CAN LOOPING KINDERGARTEN AND FIRST GRADE CLASSROOM ASSIGNMENT AFFECT ACADEMIC PERFORMANCE IN THE THIRD GRADE?

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A Thesis

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Abstract

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Current issues in elementary education focus on students’ academic achievement as measured by standards-based state tests. Schools must often implement atypical methods of teaching in order to meet the diverse needs of their students while striving to meet the academic goals required by state laws. Looping is the practice of one teacher remaining with the same group of children over two or more academic years. The current study examined the third grade STAR test scores of 164 students from two California elementary schools. Third grade test scores from students who attended a school that looped kindergarten and first grade were compared to the third grade STAR test results of students from a similar school that did not loop for any grade levels. The findings showed that while looping in the early years could positively affect academic performance in specific subject areas, it might have a negative effect on economically disadvantaged students. Findings suggest that the qualitative aspects of looping should be considered to further understand the differences seen in the test performance of different groups.
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Chapter 1
INTRODUCTION

Under laws such as No Child Left Behind, schools are under intense pressure to achieve and maintain high levels of academic performance in order to remain self-reliant and self-directed. Since the passage of NCLB, schools have been forced to increase the amount of time spent preparing for state-mandated tests administered each year from the second grade through the eleventh grade. There is evidence that the focus on high stakes testing is harmful to teacher and student attitudes and relationships (Beliner & Nichols, 2008). Entwisle and Alexander (1998) believe that the academic performance of children in the primary grades has a strong influence on their future success, more than any other period of their schooling. In support of this view, McClelland, Acock and Morrison (2006) found that learning skills exhibited in kindergarten were related to learning skills through the sixth grade. They also identified an achievement gap that widened through the second grade and then persisted through the sixth grade. Findings such as these illuminate the importance of successful experiences in the earliest years of elementary school.
Statement of the Problem

The social and authoritative expectations of public schooling are a critical aspect of the social and emotional development of children. Many young children today are also faced with numerous sources of instability in their lives stemming largely from economic difficulties and alterations in family structure and living situations. Schools and teachers are particularly important in the lives of young children as they come to depend on school and the classroom as a source of stability and support (Baker, Terry, Bridger & Winsor, 1997).

Children who are economically disadvantaged are especially at risk for academic failure and social dysfunction (Arnold & Doctoroff, 2003; McLoyd, 1998) and this phenomenon is particularly relevant to the education of young children. McLoyd (1998) reviewed research related to socioeconomic status and child development and found that teachers tend to have lower expectations for children born into poverty and show them less positive attention and reinforcement. Academic interventions as early as preschool, however, can produce significant long-term effects on academic performances at least into second grade. As the number of young children who live in poverty rises, it is increasingly critical that research on educational reform includes looking at alternative schooling arrangements that address the social, emotional and educational needs of children early in their schooling.

Looping, or multi-year teaching, is an alternative arrangement of one instructor teaching the same group of children over at least two grades. Looping is purported to
improve academic performance and enhance relationships between students and teachers due to the extended amount of time the group remains together. Some benefits of looping are a stronger sense of community, numerous affective gains, increased academic achievement, and a decrease in grade retention (Denault, 1999; Shneyderman, 2000). Looping has been a topic of discussion in many literary resources, which consist of primarily positive anecdotal reports of teachers’ and parents’ experiences (Checkley, 1995; Chirichello & Chirichello, 2001; Denault, 1999; Elliot & Capp, 2003; Hitz, Somers, & Jenlink, 2007; Rasmussen, 1998).

In spite of the overwhelmingly positive reports on the effects of looping, there are very few empirical studies that link looping with improved academic performance. Rodriguez and Arenz (2007) found that looping students outperformed non-looping students in measures of writing strategies, vocabulary and reading comprehension. Cistone and Shneyderman (2004) found that a sample of looping students outperformed a matched sample of non-looping students in mathematics. These studies focused on a range from second to fifth grades rather than focusing on specific grades. It is not clear if there are particular ages or grade levels for which looping is most beneficial. Another question that arises in the study of looping and its potential to affect academic performance is if the practice yields long-term results. Do students need to loop for several grades or is there a critical point where looping can be most beneficial?
Purpose of the Study

The purpose of this study was to evaluate the effectiveness of looping in kindergarten and 1st grade in terms of children's test scores. In order to learn if looping in the first years of school can yield long-term benefits, the standardized test scores of 3rd grade children who participated in a K-1st grade looped program were compared to the test scores of 3rd grade children from a similar school who did not participate in a looping program. The data was analyzed to determine whether socio-economic status (SES) or gender alter any relationships between looping and test scores.

Significance of the Study

The proclaimed benefits of looping are enhanced relationships between students and teacher, as well as higher academic performance (Bogart, 2002; Hampton, Mumford & Bond, 1997; Shneyderman, 2000). Research has also shown that the kindergarten and 1st grade transitions are critical periods in the development of attitudes towards school as well as academic performance (Entwisle & Alexander, 1998; Pianta & Cox, 1999). Savage, Carless and Ferraro (2007) found that some the baseline skills of 5 year-old children were significant predictors of specific areas of their academic performance at 11 years of age. In addition, the 3rd grade has been identified as a critical period in a child's elementary education. Freeman, Gum and Blackbourn (1999) reviewed the dropout
pattern of Missouri school district and found that 50% of the students who had dropped out of school had significant academic difficulties in the 3rd grade. Some of the schools they studied implemented looping in kindergarten to the second grade in order to better prepare their 3rd grade students. Such findings indicate that it is appropriate to use 3rd grade test scores as a means of examining the potential for long-term effects of looping in the kindergarten and first grade school years.

