences between the groups (Gay, 1996).

At-risk Students

Schools often identify some students as being at-risk. It is believed that some students are more likely to fail in school, because they live in poverty and have additional risk factors in their environments (Payne, 1996). For some students the pattern of failure can be generational being passed down from one generation to the next (Payne, 1996; Rutter & Madge, 1976). Many of the failures to succeed can be a reflection of environmental factors related to a lack of educational success, and a lack of a stable family, which then can be reflected into low or no employment and poor and unstable family situations (Rutter & Madge).

Causal-Comparative Research

Two groups which are homogeneous are compared. The students are from the same social economic group, and have a similar curriculum. This research will seek to determine the causes for the differences in individual groups (Fraenkel & Wallen, 2000).

Comparison group

The group in this research that receives a different treatment will be students in looping classrooms (Fraenkel & Wallen, 2000). The comparison group for this study will be the students who have attended a looping classroom for two years.

Free and Reduced Lunch Status

The number of students using free and reduced lunch has been used to measure school poverty levels (Puma, 1997). A high poverty level school would have 75% or more of the students receiving free and reduced lunches. A low poverty level school would have 25% or fewer students receiving free and reduced lunches.

Gain Scores

The difference, computing the difference between the pretest score and the posttest score and then comparing the average that a group gains (Gay, 1996).

Looping Classroom

For purposes of this study, looping is the advancing of teachers from grade to grade together with their classes of students. The idea is to avoid student anonymity by creating a longer-term relationship between students and their teacher. Looped students do not have to learn new personalities and class rules every fall. Looping is sometimes referred to as multi-year teaching (Rasmussen, 1998). The looping style of educational program has also been called continuous learning, continuous progress, and teacher/student progression according to The Northeast and Islands Regional Educational Laboratory (1997). When a teacher stays with the same group of students for two years this is today referred to as looping (Rasmussen, 1998). The teacher moves up with the students to the next grade.

Normal Curve Equivalent (NCE)

NCEs are the test scores that are used as a national sample average for the students taking a specific test (SPPSOA, 2005, April). The scores range from 1 to 99 with 50 being the average. The NCE scores are in equal intervals. The two adjacent intervals are of equal difference.

Norm-Referenced Instrument

This would be an instrument that allows comparison of an individuals test scores and with the scores of a larger group (Fraenkel & Wallen, 2000). The SAT10 academic achievement test used by the St. Paul Public Schools is a normed referenced test (SPPSOA, n.d.).

Stanford Achievement Test Series, Tenth Edition (SAT10)

The SAT10 is the latest edition of this national normed referenced achievement test which schools have used with confidence for over eighty years. Educators believe that the SAT10 provides reliable data, which will help to evaluate a students progress toward meeting state and national standards. The SAT10 is capable of identifying individual students and groups of student's strengths and weaknesses with valid and reliable information for K-12 grades (Assessment Resource Center, n.d.).

Subgroup

Group of students identified by a particular demographic characteristic. Schools and districts receive an Annual Yearly Progress (AYP) status based on the groups and disaggregating, in addition to the "all students" group, No Child Left Behind tracks student progress according to the following subgroups: (a) Black, Non-Hispanic; (b) American Indian or Alaskan Native; (c) Asian or Pacific Islander; (d) Hispanic; (e) White, Non-Hispanic; (f) Free or Reduced-Priced Lunch; (g) Special Education-currently identified; and (h) ELL (English language learners) (SPPSOA, 2005, April).

CHAPTER 2

Review of the Literature

Chapter two presents available research related to the educational practice of looping students. Looping is the concept of a teacher moving with his or her students to the next grade level rather than sending them to another teacher at the end of the school year (Grant et al., 1996). Since the 2002 NCLB law has required accountability for student academic achievement (Educational Partnerships and Family Involvement Unit, 2002), schools are looking for an innovative and cost effective way to restructure their schools to improve student's academic performance (Berlin, 1996; Bogart, 2002; Burke, 1996; George, 1996; Rasmussen, 1998).

Published literature about the practice of looping offered the potential for both academic and social benefits for students. These benefits included the change from one grade to the next with a minimum of anxiety (Checkley, 1995; Gaustad, 1998; Grant et al., 1996; Hanson, 1995; Kenney, 2007; Krogmann & Van Sant, 2000), higher expectations of students, and additional time to build the relationships on which much of children's learning depends (Benard, 2004; Berlin, 1996; Bogart, 2002; Burke, 1996; Checkley, 1995; Forsten et al., 1997; Gaustad, 1998; Grant et al., 1996; Hanson, 1995; Haslinger, Kelly, & O'Lare, 1996; Jacobson, 1997; Krogmann & Van Sant, 2000; Lincoln, 1997; Masten & Coatsworth, 1998; Rasmussen, 1998; Rutter, Maughan, Mortimore, Ouston & Smith, 1979; Shepro, 1995; Shneyderman, 2000; Steiny, 2006; Werner, 1994; Werner & Smith, 1992).

Theory

The concept of looping, according to Rasmussen (1998) is a pedagogical design reform model used by school districts. Research has reflected the student and school benefits looping can bring to school reform (Burke, 1996; Checkley, 1995; Grant et al., 1996; Forsten et al., 1997; Krogmann & Van Sant, 2000; Payne, 1996; Rappa, 1993).

History of Looping

Checkley (1995) found that multi-year education programs have been part of the education options for a long time. The multi-year educational style has been traced back to the early 1900s in Germany (Grant et al., 1996). Emit Molt the owner of the Waldorf-Astoria cigarette factory in Stuttgart, Germany, in 1919 asked Rudolf Steiner to organize a school for the workers' children (Barnes, 1991). Steiner, an Austrian scientist, philosopher, artist, and educator started the Waldorf Schools (as cited in Grant et al., 1996). He believed that students having a long-term relationship with a significant adult was the key to education improvement.

As a result of his findings, Steiner (as cited in Grant et al.) explained that in these schools the teachers and the students stayed together from first through eighth grades. Mays and Nordwell explained that Steiner's Waldorf education is based on the view that human beings are a being of body, soul, and spirit. At the Waldorf schools, it is understand that each child develops and passes through developmental stages from childhood to adult. Therefore, the Waldorf curriculum is designed to blend with the developmental stages of children. The curriculum is integrated. Each subject is presented through experience with art, poetry, music, drama or movement. The teacher would know each student's strengths and weaker areas, and would focus, through instruction and learning experiences, on developing the weaker areas. Waldorf teachers use a philosophy to instill in each student an appreciation for their own family background, and their own place in the world as part of a world of citizens. The Waldorf education goals are that students are empowered to choose for themselves their individual path through life (2004-2008). The number of Waldorf schools, in Germany, once organize grew rapidly (Barnes). They became the largest nondenominational school system and were harassed by the Nazi government during 1930's. Waldorf school mission is to teach students to think for themselves, which was against the educational philosophy of the times. The schools closed down in 1938, until the end of World Was II when the Waldorf schools revived and spread to other countries (1991).

Currently there are 250 Waldorf schools in the United States and over 900 in 40 countries of the world (Mays & Nordwell). According to the report, *Why Waldorf Works*, the number of Waldorf schools has doubled in the past ten years. Most of the Waldorf schools are privately funded, which allows teachers more freedom in developing the curriculum to the student's stages and needs (2004-2008).

The Northeast and Islands Regional Education Laboratory (1997) reported that German public schools use the multi-year model where students stay with the same teacher for first through fourth grades. Checkley (1995) stated that multi-year education has been the traditional educational program in Germany. Multi-year education is also common for schools in Japan and Israel (Grant et al., 1996). Norwegian and Swedish schools have a history of multi-year teachers. Primary grade children may stay with the same teacher for three to six years. It is common for seventh to ninth graders to have the same teacher team, this team would consist of three to eight members and would remain with the same students through lower secondary school (Arlestig, 2007; Government Offices of Sweden, 20008; Norwegian Ministry of Education and Research, 2000; Swedish National Agency for Education, 2005). Norway has many small schools because of the less dense scattered population in the countryside. In 2000, the Norwegian Ministry of Education and Research reported that 40 per cent of the primary and lower secondary schools had children attending multi-grade classrooms. In Europe, Waldorf schools are a private school option (Dahlin, 2002).

In the United States, the first public school was founded in 1635 in Boston (Holman, 2007). Massachusetts in 1647 passed a law requiring towns of fifty or more to hire a teacher to teach children to read and write. The responsibility to teach children had become a social responsibility (Cox, 2002). Multi-year education was the common practice in the one-room schoolhouses. In these one-room schools, children of all ages learned from each other and from their teacher. In 1919 there were a total of 190,000

one-room schoolhouses across the United States, and now there are less than 400 (Ellis, 2005). As the one-room schoolhouses closed down, the multi-year educational practice was replaced with the practice of teachers teaching a group of students for only one year. The Northeast and Islands Regional Education Laboratory (1997), reported findings of multi-year classroom assignments in New York City in the 1970s. Deborah Meier, principal and known for being progressive, stated, "Looping is essential because it allows the teachers and students to get to know one another well" (p. 4).

Baxter explained the reason this one-room classroom model was effective was that the teacher understood each child's learning pattern/process. There would be multiple learning styles offered in a classroom. Each child's education was based on their individualized learning plan. A child had to master a skill before moving on to the next level, and the pace was set by the child's ability versus a pace set by the teacher to complete tasks (2000).

In 1913, the U.S. Department of Education referred to multi-year classroom as teacher rotation (Grant et al., 1996). Published literature also referred to multi-year classrooms as looping, family style learning, two-cycle teaching, and student teacher progression (Grant et al.). According to The Northeast and Islands Regional Educational Laboratory, the word "looping" had been coined by Jim Grant.

Studies Directly Related

Studies with Favorable Effects

Yang (1997), in the school year 1995-1996, conducted a study at the Berino Elementary School in New Mexico. The study involved eight classrooms. These classrooms adopted looping for academic reasons. Standardized test scores at the end of the year compared looping students with non-looping students. The results of the study showed looping students scored higher than the non-looping students in academic achievement.

Hampton, Mumford, and Bond's (1998) Project F.A.S.T. (Families Are Students and Teachers) reported gains in student academic achievement. They studied urban students for four years. Parents were involved in the process of student's education. The study compared students in looping classrooms, which had worked to create an extended family environment, with students attending traditional one-year classrooms. Researchers found that student's academic achievement in the looping classrooms was higher than the student's academic achievement in the traditional classrooms.

Barto's (1999) researched 6th and 7th graders in two schools from different central Midwestern cities. The researcher compared looping students' and traditional students' 1999 standardized test scores in Science and Communication Arts. This researcher found that looping students had higher scores in both categories.

Krogmann and Van Sant in 2000 completed a study on Reading Curriculum Based Monitoring. The students were first and second graders in an Iowa middle class neighborhood school. The study compared the reading fluency between looped and non-looped students. The reading scores were taken at the end of first grade and the end of second grade. The median reading score of the looped classroom was higher than the median reading score of the nonlooped classroom.

Bogart (2002) completed a study, in East Tennessee, researching the effects of looping on academic achievement. Bogart found that third grade students enrolled in a two-year looping program had significant differences in academic achievement at the end of the first year when compared to third grade students in a one-year program. Following the second year of this study the reading and math scores showed greater gains. There were 308 students used in this study. There were 107 students in third/fourth grade looping classrooms and 201 students in third grade one-year classrooms.

Shneyderman (2000) authored an evaluation of looping in the Miami-Dade County Public Schools in Florida to identify the impact of looping participation on student academic achievement. During the 1998-1999 and 1999-2000 school years, 612 second through fifth grade students in looping classrooms were compared to 612 students in similar matching non-looping classrooms. Twenty-six different elementary schools with looping classrooms participated in the evaluation. Shneyderman observed that schools used different looping patterns. Some schools used the first-second grade, third-fourth grade, and fifth-sixth grade pattern and other schools used the pattern of only looping for two years in second and third grades. The academic scores at the end of the two years reflected significantly higher scores in reading comprehension and in mathematics applications in the looping classrooms compared with the traditional one year classrooms.

