

LOOPING AT ONE ELEMENTARY SCHOOL:  
HOW SUCCESSFUL WAS IT?

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# LOOPING AT ONE ELEMENTARY SCHOOL: HOW SUCCESSFUL WAS IT?

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(Abstract)

A current educational practice in grouping students is looping. Looping involves teachers remaining with the same students for two or more years. This practice was implemented in the elementary school in this study. This is an evaluation of looping in the first and second grades.

The study has both qualitative and quantitative components. An administrator, teachers, and students in four looping and four non-looping cohorts were participants. Criterion variables were attendance; achievement in English, mathematics, science, and history and social science; instructional time; relationships among students; and relationships between teachers and students. A t-test was used to test for differences between looping and non-looping cohorts for attendance and achievement. Teachers used a log to record instructional time spent reviewing previously learned skills and teaching new skills in mathematics. Observations were conducted

to describe the relationships among students and between teachers and students.

There were no differences between looping and non-looping cohorts in attendance, instructional time, and achievement, except in history and social science, for one of the years studied. In that year, students in the looping cohort scored higher on the Standards of Learning test in history and social science than students in the non-looping cohort. Relationships among students were better in looping cohorts, and relationships between teachers and students appeared stronger in non-looping cohorts.

## DEDICATION

I dedicate this paper to my deceased parents, husband, children, and siblings. My parents, Reverend and Mrs. Cornelius Betz, Sr., instilled a yearning within me for learning. My husband, James H. Freeman, Jr., provided love and support. He kept the family intact during this process and never allowed me to quit or slow down. My children--Shawna, Aric, Adrian, and Trey--inspired me. My siblings--Jr., Lola, Gwen, and Rodrick--provided encouragement. My family gave me the strength I needed to write this dissertation.

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## CHAPTER 1

### THE PROBLEM

#### Context of the Study

Grouping of students in American schools has become an established educational practice (Gamoran, 1989). A current practice in grouping students is looping. It involves teachers remaining with the same students for two or more years (Forsten, Grant, Johnson, & Richardson, 1997). Yet, little is known about the effects of looping. This study was done to evaluate looping in an elementary school. My purposes in this section are to (1) provide a brief history of looping, (2) describe some of the reputed advantages and disadvantages of looping, and (3) describe how looping was first implemented at the site of this study.

#### A Brief History of Looping

Looping in the United States dates back to the one-room schoolhouse. In the eighteenth and nineteenth centuries, only one teacher was hired to teach all the students who attended a one-room school (Unger, 1996). This might include 40-60 students. Like looping today, students moved from grade to grade with the same teacher.

## Looping in Europe

Looping was implemented in the Waldorf schools of Germany founded by Rudolf Steiner in 1919 (Grant, Johnson, & Richardson, 1996). Steiner was born in 1861 and died in 1925 (Reinsmith, 1989). He was an Austrian philosopher, scientist, and theorist. Based on his views of human development, Steiner (1972) established the principles and guidelines for looping in Waldorf Schools. He used looping to keep students and teachers together during the developmental stages of a child. In the second stage of a person's life, which commences in first grade, students remain with the same teacher for eight years. At age 13 or 14, which is the beginning of the third stage, students remain with the same teacher throughout high school. Steiner believed if a teacher understood the stages of development, then the curriculum would match the stage. He believed that it is important for educators to understand all of the developmental stages of a child, because this knowledge is instrumental in knowing how to teach children.

In northern Italy, the preschools in the city of Reggio Emilia are incorporating looping into their instructional programs (Palestis, 1994). In these schools there are no building principals. As in Waldorf Schools, teachers are in charge of the schools. They teach their students for three years, and each classroom is provided two teachers with overlapping shifts. Teachers plan and

work in teams that include parents. Students do not study subjects, they work on projects. There are 22 schools in the northern Italian city of Reggio Emilia with children ranging in age from three to six years, and 13 schools ranging from birth to age three. There are many schools in North America with programs based on the preschools of Reggio Emilia, Italy (Reggio Emilia, 2000). One program is located at the Virginia Tech Child Development Lab School in Blacksburg, Virginia (Reggio Emilia, 2000).