Method

The design is causal-comparative to determine if there is a difference in third grade achievement for children who were enrolled in a looped kindergarten-first grade program and those in a traditional program. One Northern California school that looped kindergarten and first grade was identified by information gathered from colleagues and confirmed by email from the principal of the school. Three consecutive years of STAR test scores of third grade children from this school were collected. These scores were compared to the same three years of scores of third grade children from a similar, Central California school that did not loop any grade levels. The similar school was located by examining attributes of the looping school described on the California Department of Education and identifying a school that closely matched several on variables, such as class size, rank, population size and ethnic variability. T-tests and one-way ANOVA analyses were employed to address two hypotheses based on evidence introduced in the previous section. The goal was to address the following research questions: Are there
any differences between third grade test scores of children who were in traditional kindergarten and first grade classrooms and the third grade test scores of children who participated in a looped kindergarten-first grade program? Are there any differences in the achievement between students of the two schools in specific groups identified by gender and socioeconomic status? It was hypothesized that the children who participated in a looped program would have higher test scores in the third grade as compared to the non-looping students. It was also hypothesized that low SES students would benefit from looping and that higher test scores in the third grade will demonstrate the benefit. Gender was included as an exploratory variable because gender differences in looping have not been studied.

**Definition of Terms**

Achievement – For the purpose of this research, achievement is measured by California state standardized test scores.

Multi-age teaching – The practice of teaching a classroom of mixed aged children of different grade levels who would not typically be in the same classroom.

Looping - The practice of teaching a single cohort of children over two or more consecutive years or grade levels.

CAT/6 - The California Achievement Tests, Sixth Edition Survey (CAT/6 Survey), is a test administered to students in grades three and seven that measures general academic knowledge in reading, language arts, spelling, and mathematics.
STAR – Administration of the Standardized Testing and Reporting (STAR) program that includes the CAT/6 test.

Academic Performance Index (API)- With a range of 200 to 1000, API measures the academic performance and growth of schools on a variety of state mandated tests.

State rank – A statewide rank, with a range of 1 to 10, based on API scores.

Theoretical Framework

This work provides some background information on the practice of looping and provides an argument for its potential value in teaching children in early elementary school. Essentially, looping is designed to enhance the student-teacher relationship as well as improve the quality of teaching by adding time to address a fuller curriculum. Bronfenbrenner’s (2001a) bioecological model of human developmental provides a foundation for building an argument supporting the premise of looping. The model describes how the quality, duration and proximity of child-caregiver interactions in definable environments influence the development of the child and produces long-term development effects. With looping, the teacher is in the role of the caregiver and the extended amount of time spent with the student has a strong impact on the social and academic development of the student.

The literature review in this paper also addresses why the earliest elementary school grades merit special attention. Children who are 5-7 years old face numerous challenges when entering formal elementary school. Their emotional, social and
academic needs must be met in this environment in order for them to have a solid foundation to support their academic careers. Children's relationships with their teachers and peers are critical elements in this environment that can affect academic performance in kindergarten and 1st grade, which can in turn affect academic performance for many years to come. This paper will address these issues in the education of young children by examining the effectiveness of looping as an alternative educational program.

Limitations

This research was a matched study in which students in a treatment group were compared to a similar control group. Major qualitative aspects of the participants' environments and relationships were not evaluated in this study. The school region, settings and environment were not compared, nor were qualities of the instructors teaching the population studied. Such variables could affect the academic performance of the students in attendance. There might also be differences in the type of student who is chosen for a looped classroom if indeed the program is optional, as well as differences in the families who choose to have their children attend a school that loops if other schools are available to choose from. Parent or family involvement was not evaluated and teacher-student relationships were not examined. These variables can and do affect student social, emotional and academic outcomes. For this paper it was assumed that the positive relationships and teaching strategies were being used effectively and that the looping can be evaluated in isolation as a course of action.
Organization

Chapter two of this paper is the literature review, which gives background information on looping and review relevant literature to support the ideas behind looping. In chapter three the methodology of the study is described and in chapter four the data analysis and results are presented. The fifth chapter includes a summary of the study’s findings and a discussion on conclusions that can be drawn from the work.
Chapter 2

REVIEW OF LITERATURE

The practice of one teacher remaining with the same group of children over more than one academic year is not an uncommon concept. There are several different schooling models that employ this practice. For example, looping is commonly practiced in the middle and high schools of Israel and Japan, where teachers of specific subject matter stay with their students up to four years (Nichols & Nichols, 1998). One of the most notable models of looping occurs in the Waldorf school system that was founded in the early 1900s by Austrian educator Rudolf Steiner. In the Waldorf system a teacher remains with a group of students from the 1st through the 8th grade (Grant, Johnson & Richardson, 1996). Looping has its roots in multi-age groupings, where a teacher remains with a group of children of varying age levels. An early example of this practice is the one room schoolhouse where one teacher would teach the local children as a group throughout their years in school (Little & Little, 2001).