Kelley (2004) conducted research during 2002 and 2003 to determine if looping had an effect on student's reading achievement scores. She followed 16 looped students and 16 non-looped students. They were tested using the STAR computer reading assessment program at the end of first grade and again at the end of second grade. The looping students showed an average score gain of one year and two and a half months. The non-looping students showed an average score gain of eight months. The difference between the two groups was four and a half months.

Carothers (n.d.) studied the reading achievement of second to third grade students. The STAR assessment test and the Iowa Test of Basic Skills were both used to compare pre and post-test scores. The experimental group (looping) and the control group (non-looping) each consisted of 16 students. STAR reading scores were compared from the beginning of the third grade with scores at the end of that year. Iowa Test of Basic Skills reading scores were compared from the

end of first grade to the end of third grade. Looping students showed a gain of 10 months as compared to the non-looping students who had a gain of 5 months in a year on the STAR assessment. The looping students showed a six point average difference in scaled scores on the Iowa Test of Basic Skills compared to the non-looping students.

Rodriguez and Arenz (2007) studied looping and non-looping fifth and sixth grade students from Calwa Elementary School in Fresno Unified School District of Fresno, California. Fifth grade 2004 language arts examine scores were used as the pre-test and 2005sixth grade scores were used as the post-test. The looping students showed a significant difference on language arts examines.

The causal-comparative research completed by Yang (1997), Barto (1999), Bogart (2002), Shneyderman (2000), Carothers (n.d.), and Rodriguez and Arenz (2007) were similar to this research project. Their research used achievement scores over two years, and compared the looping students with traditional one-year students. Evidence showed a correlation between academic achievement and the looping classroom model in these studies.

Improvement Reported Based on Opinion

Pecanic (2003) conducted a small study of 3 teachers, 22 parents, and 17 students in three elementary school classrooms in California. All of the classrooms used the looping model. Surveys relayed a positive experience in these classrooms. There were common themes expressed: less anxiety for students; closer relationships with teachers, parents, and students; and an increased academic benefit.

Burke (1996, 2000) reported the results of groups of teachers who had used looping. This research showed that student performance was improved by having long term teacher/student relationships. These results by teachers were also reported: 70% reported using more positive approaches to classroom management, 92% stated they knew their students better, 69% said that

students were more willing to participate in class, 85% described students as feeling important member of the group and feeling a sense of pride, 84% acknowledged they have more positive relationships with parents.

Jubert (as cited in Grant et al., 1996) of Lac Du Flambeau, Wisconsin, taught in a looping classroom and observed these benefits: improved learning, and increased academic performance (p. 37-38). Rasmussen (1998) who has been a staff member of *The Association for Supervision and Curriculum Development* publications, reported that teachers working in looping classrooms across the country listed the benefits of looping which included: "an increase in test scores, and a love of learning" (paragraph 26).

Studies with Unfavorable Effects or Concerns

Some research studies report that looping does not always show significant gains for students. Each classroom community, with its particular skill levels and experiences is unique. How a teacher works with those students to move them to succeed will be individual. One of the considerations, to be made by teachers, principals, and superintendents, is whether to use the looping classroom model or to use the traditional one year classroom model. Research may support education models, but it also may not support our reasons for reform.

A group of researchers from Penn State, Pennsylvania led by Barbara Schaefer (as cited in Savrock, 2002) found that in two elementary schools in the DuBois Area School District there was little academic achievement difference between the looping and nonlooping students. This study used 24 looping and nine non-looping students. The benefits from looping in this study were considered equivocal.

Snoke (2007) used a causal-comparative study of 232 third, fifth and eight grade students from rural elementary schools located in central Pennsylvania. The years

followed were from 1999-2005. Looping and non-looping standardized achievement scores in math and reading were compared. This study with these students did not indicate a statistical significant academic difference between students who attended a looping classroom for two years and those who attended a non-looping traditional one-year classroom.

In Naples, Florida the number of classrooms that practice looping with students has been increasing (Jacobson, 1997). Teachers were interested in looping because of the relationship benefits for students. Research results were inconclusive and researchers were not sure if looping impacted district achievement scores.

The causal-comparative research completed by Jacobson (1997), Schaefer (2002), and Snoke (2007), were similar to this research project. However, the results showed that there was no or inconclusive evidence of an advantage to achievement scores for looping students. Checkley (1995) reported that though multiyear education has been around for a long time, there is not sufficient data to support the outcomes of profound impact on social and academic gains.

Studies Tangentially Related

Benefits of Looping

Research on looping practices showed the benefits to teachers, students and parents (Burke, 1996; Checkley, 1995; Chirichello, 2001; Coash & Watkins, 2005; Grant et al., 1996; Forsten et al., 1997; Krogmann & Van Sant, 2000; Payne, 1996; Rappa, 1993; Rodriguez & Arenz, 2007). Mizelle (1993) studied 100 middle school students in a looping arrangement for 6th, 7th, and 8th grades in Elberton, Georgia. The researcher used surveys and interviews with the students and teachers. Students reported increased motivation to learn, increased self esteem, and reduced apprehension about school, because of the looping classroom structure. Students indicated the reason for their interest in learning was a reflection of the teachers that understood them, and cared about them.

Grant, Johnson, and Richardson (1996) reported that Superintendent Joseph Rappa of the Attleboro Massachusetts School District started a multi-year program, during the late 1980s. Teachers were asked to stay with their students for a period of two years. Reasoning for the trial program was three fold: "a lot of homes are not too stable; a lot of kids who move around a lot; and the diverse population" (p. 28). The multi-year program in Attleboro, Massachusetts was successful. The district, under Rappa's supervision, required all classroom teachers in grades one through eight to remain with their students for two years.

Rappa, in a presentation to the National Education Commission on Time and Learning in Cambridge, Massachusetts on September 24, 1993 reported many benefits to multi-year classrooms.

Student attendance in grades 2 through 8 has been increased from 92 percent average daily attendance to 97.2 percent. Retention rates have decreased by over 43 percent in those same grades. Discipline and suspensions, especially at the middle schools have declined significantly. Special education referrals have decreased by over 55 percent,
and staff attendance has improved markedly from an average of seven days absent per staff member per year, to less than three.

(p. 15)

In the Attleboro, Massachusetts school district looping model, Hanson (1995) reported that teachers experienced many benefits from the looping program. Students were not anxious as they started the second year of the two-year cycle. Between year one and year two, the students were given summer assignments, which they brought back to school. These assignments offered the students the opportunity to continue learning during the summer, and also offered a jump-start on the learning activities organized for fall. Also, during the second year, teachers noticed students were better at resolving conflicts and working in groups.

Kenney's research (2007) at a suburban elementary school in the San Francisco

Bay area used online questionnaires with third grade students and teachers currently in looping classrooms. Her findings showed both social and academic benefits. Students and teachers were presented open ended questions regarding their feelings about different aspects of the looping classroom. Students expressed that they were more willing to take risks within the classroom, because of their close relationship with their peers. Student's felt happy to be with the same teacher where they felt less stress, and felt a bond with the other students. The teachers' saved time in planning, because they knew the students and noticed that the students were more motivated to come to school. The teachers related the connectedness to improved school performance.

Kerr's two year looping classroom research (2002) study used interviews and surveys with students, teachers, and parents. Findings of this study showed strong relationships impacted student's transitions, self esteem, and accountability. Parents' expressed more interest in involvement in school. Teachers found planning curriculum and instructions for students was more productive. Strong relationships developed did created a learning environment which was meeting students' needs.

Learning Time

Formed in 1965, the Education Commission of the States (ECS) is an interstate compact created by the states and the U.S. Congress that helps governors, legislators, and state education officials identify, develop and implement public policies to improve student learning at all levels (ECS, 2005). The ECS had been working with the question: How can schools help all children succeed? Can instruction time be more valuably spent? Can curriculum standards be met through an interdiscipline approach? How can extra time for student learning be found? The ESC concluded that each school has its own set of circumstances to consider; therefore, the schools need to determine those things that will help its students succeed. Looping classroom model could be an option which would allow for more student learning time.

Rasmussen (1998) reported that teachers found their preparation and classroom instruction time was saved through using looping programs. Rasmussen also found that as the second year of looping was started, the classroom routines and procedures needed only to be quickly reviewed rather than taught. The time needed to get to know the students and the students to get to know each other was substantially reduced. The transition time at the beginning of the school year was reduced which allowed for instruction time to start on day one. Little and Dacus (1999) reported that teachers saved time the second year, because they no longer needed to test students for reading and math levels, or remind them daily of procedures. Grant, Johnson, and Richardson (1996) supported these findings, and reported that teachers claimed that a month of learning time was gained the second year. A looping program first-to-second grade, third-to-fourth grade, and fifth-to-sixth grade can equate to three months or an additional twelve weeks of learning time.

In the Attleboro, Massachusetts school district looping model, Hanson (1995) reported that teachers in grades one through eight remained with their students for two years, between year one and year two, the students were given summer assignments which they bring back to school in the fall. These assignments offered the students the opportunity to continue learning during the summer, and also offered a jump-start on the learning activities organized for fall.

Looping has been referred to as "the gift of time" (Elliott & Capp, 2003; Mazzuchi & Brooks, 1992). Teachers gain instruction time with their students, because they know where students have left off when leaving one year and moving on to the next year. Students gain time because they are all ready familiar with rules and routines the second year in a classroom. Researchers have reported "the gift of time" as a benefit to looping classrooms (Berlin, 1996; Bogart, 2002; Burke, 1996; Checkley, 1995; Forsten et al., 1997; Jacobson, 1997; Krogmann & Van Sant, 2000; Shneyderman, 2000; Steiny, 2006) **Building Interpersonal Relationships**

Evidence that the most powerful protective factor in children's lives was having at least one caring adult in their life has come out of Werner and Smith's research (1992). The caring adult could be a parent, substitute parent, a teacher or someone else, however, this person must love and care about the child unconditionally (Werner, 1994). Research has shown that the school environment, specifically teachers, have a powerful influence on children's lives, helping them to develop skills which put them on the right course to become productive, responsible, and happy adults (Benard, 2004; Masten & Coatsworth, 1998; Rutter, Maughan, Mortimore, Ouston & Smith, 1979).

Over the years it has been known that students perform better in school when they are in a caring and safe environment. Benard (2004) pointed out that research studies have agreed that there are certain elements consistently present in caring schools and classrooms. The first is that every student has a connection with a caring adult in the school. It is not always the teacher that a student has a close, supportive relationship with. The second is that schools and classrooms feel like they are a community. The classroom becomes a place to feel safe and have support from peers. The third is that schools and classrooms use small group learning experiences. These may include: cooperative learning, peer tutoring, cross-age tutoring, service learning, and conflict mediation. Experiences like these offer student's an opportunity to build caring skills, and empathy for others. Students feel more connected when they know the teachers and other students. School connectedness impacts school achievement as stated by McNeely, Nonnemaker, and Blum (as cited in Bernard, 2004). Building relationships and that connectedness is the essences of the looping classroom model (Forsten et al., 1997). Burke (1996) experienced teaching in a looping school and also taught with others who had similar personal and positive experiences with looping. These teachers witnessed over time that within the looping classroom students have had daily opportunity to work on building interpersonal relationships. These relationships between their teacher and the other students had stimulated student motivation to improve academic achievement. Classroom teachers have played a huge role in the success of students (Casey, 2007).

Zahorik and Dichanz (1994) reported the benefits defined by German teachers' use of multi-year grouping of students in their classes. They found students made connections more easily during the learning process, because the teacher knew the student. The students within the classroom learned to become supportive of each other as they formed a community of learners.

Checkley (1995) found that looping offered the opportunity to establish good long-term relationships, but also offered the opportunity to establish negative relationships. Checkley continued, "If after much effort a negative relationship can not be turned around, will there be the option to move the student to another classroom?"(p. 5).