### Looping in Japan

In Japan looping exists in the lower grades and secondary schools (Grant et al., 1996). Elementary teachers continue with their classes for two or more years (Wynne & Walberg, 1994). At the high school level, Japan keeps the teachers in each subject area with the same students or class for the entire four years of high school.

### Looping in Jamaica

Students in Jamaican schools participate in looping (Wynne & Walberg, 1994). Students are assigned to divisions with the same proctor and classmates throughout elementary school. Many activities are organized to determine which division has the best discipline record or achieves the highest test scores.

### Reputed Advantages and Disadvantages of Looping

There are several reputed advantages and a few disadvantages of looping.

Both will be discussed in this section.

#### Reputed Advantages of Looping

Jim Grant, who is known for popularizing the term looping, has presented many reputed benefits of looping (Jankoski, 1996). Grant thought looping promoted the effective use of time; the improvement of discipline, attendance, and relationships between the school and home; and the reduction of special education referrals (Forsten et al., 1997). Looping may improve relationships between the teacher and children and among students (Educational Research Service, 1998). Students may show improvement in academic performance and school attendance (Hampton, Mumford, & Bond, 1997).

Advantages claimed for looping and evaluated in this study are (a) the improvement of attendance and achievement, (b) the efficient use of time, (c) the cultivation of close relationships among students, and (d) the development of strong relationships between students and the teacher. These claims are explored later in this chapter. The potential effects of looping on discipline, relationships between the school and home, special education referrals, and grade retention are discussed first.

Looping and discipline. Looping has been implemented in the Attleboro, Massachusetts, schools. Since the implementation of looping in the Attleboro schools, discipline and suspensions have significantly declined (Rappa, 1993). The decline may be attributed to a more stable environment, familiarity with classroom routines, the positive relationships among students, and the strong parent-teacher relationships that result from looping (Forsten et al., 1997).

Looping and relationships between school and home. Another advantage claimed for looping is the improvement of relationships between school and home (Forsten et al., 1997). Because looping allows closer relationships to develop between the teacher and parents, the teacher better understands the students' family and the expectations and needs of the parents (Grant et al., 1996).

In a qualitative study of looping, classroom relationships, and learning by Jankoski (1996), the perceptions of students, parents, and teachers were used to determine the effectiveness of looping in "creating a classroom environment conducive to learning" (Jankoski, p. 6). This study was conducted in the Beauford County School District in South Carolina.

The sources of data included two administrators, three teachers from the looping clusters, an unknown number of guidance counselors from both schools, one school board member, twenty-six parents, nine second and eight fifth grade



students from the looping clusters attending the same school, and 11 fourth grade students from the looping cluster attending another school within the district (Jankoski, 1996).

The parents of looping students completed a questionnaire. The researcher obtained the parents' perceptions of looping. Eighty-eight percent of the parents indicated that they had a better understanding of the teacher's expectations. Ninety-six percent of the parents felt comfortable communicating with the teacher. Eighty-one percent would encourage parents to allow students to loop. Jankoski (1996) concluded, "A family feeling is created by the long-term relationship between teacher and child and parent" (p. 22).

Looping and special education referrals. In a paper presented to the National Education Commission in Cambridge, Massachusetts, Dr. Joseph Rappa (1993), superintendent of the Attleboro School District in Massachusetts, claimed that a reduction in special education referrals is a benefit of looping. In this school district, all teachers in grades one through eight and some kindergarten and high school teachers are looping. Approximately 300 teachers and 5,000 students loop. Rappa reported that special education referrals were reduced by fifty-five percent. Details on the collection of data were not available.