Distinctively separate from the practice of multi-age teaching, modern looping practices in the United States involve rotation through single-age, academic grade levels. It can be instituted by arranging two-year cycles with a pair of teachers rotating between two grade levels, or it can be offered as an option in a school that maintains both traditional classroom assignments and a looping assignment (Little & Little, 2001). In either case, the implementation of looping requires strong teacher commitment, support
from administration and in depth knowledge of the strategies of looping (Elliot & Capp, 2003).

The practice of looping is not primarily renowned as a method of improving academic performance. Little and Little (2001) suggest that looping should not be implemented for the sole purpose of improving test scores. Rather, it is common to find literature on looping where it is intended to influence the social organization as well as academic development in the classroom (Denault, 1999; Elliot & Capp, 2003; Hampton, Mumford & Bond, 1997; Reynolds, Barnhart & Martin, 1999). Nichols and Nichols (1998) examined the effects of looping in an elementary school setting on parental attitudes. When compared to parents of non-looping students, the parents of children who participated in the looping programs reported more positive attitudes towards their child’s school and their child’s teacher. Chirichello and Chirichello (2001) reviewed surveys from an elementary school that implemented looping. Parents completed surveys at the beginning of first grade and at the end of second grade. Most of the parents believed that looping benefited their children emotionally, socially and academically. Elliot and Capp (2003) and Mazzuchi and Brooks (1992) reported that parents of children in looping programs are extremely supportive of their looping teachers because of the higher level of familiarity and comfort.

Numerous secondary resources in support of looping are easy to locate with simple library or internet searches. Reports such as these are valuable resources to those conducting research on the practice of looping because they provide real life examples and practical advice to anyone wishing to learn about a largely unfamiliar practice.
Although more empirical studies are needed, this homogenous pool of anecdotal evidence in support of looping nevertheless highlights a fairly stable set of professed benefits of looping.

The Benefits of Looping

The two major aspects of looping that can be of significant benefit to children are the long-term commitment to children’s academic development inherent in looping and the relationships that develop over the extended amount of time a group spends together. These two major benefits are described in Jan Jubert’s (1996) excerpt from her parent handbook for looping 1st and 2nd grade classrooms (reprinted in Jim Grant’s (1996) guide, The Looping Handbook). Jubert’s excerpt includes a comprehensive list of the benefits to looping (see Grant, 1996, p. 37-38). These benefits can be sorted into two major categories: building strong teacher-child relationships and increasing opportunities for academic adjustment (Table 1).

Although empirical research on looping is uncommon, numerous anecdotal sources of information support looping as a useful tool for teaching and learning in modern educational environments. Building strong teacher-child relationships and increased opportunities for academic adjustment are two elements of the educational experience that are also recurring topics associated with existing social and developmental theory. The practice of looping is supported by theories addressing social
Table 1

*Academic and Social Benefits of Looping*

<table>
<thead>
<tr>
<th>Strong teacher-child relationships</th>
<th>Increased opportunities for academic adjustment</th>
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<tbody>
<tr>
<td>Sense of stability</td>
<td>An individualized and customized instruction and curriculum because the teacher knows the students and the content</td>
</tr>
<tr>
<td>An “extended family”</td>
<td>A tailored curriculum to foster higher academic and social expectations</td>
</tr>
<tr>
<td>Reduced apprehension</td>
<td>Improved learning and achievement/ increased academic performance</td>
</tr>
<tr>
<td>Strong interpersonal relationships and the time to build and maintain them</td>
<td>The development of higher order thinking skills</td>
</tr>
<tr>
<td>Enthusiastic attitudes</td>
<td>A curriculum that builds on previous experiences and prior knowledge because the teacher was a significant part of those learning activities</td>
</tr>
<tr>
<td>Trusting and honest relationships</td>
<td>The opportunity to practice and solidify reading and writing skills</td>
</tr>
<tr>
<td>A stronger sense of community among teachers, students and families</td>
<td></td>
</tr>
<tr>
<td>Strong bonding because of high comfort level</td>
<td></td>
</tr>
<tr>
<td>Greater confidence</td>
<td></td>
</tr>
<tr>
<td>A secure and safe environment</td>
<td></td>
</tr>
<tr>
<td>Increased self-esteem</td>
<td></td>
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<tr>
<td>An environment that promotes and achieves good mental health</td>
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and emotional development but looping also speaks to the significance of time and context as influential factors. The body of work from Urie Bronfenbrenner on the ecology of child development provides a strong foundation for building an argument in favor of looping as a method of addressing the social and academic challenges children face in their early academic lives (Bronfenbrenner, 2001a; Bronfenbrenner & Morris, 1998).
Theoretical Base

The modern practice of looping is based on a simple concept. Rather than using time at the beginning of a new school year to establish new relationships, looping allows for the previous years' relationships to be maintained and learning continues from the point at which it is left off (see Grant, Johnson & Richardson, 1996). This is a straightforward idea of maintaining the momentum of the teacher and student progress. While looping may have begun as a logical and convenient way to educate children of varied ages, the proclaimed benefits of looping can indeed be supported by contemporary social theory.