Jubert (as cited in Grant et al., 1996) who has taught in a looping classroom and observed these looping classroom benefits: (a) created an extended family; (b) developed a stronger sense of community among teachers, students and families; (c) parents and students developed stronger bonding because of a high comfort level; (d) students developed trusting and honest relationships with each other; (e) a secure and safe environment (p. 37-38).

Kerr (2002) used interviews and surveys in her looping study. Eighty percent of the students, parents and teachers shared positive perceptions and experiences with looping. Building strong relationships was a strength of the model. Kerr stated, "Looping practice is not costly to implement, but an investment in people" (p. 199).

The Waldorf education model where a teacher stays with the same students first through eight grade, offers the opportunity to build long term relationships. The better a teacher knows a student's strengths and weaknesses the better that learning can be guided (May & Nordwell, 2004-2008).

Research of the benefits of teachers building strong relationships with students has been supported by many researchers (Berlin, 1996; Bogart, 2002; Forsten et al., 1997; Jacobson, 1997; Krogmann & Van Sant, 2000; Littky & Allen, 1999; Newberg, 1995; Osterman, 2000; Payne, 1998; Rasmussen, 1998; Rodriguez & Arenz, 2007; Roger & Renard, 1999; Shneyderman, 2000; Werner & Smith, 1992). Littky and Allen (1999) reported that creating positive personal relationship with students could open them to lifelong learning. They continued by saying that relationships help motivate students to want to learn.

Curriculum Planning

Rasmussen (1998) reported the curricular impact of looping and found that teaching the same group of students over a two-year time frame helped teachers organize the curriculum for the two years versus focus on one-year. One example is the challenge of teaching money to first graders. Rasmussen (1998) found that the lessons could be taught at the end of first grade and then picked up again at the beginning of second grade. Using a two-year curriculum allowed teachers the opportunity to meet this curricular challenge. Teachers also shared with Rasmussen that there was more instruction time, more material covered while still meeting the needs of the students.

Individualizing instruction and differentiating the curriculum became more of a possibility through looping (Checkley, 1995; Engelmann, 1999). Additional time made available by looping allowed teachers more opportunities to know a student in order to individualize instructions, and to differentiate the curriculum and instruction. Once a teacher knows a student it is easier to plan out academic and social expectations (Checkley, 1995; Sizer, 1999; Tomlinson, 1999).

Jubert (as cited in Grant et al., 1996) observed these benefits in her looping classroom: (a) teachers offered a more individualized and customized instruction and curriculum because the teacher knew the students; (b) teachers knowing students can offer a curriculum to foster higher academic and social expectations; (c) improved learning and achievement; (d) a curriculum that builds on previous experiences and prior knowledge because the teacher had a significant part of those previous experiences and prior knowledge learning and activities; (e) an increased academic performance; (p. 37-38).

Educational accountability for students demands close relationships (Guskey, 2001). Research has shown that teachers have a greater opportunity to customize and differentiate the curriculum according to students' needs, when teachers loop with their

students (Berlin, 1996; Bogart, 2002; Burke, 1996, 1997; Checkley, 1995; Gaustad, 1998; Grant et al., 1996; Guskey, 2001; Hanson, 1995; Kenney, 2007; Kerr, 2002; Krogmann & Van Sant, 2000; Newberg, 1995; Sizer, 1999; Tomlinson, 1999).

Needs of the Students

The essence of looping was expressed by Burke (2000), who found, "Looping promotes strong, extended, meaningful, positive interpersonal relationships between teachers and students that foster higher student motivation and stimulate an improved learning environment for students" (p.2). Looping has given teachers the opportunity to observe students, get to know and understand them, and to implement strategies to solve learning problems (Grant et al., 1996). This two year time period has been beneficial for borderline students who may have been retained.

Chicago is a school district that has had a history of student retention and promotion policies. Trotter (2004) reported that district officials plan to use looping model to support struggling students. Rasmussen (1998) stated that looping gave students time to bond with their teacher, that students learned to trust their teacher, and that the teacher learned to understand the needs and strengths of the student. These benefits were also reported by other researchers (Berlin, 1996; Burke, 1996; Costa & Kallick, 1995; Forsten et al., 1997; Hanson, 1995; Krogmann & Van Sant, 2000; Newberg, 1995; Osterman, 2000).

Creating that space where students learn can be done (Simone, 2001; Strong, Silver & Perini, 2001). Checkley (1995) reported that teachers established looping because they desired to create within the classroom a community environment amongst the teacher, students and the families. Over the two-year period that the community would build a stronger bond, and this bond would assist students in improved interpersonal skills and communication skills (Checkley, 1995; Jacobson, 1997).

Research showed how students the second year of looping were less apprehensive about starting a new school year and showed an increase in self-confidence (Checkley, 1995; Little & Dacus, 1999). Because of familiarity, a student feels more selfconfident within their surroundings, which allows them the willingness to participate in new experiences (Jacobson, 1997).

Little and Dacus (1999) found that, during the first year of a loop, teachers reported they had dealt with peer relationship problems differently. In the two-year looping plan, the students were building long-term relationships and needed to find ways to get along, not just put up with peers. Difficult students and parents were more likely to get along during the second year when they experienced consistent expectations (Steiny, 1997).

Forsten, Grant, Johnson, and Richardson (1997) found that teachers believed that the reason that looping worked was because it satisfied the student's most basic need: caring relationships. Werner and Smith's (1992) research supports the need for caring relationships in children's lives. Benard (2004) pointed out that research studies agreed that certain elements were consistently present in caring schools and classrooms. School connectedness impacts school achievement as reported by McNeely, Nonnemaker, and Blum (as cited in Bernard, 2004). Rogers and Renard (1999) reported when emotional needs are met, students are more motivated to learn.

Less Anxious about School

Hanson (1995) reported that teachers experienced many benefits from the looping program including: students were not anxious as they started the second year of the two-year cycle. Jubert (as cited in Grant et al., 1996) observed reduced school apprehension in her looping classroom (p. 37-38). Other researchers reported students less anxious as they began the second year in a looping classroom (Checkley, 1995; Gaustad, 1998; Kenney, 2007; Krogmann & Van Sant, 2000).

Additional Looping Benefits

Some academic achievement studies have shown additional benefits looping students and classrooms reported. Dr. Joseph Rappa, Attleboro Massachusetts School Superintendent, reported that school attendance by students increased (as cited in Grant et al., 1996). Rasmussen (1998) reported that teachers listed the benefits of looping that included: "higher school attendance" (paragraph 26). Grant, Johnson, and Richardson (1996) reported that Dr. Joseph Rappa, Attleboro Superintendent, witnessed decreases in retention rates, decreased discipline problems, and reduced special education referrals.

The Waldorf schools use multi-year education and reported some long term benefits for students in a study *Why Waldorf Works*. The Research Institute for Waldorf Education in 2005 presented a survey of 526 alumni from 27 Waldorf schools. Over half of them remained in the program from elementary school through high school graduating from 1943-2004. Family stability can be an influencing factor, but student success is very important. The report also stated that after graduating from high school 94% attended college, with 88% completing college. Of those surveyed 91% considered themselves as practicing and valuing "life-long learning," 89% were satisfied with their choice of occupation, 96% had high values of relationships, and 82% values helping others (May & Nordwell, 2004-2008).

Stability

Establishing a stable environment for children was one factor in promoting learning. Forsten, Grant, Johnson, and Richardson (1997) stated, "Often the five–and-ahalf hour period that children spend in school is the most stable and predictable part of their day" (p. 13). Looping offered the opportunity for a continuation of a caring familiar environment (Berlin, 1996; Bogart, 2002; Checkley, 1995; Forsten et al., 1997; Haslinger et al., 1996; Kerr, 2002; Krogmann & Van Sant, 2000; Newberg, 1995).

Teachers from the Attleboro, Massachusetts school district believed that the classroom community offered stability to students (Grant et al., 1996). Hanson (1995) reported that many of local school district students needed more of the adult role model, and support in their lives than what they were experiencing. In the Attleboro study it was reported that parents had long work hours and were not available for their children.

Stability within a classroom offered students a less anxious environment. Grant, Johnson, and Richardson (1996) found that elementary students benefited from looping classrooms because there was less anxiety the second year. Jubert (as cited in Grant et al., 1996) observed students feeling a sense of stability (p. 37-38). Rutter, Maughan, Mortimore, and Ouston (1979) in their school comparison study indicated a strong relationship between children's behaviors and attitudes, which they showed are shaped by the school experience. These experiences are then reflected in academic outcomes according to the study. Other researchers reported looping created a stable environment for students (Berlin, 1996; Bogart, 2002; Checkley, 1995; Kerr, 2002; Krogmann & Van Sant, 2000; Newberg, 1995).

Connection with Parents

Rasmussen (1998) found that parents reported feeling more comfortable with the teacher's expectations of the student and with working with the teacher. Through the two years of working with a family, changes take place the second year where parents became more involved. Rasmussen (1998) continued by reporting that this is a two way process and the teachers get to know the parents and the parents get to know the teacher. Little and Dacus (1999) reported that during the second year parent-teacher relationships were improved.

When surveyed, parents in the Attleboro, Massachusetts's school district were supportive of the multi-year program (Hanson, 1995). The researcher continued to report parents felt better connected to the teacher and the expectations of the classroom. Parents also felt that conferences where more meaningful because they felt the teacher knew the students better, and they as a parent knew what was expected. Checkley (1995) reported looping had encouraged a stronger sense of community and family among parents, students, and teachers. Other researchers stated that parents felt more of a relationship with the teacher (Burke, 1996, 1997; Forsten et al., 1997; Grant et al., 1996; Krogmann & Van Sant, 2000; Little & Dacus, 1999).

Study by Nichols (2002) of looping students showed positive attitudes of parents toward education. This researcher found that parents with looping students were more stable. If a family is more stable then you have the opportunity to develop the relationships that are important for success.

At-Risk Students

Socioeconomic status has been recognized as a factor in how well children will achieve in school (Chall, 2000). "The causes of poor achievement lay mainly in the social and cultural background and education of parents" (Chall, 2000, p. 128). Schieffer and Busse (2000) reported studies which showed that lower socioeconomic parents have fewer resources to meet the needs of their children. Though there has been a correlation between socioeconomic status and academic achievement, there is research that has shown that children from high-risk environments have succeeded in school and in their personal lives (Benard, 2004; Henderson & Milstein, 2003; Krovetz, 1999; Thomsen, 2002; Werner & Smith, 1992). Benard (2004) reported how children who succeed despite the odds against them are known as resilient, and in a resilient environment children were exposed to "caring relationships, high expectations, and opportunities to participate" (p. 68). Children were in school a large number of hours during their developmental years; therefore, schools had opportunities to impact the lives of students (Rutter et al., 1979). Resiliency research has offered suggestions to assist in moving students from at-risk to a position of resiliency (Benard, 2004; Henderson & Milstein, 2003; Krovetz, 1999; Thomsen, 2002; Werner & Smith, 1992). Newberg (1995) reported that educators realized that in order to make substantial improvements in student achievement, schools needed to establish a comprehensive and coherent plan. Students considered at-risk were those who did not have the support system and or the resources, which they needed to help them cope with and solve stressful situations (Benard, 2004; Newberg, 1995; Payne,

1996). For children to become resilient would require developing a support system according to Flach (1997). The looping classroom model could offer at-risk students two years to build the social and academic skills needed to be resilient and to succeed.

Implementing Looping

It has been recommended that looping be a choice (Forsten et al., 1997; Grant et al., 1996). If looping classrooms are being offered at a given school, it was advised that teachers be given the option to choose whether to teach the traditional one-year class or to choose to teach a looping class, and also advised schools to not adopt looping as the only classroom option (Grant et al.).

Teacher teaming has been suggested when forming looping classes. An example would be a fifth and sixth grade teacher's team to share materials and lesson plans (Grant et al., 1996). In that same example, one teacher with the same students would teach fifth grade one year and then sixth grade the next year continuing with the same students.