Forsten et al. (1997) had an explanation for such a reduction in special education referrals. They proposed that the more efficient use of instructional time claimed for looping may prevent premature placement of students in special education. Forsten et al. claimed that looping teachers know they have more time to work with a student before making a special education referral. Teachers in regular education classrooms have one year to make the decision to refer a student to special education, while looping teachers can continue to work with a student after the first year, during the summer months, and during the following year before a decision is made. Therefore, when a referral is made by a looping teacher, it is probably not premature.

Looping and student retention. A looping environment is believed to result in a reduction in student retention (Forsten et al., 1997). In schools using looping in grades two through eight, retention rates decreased by over forty-three percent in the schools of Attleboro, Massachusetts (Rappa, 1993). Forsten et al. contended that teachers do not have to make hasty decisions about retention at the end of the first year. Instead, during the second year of looping the student can benefit from remaining with the same teacher because that teacher can use time more efficiently due to the teacher's knowledge of the capabilities and needs of the child. Because

of the effective use of time, Forsten et al. claimed that a reduction in student retention may occur.

### Reputed Disadvantages of Looping

Just as there are potential advantages to looping, there are potential disadvantages to looping. A few of the reputed disadvantages identified by experts follow.

Looping and "bad teachers." What if a child is placed in a "bad teacher's" room for two consecutive years (Grant et al., 1996)? Often, new material is introduced in grades one, three, and five and is reinforced in grades two and four (Grant et al.). A child in a looping environment would then have extended time and exposure to an incompetent teacher and, therefore, may not be able to survive academically (Grant et al.).

Looping and teacher-student personality clashes. One danger of looping is identified by Grant (1996): extending student-teacher contact when a poor personality match exists. A personality clash may exist for several reasons. A parent may feel that the teacher dislikes the student, or the child could demonstrate a negative attitude directed to the teacher that is a reflection of the parents' feelings (Forsten et al., 1997). A conflict may occur between a student and teacher, or there may be a clash between the student's learning style and the teacher's instructional

style (Forsten et al.). No matter what causes a personality clash, this is not an environment conducive to learning, and looping could exacerbate the problem by extending it into a second year.

Looping and children with special needs. Forsten et al., (1997) identified another potential disadvantage of looping resulting from the extension of time with one teacher and one group of children. The disadvantage occurs when a child is placed in a class of unruly students with too many emotional needs (Forsten et al.). A class with a large number of discipline problems can result in the teacher spending too much time on classroom management and not enough time on instruction. When this occurs, extended time with the same class may overwhelm the teacher, and the children in this looping environment will lose academically (Forsten et al.).

Grant et al. (1996) discussed the effect of extending time in classes with "high impact kids." They define high impact kids as students who may be emotionally or physically abused, slow learners, or learning disabled (Grant et al.). The disadvantage is that a parent may perceive the class as a special education class. When this occurs for an extended time, the parent may begin to object to or question their child's placement in this environment. Grouping students in this manner for an extended time may result in the teacher becoming overwhelmed due

to the hard work involved in meeting the needs of a large number of "high impact kids" (Grant et al.).

### The Initiation of Looping in the Elementary School Studied

Every year during the last months of the school year, the principal meets with the teachers to discuss retention candidates. In the 1993-94 school year, a first grade teacher scheduled such a conference. The teacher wanted to discuss retention for one of her students who was non-verbal.

The teacher described the student as below grade level in achievement and not a good candidate for promotion to second grade. The teacher said that she believed the child had a communication disorder that was not documented. She added that the student was one who would not talk to anyone, not even peers, in the school environment. For example, in the cafeteria, when asked to identify the food he wanted for lunch, the teacher reported that the student would not reply. The teacher chose lunch for him daily. However, during telephone conferences with the parents, the teacher could hear the student talking in the background. The teacher reported that the parents explained the student's non-verbal behavior at school as shyness.

The teacher recommended to the principal that the student be retained, believing he was capable of performing better academically than he had

demonstrated. The teacher indicated she could get him ready for the third grade, if she could keep him for another year. Retention would not be necessary. The principal had just read articles on looping and gave the teacher the articles to read. Because of the lapse of time since the articles were reviewed, the sources are not available to cite. The principal asked the teacher to consider looping. The teacher read the material and decided to loop for one year, provided her first grade position would be held for her return. The principal agreed, and this was the beginning of looping in the school studied.