Little and Little (2001) proposed that the theory behind looping is Maslow's theory on the hierarchy of needs. Maslow's hierarchy asserts that lower level needs such as food, shelter, and safety must be met before higher order needs such as self-esteem and self-actualization can be satisfied. Little and Little explained that a looped classroom provides security, continuity, and stability; lower level needs that allow children to focus their efforts on developing their social skills and realize their own potential. Therefore, according to Little and Little, a looped classroom provides an environment in which lower level needs are consistently met and thereby promote positive growth and development.

Bronfenbrenner's (2001a) bioecological theory of development is a theory that addresses social, cognitive and environmental aspects of behavior and development.
The theory explains how the experiences of children, including parent interactions and environmental contexts, affect their developmental outcomes. The qualities of the individual emerge later in time as a result of what Bronfenbrenner calls the Process-Person-Context-Time, or PPCT, model. The individual (Person), environmental factors (Context), and exposure to personal and historical experiences (Time) each affect the Processes, or interactions, that shape the development of the individual.

The manner by which looping generates positive student outcomes can be explained by applying the Process-Person-Context-Time model that the ecological theory is based on. Process, in Bronfenbrenner’s theory, refers to the actual succession of person-to-person interactions. Proximal processes are the primary interactions that influence early development; interactions such as feeding, playing and teaching (Bronfenbrenner, 2001a). Proximal processes are regular and occur over extended periods of time. While parent-child interactions are typically the primary model of proximal processes, teachers can also fulfill the role of an adult who develops long-term relationships with a child (Bronfenbrenner & Morris, 1998). Teacher-child interactions have been studied extensively in educational research and patterns that are correlated to student behavior and achievement are identifiable. Hamre and Pianta (2005) examined how teacher support can mitigate poor academic performance of high-risk first grade students. They found that high-risk students placed in classrooms with strong emotional and academic support performed academically at levels closer to their low-risk peers and that those high-risk students also has less conflict with their teachers.
Person, the second factor in Bronfenbrenner’s model, refers to individual aptitudes and dispositions. As children develop their capabilities expand and therefore the qualities of their experiences must also evolve (Bronfenbrenner & Morris, 1998). In today’s society this can be related to the transition of young children from being in the care of caregivers to being under the tutelage of teachers. In relation to the aforementioned work by Hamre and Pianta, teachers who provided both strong instructional and emotional support helped high-risk students achieve as well as their low-risk peers. Teachers who practice looping learn what resources (knowledge, strengths, weaknesses) children have after the first year in a looping program and can address them into the second year. Children also are likely to have clear understandings of what is expected of them by their teacher when they continue with that same teacher for another year.

Context in the ecological model refers to the context in which interactions occur. The home is customarily the primary context in which children’s early development is based, while the classroom can function as another predictable learning community. Proximal processes, events and interactions close to an individual, affect development much more than more distant aspects of one’s environment. Just as interactions with the family at home are proximal processes that shape a child’s early development, classroom interactions are also proximal processes because they also occur regularly over an extended period of time (Bronfenbrenner & Morris, 1998).

Time is a construct in the bioecological theory that includes three finer distinctions: microsystem, mesosystem and macrosystem. Microsystem refers to
instances, such as a specific interaction. Mesosystem refers to regular interactions over a longer period of time, from days to months for example, and occur between different contexts, such as home to school. Each is critical for effective operation as they represent stability, predictability and consistency (Bronfenbrenner, 2001a). Macrosystem refers to the historical time and place the child is developing in. Theoretically, looping can be effective as a response to the mounting unpredictability in children’s environments; the fragmentation and instability in resources, care systems, homes, schools, work arrangements and social norms (Bronfenbrenner, 2001b). It is the nature of issues such as this that have guided early childhood educators to address the critical nature of the kindergarten and 1st grade years.

Early Schooling Experience: Why Loop in the Early Grades?

Teacher-Child Relationships

The teacher-child relationship is one of the professed benefits of looping that can have a tremendous effect on child development. Pianta and Cox (1999) noted that teacher-child relationships influence adjustment to the school environment, peer relationships, as well as current and future academic performance. Teacher-child relationships can be characterized by varying levels of closeness and conflict (Pianta, 1994). The varying quality of these relationships is complex in nature due to the numerous influences on their development, such as SES, race, behavior, temperament and school readiness (Pianta, 1994). Research on teacher-child attachment styles for
preschool and kindergarten age children shows that close teacher-child relationships are positively linked with academic performance and positive attitudes towards school (Birch & Ladd, 1997). Conversely, negative relationships in kindergarten have been related to poor academic and behavioral outcomes through the 8th grade (Hamre & Pianta, 2001).

Qualities of the teacher and the student affect the levels of closeness and conflict between children and teachers, and these issues in kindergarten and 1st grade classrooms can have long-term consequences. Looping alone cannot mitigate close attachment between children and students in all situations, but the implementation of looping might attract teachers who are more interested in developing positive relationships with children over a longer period of time. Rasmussen (1998) and Checkley (1995) describe the experiences of teachers who teach in a looped program. Common themes in these reports are the appreciation of added time to build relationships with the students and increased opportunity to build a richer curriculum that takes advantage of this additional time. Gaustad (1998) points out that looping enables teachers to “accumulate more in depth knowledge of students’ personalities, learning styles, strengths and weaknesses” (p. 2). This benefits students as individuals because makes for a more child-centered approach to teaching.