Parent and student involvement and long term commitment in the looping decision has played a role in its success (Grant et al., 1996; Little & Dacus, 1999). Teachers who have been allowed to make decisions on student placement and the moving of students felt supported by administration (Grant et al., 1996; Nichols, 2002). Researchers advised that grade level classrooms within a building, whether looping or regular, reflect the same make-up of students (Forsten et al., 1997; Grant et al., 1996; Little & Dacus, 1999). This included class size and balance of class population. Selected students to be placed in a looping classroom should be a diverse and manageable group in order to maximize the benefits of the looping classroom (Grant et al., 1996; Little & Dacus, 1999). It was also recommended that looping classrooms are not overloaded with high maintenance students (Grant et al., 1996; Little & Dacus, 1999; NIREL, 1997). These would be students who require a considerable amount of additional support.

Forsten, Grant, Johnson, and Richardson (1997) recommended practices and strategies for staff development in cooperative learning, and conflict resolution to better manage the long term relationships with students and families. Teachers would be expected to become familiar with the curriculum for both grades and the students' developmental stages (Forsten et al., 1997; Gaustad, 1998; Grant et al., 1996; NIREL, 1997).

Schools who used looping as a model for reform have found that implementation could be organized within a short period of time, the cost of startup was minimal, and additional teacher training often was not needed or was minimal (Forsten et al., 1997; Gaustad, 1998; Grant et al., 1996; NIREL, 1997).

Achievement Tests

"The goal of NCLB is to have every student achieve proficiency in reading, math and science by the year 2014" (USDE, 2002). Each state is held accountable for assessing students. In Minnesota, students are tested yearly to record their progress and mastering of reading, math and science standards (MDE, 2006a). The Minnesota Department of Education oversees the progress.

The Stanford Achievement Test Series, Tenth Edition (SAT10) has been used in this Minnesota inner city school for many years. The SAT series was developed by Harcourt Assessment and is a nationally normed referenced achievement test schools have used for over eighty years (Harcourt, 2001). The SAT10 identifies individual student's and groups of students' strengths and weaknesses with valid and reliable information for K-12 grades (SPPSOA, n.d.). Each question on the examine is assessed for a student's basic understanding of content and being able to recall information, and a student's thinking skills which is the ability to analyze and synthesize information (SPPSOA, n.d.). "For each score at each grade level on the SAT10, there is a national percentile and an NCE. Both of these scores: (a) reflect the national norm, (b) range from 1 to 99, and (c) have an average of 50. NCE scores can be averaged for groups, and we can more reliably compare NCE scores from year to year" (SPPSOA, 2005, Nov). A student's scores are compared with the grade level objectives set by the test (SPPSOA). The student's scores are compared with previous years scores and if the current year's scores are the same or higher then it is considered a year's growth (SPPSOA). The Assessment Resource Center (n.d.) reported educators found that the SAT10 provided reliable data that would help to evaluate a students progress toward meeting state and national standards. The results of the SAT10 have been used to inform parents, and to guide schools with classroom instruction planning (Harcourt, 2001).

Discontinuing Looping Commitment

As a follow up on the looping program in Attleboro, Massachusetts during the 1980's as presented by Rappa, I emailed the Attleboro Education Association a staff member reported, on November 13, 2008, that by popular demand looping was stopped several years ago. They continued by stating that they did not see looping as "beneficial to student growth and achievement." Here are the reasons that were listed:

(a) The chemistry between teacher and student may not have been positive. Likewise, parent-teacher.(b) The student's growth was not seen realistically or pushed as hard due to the fact that it is over a 2 year period.(c) If a child goes to a new teacher-that

teacher starts assessments fresh and works toward more growth and achievement. Yes, the child makes progress over the 2 year looping, but may not have actually made an actual 2 years worth of progress! (d) Every teacher has their own style and motivational techniques and why shouldn't students have the opportunity to experience as many as possible? It is not fair to the child that may not like one teacher's style and have to be with that teacher for 2 years before getting another teacher that may stimulate learning better for that child. (e) The September "Enthusiasm Factor" is no longer there for the 2nd year of the loop. SAME OLD-SAME OLD! (f) The cons definitely outweighed the pros for multi-year assignments.

The Attleboro mandated looping project was reported as successful during the 1980's (Rappa, 1993). What has transpired during the past 20 years to change the commitment to using the looping classroom style is a topic for discussion. Teachers, parents and students prefer to have classroom style arrangement choices (Forsten et al., 1997; Gaustad, 1998; Grant et al., 1996). Teachers' belief in the potential positive benefits of a looping program and the conviction to make it work for the students is a key factor in the success of a program (Checkley, 1995). Grant et al. (1996) have cautioned administrators that classroom looping teachers need support during implementation of a program and the years following. There are many topics of concern for administrators. Is a teacher knowledgeable of two years of instruction? Do they need additional curriculum instruction or support? Is a teacher's personality such that a two year commitment to a class is workable? Is a teacher willing to commit to working with a class for two years?

If there is a personality clash between a teacher/parent/student is there a procedure to deal effective with this conflict? Is there a balance of high maintenance students within the classrooms? Is there parental support for using looping classrooms?

Summary

Educational researchers believed that it would be of value for educators to look at their education history and understand the practices that were used to help students achieve academically (Grant, Richardson, & Forsten, 2000).

Research on looping practices showed the benefits to teachers, students and parents (Berlin, 1996; Bogart, 2002; Burke, 1996; Checkley, 1995; Costa & Kallick, 1995; Grant et al., 1996; Forsten et al., 1997; Hanson, 1995; Jacobson, 1997; Krogmann & Van Sant, 2000; Newberg, 1995; Payne, 1996; Rappa, 1993; Rasmussen, 1998; Shneyderman, 2000; Steiny; 2006; Westheimer, 1996).

Looping, sometimes referred to as multi-year education has been in education for a long time (Grant et al., 1996). At the time of one-room schoolhouses students were taught for multiple years by one teacher. Meier in the 1970s in New York and Ratzki in the 1980s used the looping program style with success (as reported in Northeast and Islands Regional Education Laboratory, 1998). Though looping was found to be a common educational practice in Europe with research to support its benefits, studies in the United States found looping to be considered innovative and an uncommon practice in schools (Burke, 1997). Teachers in the United States have reported positive gains and believed that looping is a worthy program despite the lack of significant conclusive data (Checkley, 1995).

Looping was viewed as a practice that was less expensive and could be implemented whether a school used traditional or nontraditional styles of instruction (Hanson, 1995; Simel, 1998). Forsten, Grant, Johnson, and Richardson (1997) described looping as a practice that could work whether it was used by two teachers within a school building or with an entire school district as in Attleboro, Massachusetts.

Rappa, Attleboro School Superintendent in 1993, reported many benefits to the looping model which included: increased attendance, decreased retention, reduced suspensions, and

decreased special education referrals. He believed that looping offered the students a more a stable school environment. A staffer of the Attleboro Education Association shared that the district no longer uses the looping model. Teachers have felt that the cons outweighed the pros for multi-year teaching. It is believed that the students made more growth in the one-year classrooms, because teachers and students were more enthusiastic and fresh with each new year. How can a school district which report such benefits from looping, now believe that there are more cons to looping than benefits to looping? This transition leaves many questions to be asked.

There are educators who have realized the benefits of building relationships within the looping classrooms; however, they are not convinced whether there will be gains in academic achievement. DuBois Area School District research found little difference between the looping and non-looping students (Savrock, 2002). Naples, Florida research on looping classrooms was inconclusive (Jacobson, 1997). Researchers were not sure if looping had an impact on achievement scores. Checkley (1995) believed that it was just speculation that students in multi-year classrooms would show gains in test scores. She did not believe that there was enough data to show a correlation between students looping and academic achievement.

Bogart (2002) found that looping contributed to raising academic achievement scores with third grader students, and also reported that following the first year of looping there was evidence of the benefits. The second year of the loop brought greater evidence of academic achievement. The researcher shared that the looping design placed a long-term obligation on the teacher to succeed with each student and for each student to have ownership in creating a classroom learning environment.

"At the heart of a successful looping classroom are the continuity of relationship and the learning environment" (Forsten et al., 1997, p. 13). Checkley (1995) concluded that if looping translated into improved student learning and improved academic achievement scores, then looping could be considered the right reform method to consider. Researchers have recommended that looping classrooms not become a mandated reform (Forsten et al., 1997; Grant et al., 1996). Choice of classroom models, according to researchers, is the preferred option by teachers, students and parents (Forsten et al., 1997).

CHAPTER 3

Methodology

Research Design

This dissertation outlines a causal-comparative quantitative study of the impact of looping practices on academic achievement scores at a Minnesota inner city elementary school. The objective of this research was to measure if looping, having the teacher advance to the next grade along with the students in a class, had an effect on academic achievement scores. Prior research on looping has shown mixed evidence of gains in achievement scores (Jacobson, 1997; Savrock, 2002; Shneyderman (2000). Achievement scores are important in a number of administrative, curricular, and classroom decisions. The results of the research may provide evidence of the effect of looping at this school.

The study used causal-comparative research approach to determine the consequences or relationships that may have a cause-and-effect on student academic achievement test scores (Fraenkel & Wallen, 2000; Reaves, 1992). Using the causal-comparative research design to provide evidence on the effect of looping on achievement scores compared a sample of 38 looping students from School A, with 33 comparable non-looping students from School B. Students from School B were in a one-year traditional model. They attended a similar school within the same school district and are the control group. This research design can allow for the ability to draw inferences about cause-and-effect, but it does not have the ability to measure the causal value (Fraenkel & Wallen, 2000; Reaves, 1992). The focus of the causality research allows the researcher to make an informed hypothesis regarding cause-and-effect (Meltzoff, 1998).

The research hypothesis is that looping will affect higher achievement scores. The rationale was that looping may create a learning environment which provides a greater range of opportunities for the students to interact with the teacher and other students within the classroom.

These interactions may result in an increased sense of individual, emotional, and educational support. The result of greater support may translate into higher academic achievement scores.

The hypothesis was related to the consistency of the school environment with the exception of some students looping at School A and other students using the non-looping classroom model at School B. During the two years used for this study, there were no new curriculum programs added, the student demographics remained similar, the student social economic status was similar, and the academic achievement was similar. Student demographic and academic achievement similarities of the two schools were verified by the school district research department. The SAT10 standardized tests had been used for many years. The students and the teachers were familiar with these exams. Students were accustomed to school expectations and routines. The principals had been in place for several years and did not make any major changes. The students were in a routine of testing and comparing their previous scores for progress in reading and math. At School A, looping was not a new classroom design, and all of the teachers in the fifth and sixth grades had been teaching for three or more years. The difference between the two groups was looping and non-looping of students.

In this causal-comparative study the dependent variables are reading and math scores. The independent variables are students looping and non-looping. It is hypothesized that the reading and math scores are dependent on the independent variables of looping and non-looping. The study was about the cause-and-effect relationship that the independent variable may have on the dependent variable. Student's reading and math score gains were compared through the causal-comparative method to determine statistical significance at the p < .05 level of significance to determine the impact which looping may or may not have on achievement scores. The data collected was used to test the null hypotheses.

Academic achievement scores are important measures for school performance because the achievement scores are believed to reflect learning outcomes. If looping results in improved achievement scores, it provides evidence in support of looping. If looping does not result in improved achievement scores, then looping cannot be justified on this basis. It is acknowledged that there may be other reasons that teachers choose to use the looping design. There is the possibility that the results of this study could have a type 1 or type 2 error. A type 1 error of the study could show looping does have a significant increase in achievement scores, when actually there are other reasons for the increase. A type 2 error of the study could show looping does not make a significant difference in achievement scores, when actually it does make a difference, but this study did not present those results (Gay, 1996).

Administration and teachers at this Minnesota inner city elementary school are at the crux of determining if they will organize looping classroom teams to promote higher achievement scores. This research project may provide evidence by which they could base their decisions.