To prepare parents and students for looping in the 1994-1995 school year, the principal sent letters home with students selected to participate in the program. Looping was explained and parents were given the opportunity to participate or to opt out. All of the parents agreed to allow their children to participate.

To maintain the relationships established in the first year of looping and to reinforce and continue academic growth, a summer social activity was planned, and academic activities were assigned during the summer months. The teacher invited students and their family members to a summer gathering at a local park. Everyone brought a snack to share. The parents and teacher talked and the students played for two hours. To maintain and continue academic progress, students were given reading and writing assignments. Students were required to

read three books and respond to them in some creative way. They kept writing logs for June, July, and August. Three stamped and addressed postcards were distributed to students at the end of the first year of looping with the instructions to write to their teacher and return the cards in the mail. These activities have continued since that time.

During the 1994-95 school session, the teacher spoke to an associate who also taught on the primary level in the building. She shared information about looping with the other teacher, and they decided to become a looping team. The two teachers would alternate grade levels as the classes moved on. The teacher who looped in 1994 on the first grade level would follow the class to the second grade. The looping partner would teach second grade in 1994 and then first grade in 1995, starting her first looping class. Since the implementation of the program, the principal has been very supportive and has provided the teachers opportunities to attend conferences on looping. Both teachers have shown a commitment to looping.

### Problem

Many school systems in the United States have viewed looping as a way to improve student performance (Hanson, 1995). This is also true at the school studied. The principal reported that she read articles about looping and wanted to

implement it to improve the academic performance of students. The articles are unavailable for citation.

The principal believed that more efficient use of instructional time provided by looping would eliminate two to three weeks of review. For example, there would be no wasted time explaining instructional centers, routines, or rules. And, teachers would not have to spend time learning the needs of students.

The problem is whether or not the unsubstantiated and reputed claims for looping hold true. Does looping improve the academic performance of students? Is time used more efficiently? Does looping improve student attendance? Are teacher-pupil and pupil-pupil relationships better because of looping? Are the goals for looping held by the principal and the teachers who volunteered to loop being met? Their goals were to improve student achievement and to provide more efficient use of instructional time.

Since the implementation of looping at the school studied, there has been no evaluation performed to determine whether looping has served its intended purposes. Given the principal's and teachers' goals for looping and the claims found in the literature on looping, my purpose for this evaluation is to determine whether looping affects achievement, attendance, instructional time, and relationships among students and between the teacher and students at the school



studied. The results may be helpful to school administrators as they weigh the benefits and liabilities of looping as an educational strategy.

### Theoretical Framework for the Study

Five variables were selected for study based on the purposes of looping at the school studied and the claims for the efficacy of looping found in the review of literature. These variables are (1) instructional time, (2) relationships between students and teacher, (3) relationships among students, (4) student achievement, and (5) student attendance. A sixth variable, relationships between the school and home, was acknowledged but not examined in the study. A diagram of the relationships among these variables is Figure 1. The relationships are explained in this section.