Looping can have a positive effect on children’s views of schooling and their educational experiences. Chirichello and Chirichello’s (2001) survey of children who looped in a 1st and 2nd grade classroom showed that they developed stronger levels of trust with their teachers and had strong emotional bonds with them. Academic self-image in children as young as 5 and 6 years old has been related to the perceptions of their
parents and teachers, and this self-image can persist as seven years later (Entwisle & Hayduk, 1988). This self-image can be positive or negative and is strongly influenced by teachers’ impression of the student’s academic ability. Hamre and Pianta (2001) also found that negative relationships (high levels of conflict and dependency) persisted from kindergarten to the 8th grade, especially for boys and students with higher than normal behavior problems. Looping in the early grades can conceptually alleviate the potential problems of negative academic self-image by giving teachers time to personally learn about the social and academic needs of students one year and continue to address those needs into the second year.

*Child-Child Relationships*

Looping keeps the same group of children together for two years with the same classroom rules and expectations. The 1st grade is a critical social milestone for children because it introduces children to new standards of social expectations (Entwisle & Alexander, 1998). Children’s peer relationships as well as teacher relationships affect early school adjustment (Birch & Ladd, 1987; Entwisle & Alexander, 1998). Ladd and Price (1987) suggest that peer relationships can be a source of security by reducing stress and adding a sense of stability. For children in traditional kindergarten classrooms the quality of these relationships can affect the quality of relationships in their new 1st grade classrooms, with new teachers and new peers (Birch & Ladd, 1996).

Research of this kind highlights the critical nature of kindergarten and 1st grade transitions. The social dynamics of the kindergarten classroom have the potential to
follow children into the 1st grade classroom and further to the middle and high school years (Birch & Ladd, 1996; Entwisle & Hayduk, 1988). This is especially important when considering children who are at some social or academic disadvantage.

**Academic Opportunity**

Aside from being an alternative to traditional teaching arrangements, looping has been considered a type of school reform to be implemented in the midst of problematic situations (Denault, 1999). Hampton, Mumford & Bond (1997) followed the progress of Project FAST in Cleveland, which implemented looping in K-3 classrooms. The program featured looping as a tool to use in a community that was described as “…an ‘exaggerated microcosm’ of urban America’s worst problems” (Hampton et al., p.7). Reynolds, Barnhart and Martin (1999) studied the problem of social promotion and grade retention and suggested looping as a possible solution to the problem. The California Department of Education publication “Elementary Makes the Grade!” (2000) proposed looping in a chapter that describes aggressive intervention strategies for schools failing to meet academic standards.

Supporters of looping argue that kids need time to meet lower level needs and can develop higher order skills due to the stability, familiarity and security of looped class, suggesting that such continuity looping provides can be especially beneficial for young children’s academic achievement. In one study, the academic achievement of children in looping programs was evaluated when the Miami-Dade County Public Schools Office of Evaluation and Research commissioned Alex Shneyderman to explore
the benefits of looping (Shneyderman, 2000). The evaluation compared just over 600
students in grades two through five in looped programs and a matched sample of children
who did not loop. Not only did students in the looped group perform significantly higher
on achievement tests, as a group they also had improved attendance and significantly
fewer grade retentions over the two year course of the study. Similarly, Bogart (2002)
conducted research on a 3rd to 4th grade looping program. At the end of a two-year cycle
the students who had participated in the looped program outperformed the students in
traditional classrooms on three of four sections of standardized tests, including math and
reading.

Improving the academic performance of at-risk children is a significant issue of
educational policy. These children are often at a disadvantage at the beginning of their
education and this disadvantage creates a gap that widens with each passing year (Barton,
2004). Looping can combat the education gap on two fronts: increased instruction time
and increased opportunities for intervention.

Teachers and administrators who support looping list increased instruction time as
one of the primary benefits of looping, adding up to one month by eliminating “lost time”
(Denault, 1999; Mazzuchi & Brooks, 1992; Rasmussen, 1998). In research on teaching
time in traditional, urban elementary classrooms by Smith (2000), 58% teachers reported
that 2 weeks of instruction time is lost at the beginning of a new school year, and 42%
said that it took 3 or more weeks to get into “full swing”. It may be unavoidable to lose
this time at the beginning of the first year of a looped program but at least the process
does not have to be repeated at the beginning of the second year. The looped arrangement
also offers opportunity for summer learning (Burke, 1996; Grant & Richardson, 1996). Entwisle and Alexander (1992) found that the academic abilities of poor 1st grade children suffered over summer breaks from school, with African-American students falling behind significantly over two years. According to philosophies behind looping, the educational gap can be addressed by bridging a first year curriculum to the second year with summer-time enrichment activities.