Population Description

The students used for this study have attended a Minnesota inner city elementary school, and were in attendance for the 2004-2005, and 2005-2006 school years. The School A in this study used the looping pedagogical model. The enrollment of Kindergarten through sixth grades was at approximately 448. The student demographics from 2004-2005 (SPPS, 2004-2006) were: 2% American Indian, 32% Asian, 37% Black, 12% Hispanic, and 17% White. The poverty index, as measured by free and reduced lunch eligibility, was 89%. Students who received services as English language learners was 41% of the student body, and those who received special education services was 14%. Student academic achievement at this school has continued to improve even in an environment of high student mobility. Requirements for AYP were met in 2004, 2005, and 2006. This school did not meet AYP in 2007.

School B in this study was also a Minnesota inner city elementary school close in proximity to School A. The enrollment of Kindergarten through sixth grades was approximately 392. The student demographics from 2004-2005 (SPPS, 2004-2006) were: 1% American Indian, 35% Asian, 39% Black, 18% Hispanic, and 7% White. The poverty index, as measured by free and reduced lunch eligibility, was 93%. Students who received services as English language learners was 48%. Students who received special education services was 18%. Requirements for AYP were met in 2005, and 2006. This school did not meet AYP in 2007.

School A and School B demographic percentages are similar and yet slightly different. School A had a slightly higher percentage of White students. School B had slightly higher percentages of Asian, Black, and Hispanic students.

There were other similarities with slight differences. The student enrollment of School A was approximately fifty more students; this could translate into two additional classrooms. At School B the percentage of Poverty index, the English language learners, and the Special Education students were slightly higher.

Looping students attended School A, and non-looping students attended School B. All of the students in the study would have completed the SAT10 exam for the school years 2004-2005, and 2005-2006.

Sample Description

Academic achievement scores of students who were in the fifth and sixth grade classes during the 2004-2005 and 2005-2006 school years were used. The desired research sample was fifty sixth grade students from looping classrooms and fifty sixth grade students from nonlooping classrooms, however, 38 looping students and 33 non-looping students were actually used.

Sampling Method

Cluster sampling method was used by the researcher. For the purposes of this research, a list of looping students in the sixth grade from School A consisted of students who had completed two years with the same teacher during the 2004-2005 and 2005-2006 school years. If a student did not spend two consecutive years with the same teacher, he/she was not included in this study. The list of non-looping students consisted of sixth grade students from School B, who had been in one-year classrooms from 2004-2005 and 2005-2006 school years at the same school. From the recorded students on the looping and non-looping list, it was intended that two groups of 50 students would be randomly selected for the sampling groups (Meltzoff, 1998). According to Gay (1996, p.114), "Random sampling is the process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being selected for the sample." The third person on the list would be coded sequentially using L1, L2, etc. Non-looping students would be coded sequentially using NL1, NL2, etc. The sample groups would be as representative as possible of the students attending the schools being researched (AERA, 1999).

School A looping students were the experimental group. This group contained looping students from the same school. School B non-looping students were the control group. This group of non-looping students were from a nearby school. School B was selected for demographic and academic similarities to School A.

Only SAT10 reading and math scores for year 1 (2004-2005) and year 2 (2005-2006) were recorded. This archived data was later entered into Minitab computer software for statistical analysis.

Sampling Size

Fraenkel and Wallen (2000) explain the guidelines for selecting a minimum number of subjects for a sampling size. They recommend a minimum number of 100 for a descriptive study, a minimum of 50 for a correlational study, and 30 for a causal-comparative study. For this study the desired sampling size was to consist of 100 students. Two lists of names was to be created one with 50 looping students and one with 50 non-looping students. The archived data showed, in 2005, 90 fifth grade students taking the examination and, in 2006, 75 sixth grade students taking the examination. Of these numbers, only 38 students had stayed with the same teacher for the two years, and these names were included in the looping group. School B showed, in 2005, 65 fifth grade students taking the examination and in 2006, 56 sixth grade students taking the examination. Only 33 of the students' scores from School B were usable due to incomplete recording of scores and/or a student not adding the same school for two years.

Instrument

Reading and math scores from the Stanford Achievement Test Series 10 (SAT10) were used. The SAT10 is a nationally normed referenced, standardized test used to measure student progress toward high academic standards (ARC, n.d.). Well established tests like the SAT10 are advantageous to use because they have already published reliability and validity data (Meltzoff, 1998). The primary purpose of the test is to provide a measure of academic basic skills to determine content knowledge and application ability. The SAT10 is a multiple-choice assessment developed and used to help educators. This instrument has an 80 year history of being a valid and reliable tool needed for objective measurement of achievement (ARC, n.d.).

The SAT10 achievement tests were a source of normal curve equivalent scores (NCEs). The NCE score was used to calculate gains from one year to the next. NCE scores were used to make comparisons for statistically significant differences. The primary comparisons were made to determine if there were differences in academic achievement for reading and math for individual students from year one to year two. Comparisons were made to determine if there was a difference between the gains of looping students and the non-looping students. Other researchers used standardized tests in causal-comparative exploration to determine academic achievement of looping groups and non-looping groups of students (Bogart, 2002; Krogmann & Van Sant, 2000; Shneyderman, 2000; Yang, 1997). The researchers used standardized test scores comparing the gains made in reading and math. These studies showed greater gains made by looping students versus non-looping students. There have also been studies which are not as convincing that looping affects academic achievement (Jacobson, 1997; Schaefer, 2002; Snoke, 2007).

Instrument Reliability

The degree of reliability of the SAT10 is based on test score consistency, dependability, and repeatability (Popham, 2000). It is assumed that if this exam is given a second time that the results would be similar (Fraenkel & Wallen, 2000). The SAT has been used for over 80 years and has been found to be reliable (ARC, n.d.).

Test-retest reliability

An instrument is considered reliable if the same test is given to the same person and the scores are similar (Fraenkel & Wallen, 2000). Test-retest scores for the SAT10 should be similar. The same instrument was used for the test and retest. The test was given at the end of year one and the end of year two of the study.

Instrument Validity

The degree of validity is based on test appropriateness and meaningfulness (Popham, 2000). It is assumed that this exam will measure what it is supposed to measure. The validity of the SAT has been proven over the 80 years in which it has been used (ARC, n.d.).

Content validity

Content validity of an exam is the extent that the knowledge and skills needed to be examined are measured (Popham, 2000). The SAT10 exams measure the skills and knowledge that are needed for each grade level.

Construct validity

Construct validity allows one to have the evidence that they need in which to make inferences (Popham, 2000). The SAT10 exams have had a history of being reliable and contain content validity, therefore, inferences made from year to year would be consistent. Other researchers used standardized tests in causal-comparative exploration to determine academic achievement of looping groups and non-looping groups of students (Bogart, 2002; Krogmann & Van Sant, 2000; Shneyderman, 2000; Yang, 1997). The researchers used standardized test scores comparing the gains made in reading and math. These studies showed greater gains made by looping students versus non-looping students.

Scoring Procedures

SAT10 achievement tests are administered in the spring of each year. Data used was collected for the 2004-2005, and the 2005-2006 school years. Each name was given a code. Looping students were coded sequentially using L1, L2 etc.. Non-looping students were coded sequentially using NL1, NL2 etc.. The pre-test scores were the scores at the end of the first year.

The post-test scores were the scores at the end of the second year. The pre-test and post-test scores were entered into the computer database for statistical analysis. The SAT10 pre-test and post-test scores of looping students and the non-looping students were then compared. Academic achievement growth was compared from one year to the next. This study procedure is similar to other research (Bogart, 2002; Krogmann & Van Sant, 2000; Shneyderman, 2000; Yang, 1997).

Procedures

The research sample groups' SAT10 scores were collected at the school district Research Department once approval for the research had been received. The selection of students for the looping group and the non-looping group take place at that time. From the cluster of students on the looping and non-looping list, it was desired that two groups of 50 students would be randomly selected for the sampling groups. The number of students actually selected was 38 looping and 33 non-looping, because of student mobility, and the number of exam scores available.

Data Analysis

Written approval to conduct this study had been obtained from the principals of School A and School B. Research approval had been received from Saint Mary's University and the school district. School district approval for this research had come through the district Research Department once a research request application had been filed.

Upon approval of the research process, then the student data had become available. A roster of students had been completed. Each student was coded to eliminate identification of individual students from within the student population. Coded identities protect the names of the students (Fraenkel & Wallen, 2000).

SAT10 achievement tests are administered in the spring of each year. Data used was collected for the 2004-2005, and the 2005-2006 school years. Students were coded as looping or

non-looping. The pre-test scores were the scores at the end of the first year. The post-test scores were entered into the scores at the end of the second year. The pre-test and post-test scores were entered into the computer database for statistical analysis. The SAT10 pre-test and post-test scores of looping students and the non-looping students were then compared. Academic achievement growth was compared from one year to the next. This study procedure was similar to other research studies (Bogart, 2002; Krogmann & Van Sant, 2000; Shneyderman, 2000; Yang, 1997).

Statistical Model

This study utilizes quantitative research to construct a view of the academic achievement of looping students at a Minnesota inner city elementary school. SAT10 scores of students were used for this project. Reading and math scores of the students selected from School A and School B were entered into Minitab statistical software. Minitab is a computer program which is designed to perform statistical functions. Minitab software was created in 1972 and has been used by researchers. Minitab software was used to calculate the t-scores and the regressed gain scores. The *t*-test is a statistical test to determine if there is a significant difference between the means of two sample groups (Fraenkel & Wallen, 2000). The calculation functions of Minitab were used to determine whether there was a significant increase statistically between the gain scores and the independent variables.

The data analysis used *t*-tests to determine if there were achievement differences for a student from one year to the next. These tests were used to determine achievement differences for looping versus non-looping students (Fraenkel & Wallen, 2000; Reaves, 1992). Of interest were the mean scores of the two groups to determine if there was statistical significance (McEwan & McEwan, 2003). The statistical analysis conducted considered a level of < .05 to be statistically significant when comparing reading and math scores with looping students and non-looping

students. The statistically significant level of .05 represents 95% confidence of a relationship (Gay, 1996).

Analysis Procedures

Input data consisted of whether a student had been looping or non-looping and their reading and math scores. Minitab software was used to calculate the *t*-scores and the regressed gain scores. The software was used to determine whether there was a significant gain statistically between the gain scores and the independent variables. Conclusions were then reached whether to reject or accept the null hypothesis depending on the value of p, which was the level of significance, for this study.

The mean scores for the students, were used to show if there was a significant difference in a student's gain score from fifth grade to sixth grade in math and reading depending on whether they were in a looping classroom or a regular one-year classroom.

Using student's gain scores can be problematic (Gay, 1996). Not all of the students have the same gain room. Gay recommends that "to simply compare the average gain of the experimental group with the average gain of the control group" (p.366, 1996). If the pretest average scores are similar then they can simply be compared with the posttest using the *t*-test (Gay). "If they are not the posttest scores can be analyzed using analysis of covariance" (Gay).

Critical Assumptions

It was assumed that the students had done their best on the examines and that their test scores are accurate. It was assumed that the test was given in a quiet environment, and that the students understood the test instructions. It was assumed that the students selected for the looping group and the non-looping group was equal and representative of the student population. It was assumed that the slight differences in the demographics of School A and School B did not effect the outcome of this research. It was assumed that the sampling size is large enough to calculate a difference between the looping and the non-looping group (Gay, 1996).

Justification of the Model

The model for this research study of academic achievement was similar to other studies of looping and non-looping classrooms (Bogart, 2002; Kelley, 2004; Krogmann & Van Sant, 2000; Yang, 1997). These researchers used standardized tests in causal-comparative exploration to determine academic achievement of looping groups and non-looping groups of students. Standardized test scores comparing the gains made in reading and math were used. These studies showed greater gains made by looping students versus non-looping students.

The researcher believes there may be a cause-and-effect relationship apparent between looping and non-looping students and academic achievement. The rationale for this hypothesis was related to the uniformity of the school environment with the exception of some students looping and other students using the non-looping design.