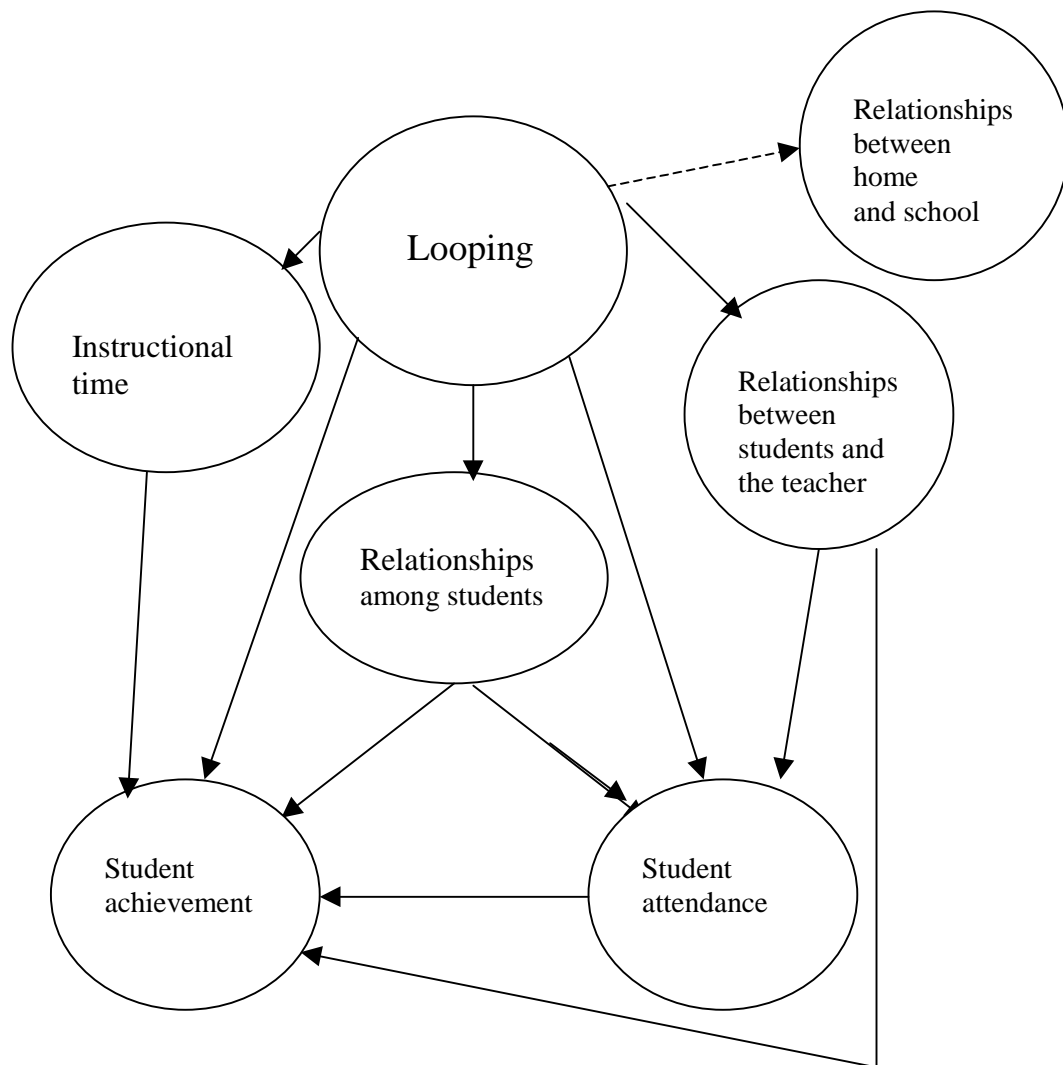


Figure 1. Concatenated theory of the effects of looping. Solid lines represent relationships included in this study. The broken line identifies a relationship that was not examined in this study.

### Looping and Instructional Time

There may be better use of time for instruction in a looping environment than in a conventional environment. Summers may be used to extend learning time, and time may be saved at the beginning of the second year. At the end of the first year of looping, the summer may be used for instructional purposes. During this time, projects may be assigned to maintain the academic progress made in the previous year (Musick, 1998). Because of these summer projects, students continue to learn and return to school ready to learn new material (Chapman, 1999). Chapman believed that teachers and students in a looping environment have a mutual respect and knowledge of each other that enables them to learn together.

In Missouri, at John Nowlin Elementary School in the Blue Springs R-4 School District, Lisa Andrews is a teacher who loops with her students from first to second grade (Musick, 1998). She and other teachers who loop at this school meet with their students three times during the summer months to provide instruction in mathematics and science. Other teachers who loop at this school send book lists and mathematics assignments and exchange letters. Musick believed the summer activities maintained emotional ties and learning acquired in the previous year.