Looping may also be considered a more effective tool for bridging the achievement gap than grade retention. Grade retention in early elementary school has been determined to be an ineffective tool for bridging the achievement gap for underachieving students (Jimerson, Carlson, Rotert, Egeland & Sroufe, 1997; Slavin, Karweit & Wasik, 1994). Not only are the effects of grade retention short term, they may actually do more harm than good by affecting the emotional health of retained children. Roderick (1994) found that early grade retention was associated with an increase in the odds of dropping out. Barnett, Clarizio and Payette (1996) learned that often children with learning disabilities are retained at a high rate and often before they are evaluated for learning disabilities. In contrast, looping is argued to offer more time to deal with academics such as these and likely a more effective option than grade retention (Reynolds, Barnhart & Martin, 1999). In fact, Shneyderman (2000) found less grade retention in elementary looped programs. Looping gives teachers twice the time to address these academic and emotional issues and this added time with students can delay high stakes decisions such as grade retention (Rasmussen, 1998).
Conclusion

The previous section reviewed research on academic performance in the early elementary school years. As academic performance in these years becomes more important in terms of future school success it is critical to determine what educational practices are effective for addressing the emotional, social and academic needs of young children. Some commonly practiced interventions are being deemed as less than effective for many children and this suggests that alternative methods such as looping may be of value.

The current study analyzed test score data from children in the 3rd grade who looped in their kindergarten and 1st grade classrooms, the beginning of their school careers. Test scores from the 3rd grade were used as indicators of the success or failure of the looping program because the 3rd grade has been identified as a critical period in a child's elementary education (Bloom, 1964; Husen, 1969; Kraus, 1973 as cited by Pianta & Cox, 1999). "By the end of the third grade...[the] quality of children's performance is usually a good indicator of future performance" (Entwistle & Alexander, 1998, p. 354). Not only is it linked to future academic performance, but it is also identified as a period that demonstrates fading or persistent effects of early intervention programs (Slavin, Karweit & Wasik, 1992/1993). Therefore it was appropriate to use 3rd grade test scores as a means of examining the impact of looping in the kindergarten and 1st grade school years.
Chapter 3

METHODOLOGY

The causal-comparative study was designed to determine if there is a difference in 3rd grade achievement for children who were enrolled in a looped K-1st grade program and those in a traditional program. Standardized achievement test scores were analyzed with the goal of determining whether looping in the beginning of the elementary school years can have an effect on later academic achievement. This study identified some possible links between participation in a K-1 looped program and academic achievement 2 years later, the 3rd grade.

Research Questions

1. Are there any differences in test scores from third grade for children who were in a traditional class and children who participated in a looped kindergarten-first grade program?

2. Are there any differences in the achievement for specific groups identified by gender and socioeconomic status?
Participants

A general internet search and colleague consultation located one school that looped all kindergarten and first grade classes. The school, located in Northern California, was confirmed as a kindergarten-first grade looping school by email to the principal of the school. It was also confirmed that all kindergarten students participated in looping and that the school used this system for the years chosen for this study. This school will be referred to as the *Treatment School*. Statistics were gathered from the California Department of Education (www.cde.ca.gov) website on that school in order to locate similar schools that did not loop any grade levels. Variables examined were enrollment, base academic performance index, or API, and state rank. Also considered were ethnic composition and general demographics. After basic comparisons, one school was determined to be statistically similar to the *Treatment School*. This school will be called the *Control School*. The total sample size was 163 students.

Table 2

*Third Grade Student Participant Characteristics*

<table>
<thead>
<tr>
<th></th>
<th>Total Enrollment</th>
<th>Males</th>
<th>Females</th>
<th>Low SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment School</td>
<td>83</td>
<td>43</td>
<td>44</td>
<td>31</td>
</tr>
<tr>
<td>Control School</td>
<td>80</td>
<td>42</td>
<td>38</td>
<td>26</td>
</tr>
</tbody>
</table>
Data were collected from the CDE public access website for the CAT/6 test scores for all third grade children in the two participating schools for 2003, 2004 and 2005. Test scores were also isolated by SES and gender. Ethnicity was excluded as a variable because the number of students other than White at the participating schools was too small to be reported in the test score database in isolation.

Measures

The test scores used in this study were from the California Standardized Testing and Reporting (STAR) Program. The tests were designed to help measure how well students are achieving the California content standards and to provide information about how well schools and school districts are meeting state and federal accountability requirements. All students in grades two through eleven participate in STAR testing, including students with disabilities and English language learners. The STAR testing component used in this study was the California Achievement Tests, Sixth Edition (CAT/6 Survey) in reading, language, mathematics and spelling. Mean scaled scores, the arithmetic mean or average of the scale scores for groups of students who took the test without modifications, were used for comparison. The scoring range for the CAT/6 is 0 to 999. Information on the STAR test can be found in the California Department of Education Internet Reports: Explaining 2008 STAR Program Summary Results to the Public Assistance for School District and School Staff (available on the STAR Program Resources Web page at http://www.cde.ca.gov/ta/tg/st/resources.asp).
Identification of Similar Schools

T-tests and one-way ANOVAs were employed to compare achievement in demographically similar looped and traditional groups. In addition, post-hoc analyses were performed isolating gender and SES to identify any correlations between those variables, academic performance and looping. In order to compare the test scores of third graders who participated in a looped kindergarten-first grade program to the test scores of third graders who did not participate in a looped program it was necessary to first identify a school with similar demographics. The following variables were included in analyses: total school enrollment, API score, state rank, total enrollment for kindergarten, first grade, second grade and third grade, average class size for kindergarten, first grade, second grade and third grade, ethnicity of teachers (White or Hispanic), size of White and Hispanic populations, the number of male and female students. Other ethnicities were excluded due to the small numbers represented at the participating schools. Table 3 shows the results of these comparisons.