Research Validity

Threats to Internal Validity

Internal validity of a study is determined by the relationship between the variables and is unambiguous rather then meaning something else (Fraenkel & Wallen, 2000). If looping results in improved achievement scores, this study provides evidence in support of looping. Threats to validity can affect responses in a study and skew the data analysis (Popham, 2000). It is possible that the results of the study could mean that there is another independent variable affecting the improved achievement scores. The threat was the slight difference in demographics from School A to School B. School B was selected as the control school based on information from the data center staff, and the demographic office of the school district. *History threat*. Fraenkel and Wallen stated that a threat to internal validity is an unanticipated or unplanned for occasion that can occur during research that can affect the responses (2000). The threat was low for this study because the students who were selected as part of the study have been attending their school for two years, and were familiar with their environment and the routines.

Maturation threat of subjects. Maturation threat is the changes that may take place over time that would affect the responses (Gay, 1996). To protect against maturation threat, if a student drops out of a looping classroom, he/she were not included in the study. If a student's socioeconomic level changes, it should not affect responses because 93 per cent of the students are at the free and reduced lunch status. Another threat was the English as second language learners who will improve their English over-time during the year, and improve their skills. The gains made learning English could affect their test scores to a higher degree; therefore, this group may be a higher threat.

Testing threats. Testing threats are changes that may take place that could affect responses on the SAT10 (Gay, 1996). It was expected that the testing threats were low because the students are tested in quiet, consistent settings throughout the school. The looping students were taking their exams in the same building, and in the same room with their homeroom teacher. The non-looping students were in a similar situation only with a different teacher and room, but it was their homeroom with which they were familiar.

Instrumentation threat. Instrumentation threats include changes in the instrument used that could affect the responses on the exam, or using the same identical exam which could affect the responses if the same level of exam was used for two years (Gay, 1996). Looping and non-looping student groups took the SAT10 exam at a level for their grade. It was a similar exam each year, but a different grade level. The instrumentation treat of the SAT10 test was considered to be low because of the history of validity and reliability of the exam (ARC, n.d.).

Statistical regression. It is assumed that the statistical regression scores will indicate that the students were moving forward from one year to the next (Gary, 1996). The possibility of a statistical regression threat was present because within the groups of students selected were some who were special education, and some who had English as a second language. If they got a higher grade, was it related to their academic gains in the classroom, or was the gain related to special education or English as a second language?

Differential selection of subjects. Selection of students will be done in a manner to avoid prevention of bias (Gay, 1996) was explained above.

Mortality threat. This study did not have a mortality threat. Students who had attended a Minnesota inner city elementary school from 2004-2005 and 2005-2006 school years were selected for the looping from School A and for the non-looping group from School B.

Threats to Design Validity

Pretest treatment interaction

Pretest treatment interaction occurs if either group were to respond differently to the test because they had taken the test previously (Gay, 1996). The looping and the non-looping groups of students received the same test. All pretest activities were given to both groups of students. Because both groups are treated equally then the threat to the design validity was ruled out or considered low. Test instructions for the district were very prescribed (SPPSOA, (n.d.).

Ethical Issues

Planning

This dissertation followed the Saint Mary's University Student Handbook: Doctor of Education in Leadership Manual, and The American Psychological Association (APA) instructions for publication. The dissertation proposal was prepared and approved by my Saint Mary's University Committee. Once approved, another proposal was prepared for the school district Research Office. Once it had been presented to the Research Office and approved for research, then gathering data begin. When the data had been collected, it was entered into Minitab computer software to start the data analysis. Chapter Four and Five of the dissertation were then written. *Subject Risk*

Care was taken to code with numbers the students selected for this study. Each name was given a code. Looping students were coded sequentially using L1, L2, etc. Non-looping students were coded sequentially using NL1, NL2, etc. Only reading and math scores for year 1 (2004-2005) and year 2 (2005-2006) were recorded. Social Security numbers, school district identification numbers and any unrelated information for the study was not collected or shared as outlined by the school district policy.

Researcher Responsibility

It was the researcher's responsibility to follow Saint Mary's University doctoral dissertation guidelines, to follow the guidelines that were set forth by the school district's Research Department, and to respect the privacy of the students involved in the study.

Deception

In connection with this study, there was no deception practiced. The procedures of Saint Mary's University and the school district's Research Department were adhered to. The purpose of the study was to compare academic achievement scores of students in two year looping classrooms with the students in one-year classrooms. This information will be used to help determine if teachers at this Minnesota inner city elementary school will continue to use the looping educational design. First, results of this study will be disseminated to the staff at this Minnesota inner city elementary school who have invested so much energy and passion into the education of their students. Second, the results will be shared with other individuals in the school district who are interested in looping. The school district Research Department has an online page which shares research across the district.

Confidentiality

Confidentiality recommendation standards for education researchers are published by the American Educational Research Association (1999). The National Research Act of 1974 requires that a study involving human subjects is reviewed by a college before research begins (Gay, 1996), and these guidelines were followed. The Family Educational Rights and Privacy Act of 1974 (FERPA) protects the records of students (Gay, 1996). Data was not collected by direct contact with the sample participants (Meltzoff, 1998). Archival records were used for this study. Archived student records were used. The confidentiality of students selected was maintained. Selection of fifth and sixth grade students from the years 2004-2005 and 2005-2006 were used. Two lists of names were created with 38 looping students and 33 non-looping students. Each name was given a code. Looping students were coded sequentially using L1, L2, etc. Non-looping students were coded sequentially using NL1, NL2, etc. Only reading and math scores for year 1 (2004-2005) and year 2 (2005-2006) were recorded. This data was later entered into Minitab. The researcher alone carefully gathered the data for the study. Caution was taken to lock up data collected between research sessions. These reports will be kept personally confidential for 5 years.
Critical Research Concerns

Questions of Reality vs. Perception

The SAT10 test is a high-stakes exam and there place in education continues to be debated (Lomax et al., 1995). This Minnesota inner city school district has used the SAT10 as a tool to measure achievement progress of the students in education standards, which the state has established.

Questions of Communication

The Minnesota inner city elementary school data was used for this study. The conclusions of this study will be shared with the school staff, other educators within the school district and through the Research Department's online page.

Questions of Values

The selection of this research topic was a personal one. Teaching Keyboarding and Computer Applications at this Minnesota inner city elementary school the researcher has witnessed classes of students, who have looped and those who have not. As a researcher, there was a bias. Each teacher, student and parent has an invested interest in this subject. What works best for one student may not be the best situation for another student/teacher/parent. The conclusions of this study will assist teachers, parents and administrators who will be making future decisions regarding whether to use looping as a reform model for academic benefits or social benefits at this Midwestern inner city elementary school or another school.

Questions of Unstated Assumptions

For this study it is assumed that the looping and non-looping groups of students will be selected randomly. Great care was taken in gathering and disseminating data and that it was done accurately.

Questions of Societal Consequences

This study examined the academic achievement scores of looping and non-looping students. This study will add to the literature currently available. Looping has been associated with many social benefits other than achievement: adding learning time, stability, bonding, relationships, and improved individual instruction (Berlin, 1996; Bogart, 2002; Burke, 1996, 1997; Checkley, 1995; Forsten et al., 1997; Grant et al., 1996; Hanson, 1995; Jacobson, 1997; Krogmann & Van Sant, 2000; Newberg, 1995; Rasmussen, 1998; Shneyderman, 2000; Steiny, 2006). If in this study, looping results in improved achievement scores, it provides evidence in support of looping at this elementary school. If looping does not result in improved achievement scores, then looping cannot be justified on this basis, although there may be other reasons for looping of students.

CHAPTER 4

Results

Introduction

This study attempted to address the research hypothesis that looping will affect 2005 and 2006 SAT10 achievement scores in reading and math of students from a Minnesota inner city elementary school. This was a causal-comparative study. The reading and math scores were the dependent variables. The independent variables were the students looping and non-looping.

SAT10 academic achievement scores of students from two Minnesota inner city elementary schools were used to determine if looping or non-looping classrooms would impact achievement scores. SAT10 exams were given in the spring of the year. The reading and math scores of 38 looping students from School A and scores of 33 non-looping students from School B were compared. Using 71 students' scores is a deviation from the 100 which was intended.

The researcher received 2005 and 2006 SAT10 examination scores from the school district Research Department for School A and School B. School A showed, in 2005, 90 fifth grade students taking the examination and, in 2006, 75 sixth grade students taking the examination. Of these numbers, only 38 students had stayed with the same teacher for the two years, and were included in the looping group. School B showed, in 2005, 65 fifth grade students taking the examination and in 2006, 56 sixth grade students taking the examination. Only 33 of the students' scores from School B were usable due to incomplete recording of scores and/or a student not attending the same school for two years. The pre-test was administered at the fifth grade level in spring of 2005. The post-test was administered at the sixth grade level in the spring of 2006.

The score data from the pre-test and the post-test was collected. The researcher entered the scores using Mintab and Microsoft Excel to do the statistical analysis of the gained scores from the two groups. The mean, standard deviation, and t-test scores were calculated.

Using a test of significance helped to determine whether or not to reject the null hypothesis and to infer the difference. If the researcher rejected the null hypothesis then the mean difference is found to be significant. "Because a mean is probably the most satisfactory measure for characterizing a group, researchers find it important to determine whether the difference between means of samples is significant" (Best & Kahn, p. 389, 1998). The level of significance most commonly used is p<.05 (Best & Kahn, 1998).

According to Frankel and Wallen (2003), the t-test is "a parametric statistical test used to see whether there is a difference between the means of two samples" (p. 241). The rejection or acceptance of a null hypothesis is based on the level of significance which the t-test exhibits (Best & Kahn, 1998).

Student Description

The students used for this study attended Minnesota inner city elementary schools, and were in attendance for the 2004-2005, and 2005-2006 school years. School A in this study used the two year looping pedagogical model. School B used the traditional one year classroom model.

Table 1

| | School A | | School B | |
|-------------------|----------|------|----------|------|
| | 2005 | 2006 | 2005 | 2006 |
| Enrollment | 340 | 448 | 392 | 407 |
| American Indian | 2% | 2% | 1% | 2% |
| Asian | 31% | 32% | 35% | 43% |
| Black | 37% | 39% | 39% | 35% |
| Hispanic | 12% | 15% | 18% | 14% |
| White | 17% | 13% | 7% | 6% |
| ELL | 41% | 38% | 48% | 43% |
| Special Education | 14% | 15% | 18% | 12% |
| Poverty Index | 89% | 90% | 93% | 93% |
| Met AYP | yes | yes | yes | yes |

Student Demographics for 2004-2005 and 2005-2006

The demographics (MDE, 2006b) included the Poverty Index, which is measured by free and reduced lunch eligibility, and students who received services as English language learners (ELL). Student academic achievement recorded as Adequate Yearly Progress (AYP), according to Minnesota Comprehensive Assessment (MCA) has continued to improve at both schools even in an environment of high student mobility. The Minnesota Comprehensive Assessments are the state tests that help districts measure student progress toward Minnesota's academic standards and meet the requirements of No Child Left Behind. The reading and mathematics tests are used to determine whether schools and districts have made adequate yearly progress (AYP) toward all students being proficient in 2014 (MDE, 2009). School B in this study was also a Minnesota inner city elementary school close in proximity to School A.