At the beginning of the second year, looping teachers may use teaching time more efficiently. Time may be saved in getting acquainted, reviewing rules and the operation of the class, and assessing students (Grant et al., 1996). Time usually spent in reviewing educational material can be reduced in the looping environment. For example, students in their second year of looping at the Blue Springs R-4 School District (Missouri) return to school putting their backpacks and other materials in place, ready to learn on the 181<sup>st</sup> day of school for them (Musick, 1998).

"Teachers estimate that they gain at least a solid month of instructional time at the beginning of the second year of a looping cycle" (Forsten et al., 1997, p. 13). This estimate is based on the belief that if teachers and students remain together for two or more years, on the first day of the second year instruction continues from the point stopped in the previous year. There may be some review time at the beginning of school, but very little review time is needed for looping classes compared to the one month of review time usually spent in a regular education classroom. Musick (1998) believed that this extra time allows teachers to present new projects that might have otherwise been eliminated because of time.

### Looping and Relationships Between Students and the Teacher

Looping is based on the development of strong relationships (Forsten et al., 1997). The need to belong (Maslow, 1970) may be satisfied through looping. In the looping environment, there is the opportunity for students and teachers to develop in-depth relationships. It is because of these relationships that the teacher is able to provide a sense of security to all students, including those who come to school from unfortunate circumstances (Vann, 1997).

The extended time in looping promotes bonding between the teacher and students. The teacher becomes a consistent adult figure for students, especially those who are products of unstable environments (Musick, 1998). The teacher may be viewed as an additional parent, which give students a sense of family (Anonymous, 1996). According to Liu (1997), students are able to discuss personal and academic issues with the teacher, which may provide a support system where trust is developed.

In the looping environment in Jankoski's (1996) study, 37 students in a looping environment were given the BASC Self-Report of Personality (SRP-C). This instrument evaluates the personality and self-perceptions of children. The participants were 18 second graders, 11 fourth graders, and eight fifth graders. The BASC computer forms were scored. A high percentage of students in grades two,

four, and five indicated positive adjustment with teachers. The percentages are: second graders, 94 %; fourth graders, 100%; and fifth graders, 100%. These results are reflective of students' attitudes toward their teacher (Jankoski, 1996).

Jankoski (1996) interviewed three teachers from the looping cohorts. The teachers believed that close relationships had developed between teachers and students. There was "a feeling of trust" (Jankoski, 1996, p. 65).

Jankoski (1996) used a questionnaire survey with parents to determine their perceptions of relationships between teachers and students in looping classrooms. A high percentage of parents in the looping environment had a perception of positive relationships between students and teacher. Ninety-two percent of the parents felt that their child liked being with the same teacher for two years, and 96% of the parents stated that their child felt more at ease with the teacher.

### Looping and Relationships Among Students

Looping may provide more time for students to develop strong peer relationships (Burke, 1997). Everyone gets to know and understand each other better than the year before. Although unsubstantiated, caring may develop and students may become helpful to one another (Educational Research Service, 1998). Musick (1998) believed that in a looping environment students develop "really good friendships" (p.14).

In Jankoski's (1996) study of students looping in second, fourth, and fifth grades, another clinical scale of the BASC Self-Report of Personality (SRP-C) was used to measure interpersonal relationships of children. Ten items determined whether or not a student was successful in relating to others and believed the experiences to be enjoyable. Jankoski found that 89 % of the second graders, 91% of the fourth graders, and 88% of the fifth graders appeared adjusted. Jankoski supports the claim that a high percentage of students in the looping environment relate well to other students and have developed positive interpersonal relationships.

### Instructional Time and Student Achievement

Results from the Third International Mathematics and Science Study (TIMSS) of 1995 focused attention on instruction and student learning in mathematics (Silver, 1998). This study was conducted by the International Association for the Evaluation of Educational Achievement (IEA) and involved testing more than a half-million students in mathematics and science on various grade levels in 41 countries (Silver). The mathematics results will be shared because of their relevance to how teachers use time at the beginning of the school year.