ANOVA and t-tests were employed to compare the differences in scores of students from the Treatment School and the Control School. Post-hoc analyses were employed to determine if gender or SES had an effect on test score differences.
Table 3

*Variables Compared to Determine Similarity of Schools*

<table>
<thead>
<tr>
<th>Comparison Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total enrollment</td>
<td>2</td>
<td>1.649</td>
<td>.222</td>
</tr>
<tr>
<td>API</td>
<td>2</td>
<td>.374</td>
<td>.552</td>
</tr>
<tr>
<td>State rank</td>
<td>2</td>
<td>.736</td>
<td>.407</td>
</tr>
<tr>
<td>Kindergarten total class</td>
<td>2</td>
<td>1.256</td>
<td>.283</td>
</tr>
<tr>
<td>Kindergarten class size average</td>
<td>2</td>
<td>2.609</td>
<td>.130</td>
</tr>
<tr>
<td>First grade total class size</td>
<td>2</td>
<td>2.077</td>
<td>.173</td>
</tr>
<tr>
<td>First grade class size average</td>
<td>2</td>
<td>4.228</td>
<td>.060</td>
</tr>
<tr>
<td>Second grade total class size</td>
<td>2</td>
<td>3.170</td>
<td>.098</td>
</tr>
<tr>
<td>Second grade class size average</td>
<td>2</td>
<td>.174</td>
<td>.683</td>
</tr>
<tr>
<td>Third grade total class size</td>
<td>2</td>
<td>5.295</td>
<td>.039</td>
</tr>
<tr>
<td>Third grade class size average</td>
<td>2</td>
<td>1.303</td>
<td>.274</td>
</tr>
<tr>
<td>Number of White teachers</td>
<td>2</td>
<td>26.542</td>
<td>.000</td>
</tr>
<tr>
<td>Number of Hispanic teachers</td>
<td>2</td>
<td>5.159</td>
<td>.041</td>
</tr>
<tr>
<td>Number of White students</td>
<td>2</td>
<td>26.562</td>
<td>.000</td>
</tr>
<tr>
<td>Number of Hispanic students</td>
<td>2</td>
<td>.004</td>
<td>.952</td>
</tr>
<tr>
<td>Number of Female students</td>
<td>2</td>
<td>2.682</td>
<td>.125</td>
</tr>
<tr>
<td>Number of Male students</td>
<td>2</td>
<td>1.715</td>
<td>.213</td>
</tr>
</tbody>
</table>
Chapter 4

RESULTS

Analyses were conducted to determine whether there were any differences in third grade test scores between children participating in traditional classrooms and those who participated in a looped kindergarten and 1st grade classroom. It was hypothesized that the students who participated in the looped program would have higher test scores than students who did not. The looping students did have slightly higher test scores in all areas of the CAT/6 test (Figure 1), however t-test results showed that the differences were not statistically significant at $p < .05$.

Math scores on the CAT/6 were nearly identical with a 1-point difference, but there was a 6.4-point gap in Reading scores, a 3.7-point gap in Language Arts scores and a 4.6-point gap in Spelling scores. Initial analyses showed that the differences in the CAT/6 Math and Language Arts scores were statistically significant with $F (3, 24) = 3.929, p = .023$ for Language Arts and $F (3, 24) = 5.172, p = .008$ for Math.

Next, achievement differences between students of the two schools relative to gender and socioeconomic status were examined. There were no statistically significant differences in the scores of males and females. Post Hoc analysis showed a statistically significant difference in the test scores of low SES students compared to the scores of all students on the CAT/6 in Math, with a difference of 11.9, $p = .045$. When the test
scores of groups on specific tests were compared only non-significant differences in scores were observed (see figure 2). There was a difference in group scores on the CAT/6 in Language Arts. The low SES group, M=609, SD=14.05, was lower than the all other isolated groups, M= 624, SD=5.19 for females, M=616, SD=7.91 for males and M= 620, SD=6.16 for all students. Similar differences were seen on the CAT/6 test in Mathematics. The low SES group mean was 607, SD=8.95, the female group mean was 616, SD=4.48, the male group mean was 622, SD=7.70 and the mean for all students was 619, SD=5.68. None of these differences were statistically significant with $p < .05$. 
Figure 2

Mean Test Scores on the Four Areas of the CAT/6 for All Groups

<table>
<thead>
<tr>
<th>Area</th>
<th>Non-Looping Low SES Students</th>
<th>Looping Low SES Students</th>
<th>Non-Looping Females</th>
<th>Looping Females</th>
<th>Non-Looping Males</th>
<th>Looping Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Arts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spelling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

560 580 600 620 640
Chapter 5

DISCUSSION

Summary and Conclusions

The hypotheses of this study were only partially supported with statistical significance. The largest significant difference was found in test scores for reading with the students who looped scoring 6.4 points higher than the non-looping class. When differences between groups were examined some variation in achievement was observed. As shown in Figure 2, in both Reading and Language Arts, looping and non-looping females had the highest average score. In Math, looping males had the highest average score. In Spelling, looping females had the highest average score. In all four areas, low SES, looping students had the lowest average scores. However, these differences were not shown to be statistically significant and could be due to chance.