Table 2

| 2006 | School A | School B |
|-----------------------|----------|----------|
| Asian | 12 | 14 |
| Black | 15 | 12 |
| Hispanic | 6 | 5 |
| White | 5 | 2 |
| ELL | 14 | 14 |
| Special Education | 5 | 4 |
| Poverty Index | 34 | 30 |
| #of students in study | 38 | 33 |

2006 Student demographic percentages applied to number of students in study Number does not represent actual status of each student

Individual student profiles were not released to the researcher from the District Research Department. Applying the 2006 school demographic percentages to the number of students included in this study gives a view of possible number of students from School A and School B. The purpose of translating into numbers was to compare similarities of School A and School B. School B had higher percentage of Asian students (14 vs. 12). School A had a higher percentage of Black (15 vs. 12), Hispanic (6 vs. 5), and White (5 vs. 2) students. Immigrants for whom the English language was not their first language tend to lag behind English speaking, white students (Berlak, 2001). The ELL (English Language Learner) percentage was similar for both groups, which translates to 14 students. If ELL students presented a disadvantage on the examination, then both schools would have experienced equally. The racial, special education and socioeconomic status percentages for both school groups are similar, which should not have influenced the outcome of the study for one school over another. There were no students removed from this study because of specific classification. All names that qualified from were used. It was desired that 100 names were going to be used for this study, however, only 38 looping students remained with the same teacher for 2 years and 33 non-looping students remained at the same school and had recorded examination scores.

Table 3

| 2006 | School A | School B |
|---------------|----------|----------|
| Female | 19 | 17 |
| Male | 19 | 16 |
| # of students | 38 | 33 |

Gender comparison of population in study

Gender was not a dependent variable in this study. Gender was assumed by name recognition and tallied. The genders were divided in half in each school group. The purpose of calculating gender was to determine if the gender number was skewed. Research has shown that girls tend to score higher on written and reading examinations, and boys ten to score higher on mathematics and science examinations (Pope, Wentzel, Braden & Anderson, 2006). If there had been more boys in the looping classrooms in this study, then gender could have explained the higher math correlation and lower reading correlation.

Research Question One

Two research questions were tested utilizing mean score gains, standard deviations, and t-tests.

Research hypothesis one. There will be a statistically significant increase in 2005 and 2006 SAT10 reading score gains of students participating in a two year looping classroom as compared with the reading score gains of students participating in a nonlooping classroom at a p<.05 level of significance.

Null hypothesis one. There is no significant difference in 2005 and 2006 SAT10 reading score gains of students participating in a two year looping classroom as compared with the reading score gains of students participating in a one year non-looping classroom at the $p \ge .05$ level of significance.

Descriptive Statistics

The results of the SAT10 reading examination for looping and non-looping students are shown in Table 4.

Table 4

The Results of Means (M) Scores and Standard Deviation (SD) and T-Test

between Two Groups

| Reading Score | Looping | Non-looping | |
|------------------|---------|-------------|--|
| Pre-test | | | |
| М | 633.08 | 632.70 | |
| SD | 31.08 | 37.92 | |
| Post-test | | | |
| Μ | 651.03 | 643.21 | |
| SD | 36.36 | 37.26 | |
| Score Difference | | | |
| Μ | 17.95 | 10.12 | |
| SD | 13.36 | 19.76 | |
| t-test value | | .0595 | |

The t-test results show that there was not a statistically significant difference between the reading gains scores of the looping students and the non-looping students, greater than p>.05. Based on the t-test research hypothesis one is rejected and the null hypothesis is accepted there was not enough evidence to reject the null hypothesis.

Conclusion

As indicated from Table 4, the data from this study found that the looping educational classroom design did not have a statistical significant level affect on the reading gain scores. The study found a p.0595 level of significance and the research null hypothesis was accepted. With a level of significance close to .05, the question of a Type II error is considered. This occurs when the research hypothesis is false, when actually it is correct. There may have been variables which influenced the outcome of the study. One of these may have been classroom mobility resulting in 11 to 15 students remaining in the three looping classrooms at School A for the two years. The effect size of the study needs to be considered according to Cohen (1992). The effect size is reflected in the magnitude of the effect of the independent variable. Was the sampling size sufficient to determine the difference of the independent variables? To determine if a Type II error has occurred a larger study and perhaps studies done over-time would need to be considered. During the two years, there probably were other personal and academic benefits for the looping students which were not measured. These could have included: additional learning time for students, less anxiety towards attending school, building meaningful long-term personal relationships with a teacher and fellow students, learning and curriculum more individually matched to benefit each student, more stable learning environment, and more connections with parents.

The reading findings of this study are similar to other research studies. Schaefer's study reported in 2002 of the Dubois Area School District resulted in little difference between the looping and non-looping academic score gains. This was a two year study of first and second graders to measure reading and math achievement of 48 looping students

and 88 non-looping students. Jacobson (1997) reported that the Naples, Florida school study results were inconclusive as to whether looping impacted academic gains. Snoke (2007) in 1999-2005 studied students in central Pennsylvania and did not find a statistical significant academic difference between students who attended a looping classroom for two years and those who attended a non-looping traditional one-year classroom. This study covered five years examing math and reading scores of 232 third, fifth and eighth grade students in two year looping and one year non-looping classrooms.

Studies conducted by Jubert (1996), Yang (1997), Hampton, Mumford and Bond (1998), Rasmussen (1998), Barto (1999), Krogmann and Van Sant (2000), Shneyderman (2000), Bogart (2002), Kelley (2003), and Pecanic (2003) disagree with the results of this research study. These studies showed a significant gain in reading scores of students in looping classrooms.

Research Question Two

Research hypothesis two: There will be a statistically significant increase in 2005 and 2006 SAT10 math score gains of students participating in a two year looping classroom as compared with the math score gains of students participating in a one year non-looping classroom at a p<.05 level of significance.

Null hypothesis two. There is no significant difference in 2005 and 2006 SAT10 math score gains of students participating in a two year looping classroom as compared with the math score gains of students participating in a one year non-looping classroom at the $p \ge .05$ level of significance.

Descriptive Statistics

The results of the SAT10 math examination for looping and non-looping are shown in Table 5.

Table 5

The Results of Means (M) Scores and Standard Deviation (SD) and T-Test between Two Groups

| Math Score | Looping | Non-looping | |
|------------------|---------|-------------|--|
| Pre-test | | | |
| М | 643.92 | 657.73 | |
| SD | 37.36 | 47.71 | |
| Post-test | | | |
| М | 661.0 | 663.61 | |
| SD | 39.09 | 38.38 | |
| Score Difference | | | |
| М | 17.08 | 7.58 | |
| SD | 13.30 | 21.72 | |
| t-test value | | .0336 | |

The t-test results show that there was a statistically significant difference between the math gains scores of the looping students and the non-looping students, less than p<.05. Based on the t-test Research Hypothesis Two is accepted and the null hypothesis is rejected.

Conclusion

As indicated from Table 5, the data from this study found that the looping educational classroom design did have a statistical significant level affect on the math gain scores. The study found a p.03 level of significance and the research hypothesis was accepted. With a level of significance of p < .05, Type I error was considered. However, .03 is further from the .05 which means that it is more likely for the dependent variable and independent variable to have a relationship. The researcher considered the question of positive relationship as outlined by Popham (2000). To what extent are two variables related? Do strong teacher/student relationships translate into higher achievement test scores? According to Mathematics Professor David Klein, "The foundation for the mastery of later standards should be built at each grade level" (2000). If students have not mastered basic math calculations of addition, subtraction, multiplication and division, then it becomes more difficult to succeed as they progress in grades. The looping classroom offered the teacher and a student the opportunity to build a more long-term relationship. The teacher would know which skills a student needs to work on to build mastery. In the looping classroom, the teacher had more time and opportunity to build a relationship that can lead to individual direct instruction and guided practice as needed to result in math mastery.

The math findings of this study are similar to results found in other studies. Yang (1997), in the school year 1995-1996, conducted a study at the Berino Elementary School in New Mexico. The study involved eight classrooms. These classrooms adopted looping for academic reasons. Standardized test scores at the end of the year compared looping

students with non-looping students. The results of the study showed looping students scored higher than the non-looping students in academic achievement.

Hampton, Mumford, and Bond's (1998) Project F.A.S.T. (Families are Students and Teachers) reported gains in student academic achievement. They studied urban students for four years, and found that looping student's mean scores were significantly higher in reading and math than the student's academic achievement in the traditional classrooms. When two years students were compared with one year students both with the same teacher, the achievement scores showed that the looping students had higher scores than the non-looping students. Bogart (2002) completed a study in East Tennessee. Bogart found that students enrolled in the two-year looping program had significant differences in academic achievement at the end of the first year when compared to students in a one-year program. Following the second year of this study, the scores showed greater gains. Third and fourth graders were included using 107 students from two year looping classrooms and 201 students from one-year classrooms. Shneyderman (2000) conducted a large study to identify the impact of looping on student academic achievement in 1998-1999 and 1999-2000 in the Miami-Dade County Public Schools in Florida. The academic scores at the end of the two years reflected significantly higher scores in the looping classrooms compared with the traditional one-year classrooms. This study involved 612 students from twenty-six different elementary schools with two year looping classrooms. Another 612 students from one year non-looping classrooms were matched. In these schools the looping pattern varied: first to second, second to third, third to fourth, and fifth to sixth grades.

Summary

The results of this study are mixed. The Null Hypothesis 1 is accepted based on the t-test calculations. The results of this study have indicated that the statistical significance of the reading scores of the looping and non-looping students' mean scores does not indicate with assureity that looping raises reading scores. Research Hypothesis 2 is accepted based on the t-test calculations. There was a statistical significance of the math scores of the looping students' mean scores. The looping students examined did make greater gains in math verses non-looping students.

CHAPTER 5

Discussion

Introduction

Chapter 5 includes the determination of acceptance or rejection of the null hypothesis, draws conclusions, and discusses implications for further research.

Individual schools and school districts are being held accountable to the state and the Federal government for academic achievement due to No Child Left Behind (NCLB). The accountability standards of NCLB have required all students and schools to demonstrate academic growth. As a result, educators are seeking ways to maximize academic achievement. Additionally, schools and teachers have looked to educational research for answers.

Research has shown that looping may be an option. Looping is a pedagogical design reform model used in elementary and junior high schools. Teachers' advancing with their students has been referred to as looping, multiyear teaching, continuous learning, continuous progress, and as teacher/student progression. A review of the literature showed that looping can help to provide a learning environment where students are part of a community, where they are supported and challenged, and where they will increase their academic achievement. Classrooms that become learning communities offered students relationships that were supportive and gave guidance so that students learned to become successful. In the looping classroom, the long term relationships helped students' develop skills such as communication, problem solving, motivation, and responsibility. For the at-risk student, the looped classroom can become a stable and supportive environment for those who are without a stable and supportive home environment.

Since the 2002-2003 school years approximately half of the classrooms at this Minnesota elementary school have used the looping reform model. The purpose of establishing the looping

design model was to increase academic achievement scores on the SAT10 examinations. The question was: Does looping verses non-looping affect academic achievement scores? As teachers of this Minnesota elementary school, we wanted to know the effectiveness of the looping design. Each year, since 2002, we have debated the effectiveness and whether the looping design should be continued.

The purpose of this study was to evaluate the looping impact of 2005 and 2006 SAT10 achievement scores in reading and math of students from a Minnesota inner city elementary school. This was a causal-comparative study. Reading and math score gains of students participating in a two year looping classroom were compared with the reading and math score gains of students participating in a non-looping classroom at a similar school. A t-test was used to determine if there was a statistical significant level of p<.05. The reading and math scores were the dependent variables. The independent variables were the students looping and non-looping classrooms.

Two research hypotheses were tested utilizing mean score gains, standard deviations, and t-tests. The results of the study as indicated in Chapter 4 show that the reading null hypothesis is accepted and the math hypothesis is accepted. Therefore, it was found that there was no statistically significant increase in the 2005 fifth grade to 2006 sixth grade SAT10 reading score gains utilizing looping versus non-looping classroom design. It was found that there was a statistically significant increase in the 2005 fifth grade to 2005 fifth grade to 2006 sixth grade SAT10 math score gains for the looping students versus the non-looping students. Data from 71 students was examined for this study. Conducting a similar longitudinal study involving a larger number of students would validate the results of this study, which was conducted during a short span of time. Internal validity of a study is determined by the relationship between the variables and is unambiguous rather

then meaning something else (Fraenkel & Wallen, 2000). A longitudinal study of looping students and their academic achievement gains would determine if the accuracy of the trend of whether looping does or does not impact the reading or the math examination scores.