In the United States, at grades seven, eight, and twelve, students achieve poorly in mathematics compared to students in other countries (Silver, 1998). The findings in the Third International Mathematics and Science Study indicate that "in the United States, school mathematics curriculum is unfocused and repetitive in kindergarten through grade eight" (Silver, 1998, p. 1). Typically, in a regular educational setting at the beginning of the year during the first month of school, teachers lose instructional time getting to know their students, assessing them, and reviewing skills from the year before (Shepro, 1995). Repetition occurs during this time.

In the looping environment, unlike the typical regular educational setting, very little instructional time may be lost at the beginning of the second year of school (Shepro, 1995). Looping may eliminate or reduce the repetition and review that occur in the regular education classroom at the beginning of the school year (Jankoski, 1996). Because teachers know the learning styles and skills mastered by students from the previous year, instruction can be structured to meet the individual needs of students starting on the first day of the second year of school (Shepro). Therefore, there may be no wasted instructional time and no need for the curriculum in a looping environment to be repetitive.



### Looping and Student Achievement

If used effectively, looping provides more efficient use of instructional time in the first month of school and during the summer that may result in an increase in student achievement. Eighty-eight percent of the parents, 100% of the teachers, a majority of the students, and 100% of the administrators in Jankoski's (1996) study believed that children benefited academically from looping.

Jankoski (1996) administered a questionnaire to parents and interviewed students, teachers, and administrators about the academic growth of children in a looping environment. The percentages of the parents who were satisfied with the progress of their children for each looping grade-level follow: second grade, 100%; fourth grade, 70%; and fifth grade, 100%.

Although Jankoski (1996) did not report the number of students interviewed in looping environments, a discussion about the findings follows. Many students in looping classrooms appeared satisfied with their academic progress. Almost all of the second grade students expressed that they were doing very well academically. Report card grades, according to fourth grade students, were better than their third grade report card grades. Fifth grade students perceived achievement as one of the benefits of looping. They boasted about their ability to spell words on the sixth grade level.

The participants in Jankoski's (1996) study believed looping is a way to improve academics. However, no experimental evidence could be found to support this claim.

A paper presented at the annual meeting of the American Educational Research Association about Project Families Are Students and Teachers (Project FAST) included information on students in a looping program compared to other students in East Cleveland, Ohio. The authors (Hampton et al., 1997) claimed that students in looping environments achieve higher than students in non-looping environments.

The East Cleveland Schools, Cleveland State University, and The Cleveland Foundation piloted Project FAST. Looping students and non-looping students were administered the Comprehensive Test of Basic Skills (Hampton et al., 1997). Looping students were together for three continuous years. The looping students entering kindergarten remained with the same teacher through grade two. There were 711 students in this study. Four comparison groups were used: (1) a random sample of non-looping first grade students at the school studied, (2) the non-looping first grade students in the school district, (3) former students of the lead looping environment teacher, and (4) siblings of the students in the looping program. Of the 711 students, 28 participated in looping, 30 were randomly

selected from a non-looping first grade class within the same building as the looping class, and 618 were non-looping first grade students in the school district. Twenty-six were former students of the lead teacher in the non-looping setting, and nine were siblings of students in the looping program.

The looping students scored higher on the Comprehensive Test of Basic Skills than non-looping students, former students, and siblings of the looping students (Hampton et al., 1997). Standard deviations were not included in the paper. The scores of the students were: looping students in reading ( $\underline{M}$ =73.10,  $\underline{N}$ =28) and mathematics ( $\underline{M}$ =77.27,  $\underline{N}$ =28), non-looping students in the building in reading ( $\underline{M}$ =50.32,  $\underline{N}$ =30) and mathematics ( $\underline{M}$ =40.20,  $\underline{N}$ =30), non-looping students in the district in reading ( $\underline{M}$ =48.61,  $\underline{N}$ =618) and mathematics ( $\underline{M}$ =53.43,  $\underline{N}$ =618), non-looping former students in reading ( $\underline{M}$ =51.65,  $\underline{N}$ =26) and mathematics ( $\underline{M}$ =58.04,  $\underline{N}$ =26), and non-looping siblings of looping students in reading ( $\underline{M}$ =42.67,  $\underline{N}$ =9) and mathematics ( $\underline{M}$ =39.33,  $\underline{N}$ =9) (Hampton et al., 1997).