Several comparisons were not significant. The differences in scores are possibly too small to be statistically significant. The sample size might also be too small to provide enough power to detect an effect. Finally, data were gathered over a 3-year period. Perhaps comparing data over a longer period of time would increase the differences between the groups.

One of the goals of this research on looping was to identify if it is an effective way to address the academic performance differences that plague economically disadvantaged groups. The findings of this study showed that looping in the early years
could have a potentially negative effect on third grade test scores for that group. Third grade economically disadvantaged students who looped in kindergarten and first grade had lower mean scores than their non-looping counterparts. This finding suggests that the qualitative aspects of looping as well as school-specific grading practices of teachers should be taken into account when judging the effectiveness of looping for groups as well as the collective school population.

Arnold and Doctoroff (2003) examined the phenomenon of how low SES children are more likely to lose previously held positive attitudes toward school once they enter 1st and 2nd grades. The ecological model of development would lend credence to the idea that these students could maintain positive attitudes as long as they were provided with long term, positive relationships in school. This potential for success based on the relationship between low SES students and teachers is mitigated other problematic factors; teachers tend to have more negative stereotypes, lower expectations and less positive interactions with low SES and at-risk students (Arnold & Doctoroff, 2003; Baker, 1999; Pianta et al., 2002). In the current study the quality of the teacher relationships with low SES students is unknown and the finding that the low SES students who looped has lower test scores might reflect such negative stereotypes and less positive interactions with teachers.

The male students in the current study had slightly higher CAT/6 scores in all four areas than their non-looping counterparts. Interestingly, the math scores of looping females were slightly lower for the looping students while language arts and reading scores for both groups of females were nearly identical. Why would looping be a possible
hindrance for females in mathematics? Teacher expectations certainly come into play as a strong influencing factor on children's achievement. Tiedemann (2000) researched teacher perceptions and expectations of males and females in elementary school mathematics. Tiedemann found that the teachers in his study believed that female students were less logical than males and that females had to work harder than their male counterparts to reach similar goals. The teachers also attributed failure in mathematics to lower ability for females but lack of effort for males. In relation to looping and achievement in math, it would be more likely that teachers who view females as less capable would have at least two consecutive years to impart negative beliefs on their female students in relation to math.

Rodriguez (2006) found somewhat significant differences ($p<.10$) demonstrating the higher performance looping second, third and fifth grade students on the GLAS test in vocabulary, writing strategies, reading and language. Both the current study and Rodriguez's study saw benefits in language arts skills, but a minimal effect in mathematics. Further inquiry can be made to determine why there might be a difference in performance related to subject area, but may also be indicative of emphasis placed on language arts over mathematics. The Center on Educational Policy found that in districts that responded to No Child Left Behind by changing the amount of time spent on specific subject areas, and average of 520 minutes per week were spent of English Language Arts while only 352 minutes per week were spent on mathematics instruction (2008).

A limitation of this study was that there are only two schools in the sample. A more thorough search of California schools might turn up other schools that loop only
kindergarten and the first grade, but it is a difficult treatment to find. Even with one looping school, it could be possible to find a school more demographically similar than the one used in this study. In fact, of the two schools compared two areas where they differed significantly were on class size and the ethnicity of teachers. Further, state test scores alone do not reflect the academic achievement of students. Taking account difference in school-specific assessments and grading practices could yield different results. Other important benchmarks to analyze would be grades and prior achievement.

Another limitation was that the details of the two school's learning programs were not explored. A school could require teachers to teach certain subject areas for more time than other schools in other districts or regions. While the California content standards are required for all public California schools, there could be differences in the attention given to subject areas between schools. Curriculum materials can also vary from school to school. The differences found in test scores related to subject areas might reflect differences in school programs and schedules.

The current study did identify some differences when isolating by socioeconomic status and by gender, as well as related to subject area. Teacher and student attitudes can be affected by gender, ethnicity and socioeconomic status (see Baker, 1999; Ladson-Billings, 1995; Meehan, Hughes & Cavell, 2003; Pianta et al., 2002). It was not possible to examine differences between different ethnic groups in this study because the sample was too small. With a larger sample size it would be possible to further examine the differences between groups (ethnicity, gender, SES) from schools that do loop and schools that do not loop.
The relationships between students and teachers are a strongly advocated benefit of looping (Denault, 1999; Shneyderman, 2000). The interaction between teachers and students is an especially critical aspect of the early schooling experience (Entwisle & Alexander, 1998, Hamre & Pianta, 2005; Pianta & Cox, 1999). The current study’s finding that students with an alternative teaching arrangement for only the first two years of school (kindergarten and 1st grade) had slightly higher test scores two years after the treatment (3rd grade) is intriguing when considering the potential for long-term benefits. Taking into account the differences in learning styles of students in varied demographic groups as well as teacher attitudes, further study on the long-term effectiveness of looping could identify potentially beneficial schooling arrangements for different students while emphasizing the social nature of learning.
REFERENCES