Statement of the Problem

It has been the task of educators to deliver the most effective education for each of the students for whom they are responsible. Research, evaluation and assessment have been carefully examined to choose a path to deliver instruction and curriculum. Each school environment is unique, what will work well for one school population will not work well for another. A multi-year looping design may be chosen by a school to improve academic achievement or to provide other social benefits, however, success may depend on teachers, parents and students involved.

Conclusion

The data from this study found that the looping classroom design had no statistically significant difference on the reading SAT10 examination mean score gains. The data did show a statistically significant difference on the math SAT10 examination mean score gains. Looping students in both the reading and math groups did have higher gain scores, though the reading data did not rate as significant. This could indicate that long term relationships developed between the teacher and the student could affect academic achievement or that other variables are significant. "Students from low socioeconomic environments often have a difficult time in school" (Schieffer & Busse, 2000, p. 1). It behooves educators to do all that they can to reduce the impact of our children living in low socioeconomic environments. This may include: building

resilience, building relationships, teaching communication and coping skills, improving school attendance, and raising academic achievement. Kids Mobility Project Report a study of 6,098 Minneapolis students offers suggestions of what teachers can do. Educators can provide a stable environment for students living in unstable situations. They can help students feel connected, and therefore improve attendance. If a student is in school, then they are being exposed to learning. If they are not in school, then they probably are not learning. The more students are in school the more likely that they will demonstrate academic achievement.

This study did not evaluate or provide evidence that long term relationships did impact the outcome of the study. A qualitative study of teachers/students/parents/ adjacent to this study would determine the affect of those long term relationships.

It is desirous that this study of a Minnesota inner city elementary school's looping program will contribute to the looping base of research currently available, and that this study will contribute to an ongoing evaluation of whether looping will be beneficial for the students at this school.

Impact of Looping

Research has shown mixed academic achievement results from use of the looping classroom design. The results of this study were mixed. Reading results were not significant at p.0595. The math results showed a significant level at p.03. Looping is viewed as a reform practice that is less expensive and can be implemented, whether a school uses traditional teacher constructed or nontraditional student constructed styles of instruction. Academic achievement may be the outcome of practicing looping, however, other multiple benefits reported from looping ought to be considered: additional learning

time, less anxious about school, more motivated to come to school, stability, connection with parents, stronger teacher/student relationships, ability to individualize instruction, and differentiate the curriculum. This study did not include the variables of gender, race, mobility, special education, English as a second language, or socio-economic backgrounds. Future studies are needed in all of these particular areas.

Recommendations for Future Study

Further research is needed to clearly and accurately define where the looping practice is more beneficial and with which groups of students. A longitudinal study of looping and the effect on academic achievement is strongly recommended. The long term study is needed to understand how long term relationships impact student learning. This is research which can affect decision making for all educators.

Studies of gains made covering three to four years could be beneficial. Comparing a student's gain scores when attending one-year classrooms with a two year looping classroom.

Further studies on at-risk populations, the need for stability and the long term relationships. What is the affect of looping on the at-risk student and the family? Will they feel more connected with school and learning, if the student is in a looping classroom? If they feel connected will this translate into higher achievement scores?

Additional studies are needed to examine reading versus math gains in the looping classroom. Are students more likely to show greater gains in math in the looping classroom?

Additional studies are needed to understand how extra learning time affects students. How valuable is the additional year with the same teacher to reduce anxiety, to

build relationships, and to individualize instruction and differentiate the curriculum? Teachers claimed that a month of learning time was gained the second year. A looping program first-to-second grade, third-to-fourth grade, and fifth-to-sixth grade can equate to three months or an additional twelve weeks of learning time.

Other variables which need further study: gender, race, mobility, special education, English as a second language, or socio-economic backgrounds. If gender was studied over a longer time, what would be the effect of the genders and looping? How would the genders respond to longer loops? Do the benefits of looping vary with genders and grade levels? Does one gender succeed more in reading or math?

Educators want to give all racial and socio-economic groups of students an equal opportunity to succeed academically. Would looping offer some groups of students more support which would enable them to succeed?

Some schools experience high mobility. Would looping classrooms reduce the percentage of students transferring to a different school? Does student mobility impact the students that remain in the looping classroom? In this study the three looping classrooms had between 11 and 15 students who remained for the two years. Would the outcome of this study be more significant if the mobility in the classroom was lower? Would the benefits of looping be more significant if a looping classroom experienced low or no student mobility?

More research in the area of student mobility and academic achievement is needed. Rumberger (2002) explains that students moving from one school to another is wide spread in this country. Changing residence is given as the reason for 15% to 18% of the time students change schools. Rumberger's research found that 30% to 40% of the time students change schools for non-moving reasons. Some research has been done on the impact of school mobility, but more is needed.

Looping studies usually use data from two comparable schools. They are carefully matched; however, the most similar school environment would be the same school. How do the gain scores of students in a looping classroom compare with the gain scores of the students in a non-looping classroom at the same school?

There are a variety of different patterns of looping some of which are first-second grades, third-fourth grades, and fifth-sixth grades. Does one looping pattern have more or specific benefits over another pattern?

Special groups of students have unique needs. Would looping be beneficial for the special education and English language learners? Would their gain scores be greater in a looping versus a non-looping classroom?

Much attention is given to academic achievement. Does looping provide other benefits for the students? Are there fewer special education referrals, discipline issues, and school absences? Are students less anxious and coming to school more prepared to learn?

This study looked at the looping pattern of two years. The Minnesota Waldorf School in Roseville loops with students first through eighth grade. Would a longer looping pattern than the two years be beneficial and in what ways?

Adding a qualitative study, including interviews from teachers, students and parents, to this quantitative research would contribute a deeper understanding of the impact of looping. Does it impact these students and families? How does it impact students and families?

Conducting a similar longitudinal study involving a larger number of students, would validate the results of this study, which was conducted during a short span of time. It is hoped that this small study will be of benefit for further conversations regarding looping and making the best decision for helping our students succeed. Abella, R., Urrutia, J., & Shneyderman, A. (2005). An examination of the validity of
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Appendixes

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|--|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| School A Statistics Pre/Post Reading and M | Math Score Diff. | 12 | 4 | 2 | 30 | 35 | 28 | 24 | -2 | 13 | 13 | æ | 16 | 0 | 7 | 47 | 11 | 31 | 17 | 30 |
| | Math Post-test | 637 | 613 | 648 | 697 | 658 | 200 | 613 | 603 | 719 | 200 | 608 | 200 | 637 | 658 | 712 | 622 | 666 | 626 | 637 |
| | Math Pre-test | 625 | 609 | 641 | 667 | 623 | 672 | 589 | 605 | 206 | 687 | 605 | 684 | 637 | 651 | 665 | 611 | 635 | 609 | 607 |
| | | | | | | | | | | | | | | | | | | | | |
| | Read Score Diff. | 26 | 13 | 15 | 42 | S | 15 | c, | 23 | 4 | 17 | 6 | 35 | 33 | 6 | 6 | 1 | 26 | 12 | 25 |
| | Read Post-test | 655 | 583 | 637 | 687 | 625 | 684 | 613 | 631 | 720 | 676 | 625 | 726 | 623 | 644 | 646 | 615 | 657 | 611 | 609 |
| | Read Pre-test | 629 | 570 | 622 | 645 | 620 | 669 | 610 | 608 | 716 | 629 | 616 | 691 | 620 | 635 | 637 | 614 | 631 | 599 | 584 |
| Table 4 | Code | 1 | L2 | L3 | L4 | L5 | L6 | ٢٦ | L8 | 67 | L10 | L11 | L12 | L13 | L14 | L15 | L16 | L17 | L18 | L19 |

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| ath | | | | | | | | | | | | | | | | | | | | |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| e/Post Reading and Ma | -2 | -14 | 17 | 14 | 31 | 18 | 19 | 10 | 11 | 8 | 16 | 29 | 29 | 49 | 31 | 14 | 21 | 13 | 6 | |
| Pre | 598 | 697 | 695 | 712 | 703 | 712 | 613 | 682 | 622 | 695 | 639 | 674 | 620 | 678 | 658 | 631 | 719 | 200 | 616 | |
| tistics | 600 | 711 | 678 | 698 | 672 | 694 | 594 | 672 | 611 | 687 | 623 | 645 | 591 | 629 | 627 | 617 | 698 | 687 | 607 | |
| School A Stati | 30 | 41 | 18 | 10 | 7 | 36 | 15 | 23 | -7 | 17 | 2 | 35 | 13 | 54 | 20 | 15 | 36 | 14 | 11 | |
| | 627 | 710 | 657 | 676 | 668 | 697 | 597 | 679 | 615 | 633 | 629 | 710 | 627 | 676 | 642 | 637 | 705 | 666 | 621 | |
| | 597 | 699 | 639 | 666 | 661 | 661 | 582 | 656 | 622 | 616 | 627 | 675 | 614 | 622 | 622 | 622 | 669 | 652 | 610 | |
| Table 4 | L20 | L21 | L22 | L23 | L24 | L25 | L26 | L27 | L28 | L29 | L30 | L31 | L32 | L33 | L34 | L35 | L36 | L37 | L38 | |

| Pre/Post Reading and Math | Math Score Diff. | - | 34 | 28 | 21 | 30 | <u>ہ</u> | -20 | -11 | -29 | 5 | -36 | 37 | - | 9- | 36 | 2 | -12 | 2 | -11 | 10 | -11 | 33 | 12 | 17 | -12 |
|---------------------------|------------------|-----|-----|-----|-----|-----|----------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | Math Post-test | 650 | 637 | 641 | 626 | 685 | 678 | 674 | 600 | 616 | 603 | 728 | 664 | 712 | 678 | 738 | 687 | 637 | 723 | 660 | 687 | 606 | 650 | 723 | 695 | 637 |
| atistics | Math Pre-test | 651 | 603 | 613 | 605 | 655 | 681 | 694 | 611 | 645 | 598 | 764 | 627 | 711 | 684 | 702 | 665 | 662 | 789 | 678 | 665 | 617 | 617 | 711 | 678 | 649 |
| School B St | Read Score Diff. | 6 | 15 | 14 | 5 | 47 | 5 | 5 | -13 | -2 | 23 | 38 | с | 5 | -23 | -12 | 2 | -12 | 2 | -11 | 10 | 23 | 14 | 35 | 51 | 12 |
| | Read Post-test | 625 | 637 | 607 | 629 | 635 | 638 | 666 | 603 | 581 | 633 | 710 | 625 | 705 | 631 | 657 | 666 | 623 | 726 | 661 | 655 | 609 | 613 | 687 | 726 | 609 |
| | Read Pre-test | 616 | 622 | 593 | 624 | 588 | 633 | 661 | 616 | 579 | 610 | 672 | 622 | 200 | 645 | 699 | 664 | 635 | 724 | 672 | 645 | 586 | 599 | 652 | 675 | 597 |
| Table 5 | Code | NL1 | NL2 | NL3 | NL4 | NL5 | NL6 | NL7 | NL8 | NL9 | NL10 | NL11 | NL12 | NL13 | NL14 | NL15 | NL16 | NL17 | NL18 | NL19 | NL20 | NL21 | NL22 | NL23 | NL24 | NL25 |

| st Reading and Math | 29 | 16 | -4 | 7 | 23 | -20 | 24 | 59 |
|---------------------|------|------|------|------|------|------|------|------|
| Pre/Pos | 642 | 629 | 641 | 682 | 676 | 703 | 611 | 680 |
| tistics | 613 | 613 | 645 | 675 | 653 | 723 | 587 | 621 |
| School B Stat | 25 | 50 | | -10 | 24 | -29 | 9 | 22 |
| | 650 | 653 | 619 | 642 | 617 | 671 | 573 | 644 |
| | 625 | 603 | 618 | 652 | 593 | 200 | 567 | 622 |
| Table 5 | NL26 | NL27 | NL28 | NL29 | NL30 | NL31 | NL32 | NL33 |