### Student Achievement and Relationships Among Students

There is a positive correlation between student-peer relationships and student academic achievement (Niebuhr & Niebuhr, 1999) . In a small southeastern town, a study to examine the association between student relationships and student academic achievement was conducted. The participants

were 241 high school freshmen. Demographic information and perceptions of school climate were collected with a questionnaire. School climate was measured with the Comprehensive Assessment of School Environment (Niebuhr & Niebuhr). One subscale of this instrument is student-peer relationships with a reliability of (.81). Student academic achievement was measured by an overall grade point average for the semester in which the survey was given (Niebuhr & Niebuhr). Students wrote their names on the survey questionnaires, and responses were matched with grade point averages. Student-peer relationships were found to be associated with achievement. The authors believed that students who have close relationships and high academic standards motivate one another to achieve academically (Niebuhr & Niebuhr).

Students in a looping environment are very much similar to the students described in the Niebuhr & Niebuhr (1999) study. The close relationships established within a looping environment may promote a desire for students to achieve. Children who are a part of the group and feel accepted by their peers appear motivated to learn (Wentzel, 1999). Students in a looping class have the opportunity to establish mutual trust and respect. Because of these relationships, they may not want to disappoint other members of this special group, and they may try harder to maintain high academic standards and motivate each other to learn.

### Student Achievement and Relationships Between Children and the Teacher

There is a positive correlation between student-teacher relationships and student achievement (Niebuhr & Niebuhr, 1999). The participants and instrument were the same as described above; however, a different subscale of the Comprehensive Assessment of School Environment was used to measure teacher-student relationships with a reliability of (.84). Student-teacher relationships and student academic achievement were found to be related. The researchers believed that as students and teachers develop close relationships, students work harder, and the result is increased academic achievement (Niebuhr & Niebuhr).

In the looping environment, student-teacher relationships are much like student-teacher relationships in the Niebuhr and Niebuhr (1999) study. When positive relationships exist between children and the teacher in a looping class, they can contribute to student achievement (Liu, 1997).

Noddings (1992) shared the opinion that close relationships allow children to academically respond to trusting individuals. As relationships become stronger in looping environments, trust is built and students become more comfortable in their setting (Grant et al., 1996). This results in the teacher being able to inspire the students to achieve (Liu, 1997). Students are no longer afraid to ask questions

that may appear silly. They become comfortable in the looping environment and achievement becomes a realizable outcome.

### Student Attendance and Relationships Among Students

Positive relationships among children promote regular attendance at school (Zimmerman, 1993). The James Comer School Development Program focuses on students building relationships among peers (Zimmerman). Zimmerman reported one of the outcomes of this program is an increase in student attendance. Children who establish strong relationships in the classroom environment among peers may be motivated to attend school regularly.

In looping programs, researchers have reported an increase in student attendance because of the close relationships developed during the extended time together. This claim was made for students who participated in looping in the Project Families Are Students and Teachers Program. Students attended school regularly (Hampton et al., 1997). They attended school a little more often than non-looping students in the building and district (see Table 1). Another claim was made by Superintendent Joseph Rappa of Attleboro, Massachusetts, where looping is implemented. Rappa (1993) reported that attendance in this school district had improved from ninety-two percent to ninety-seven percent in grades two through

eight. He attributed this improvement to close relationships in a looping environment.

Table 1

Average Daily Attendance in Percentages for Students in a Looping Program and Students in Non-Looping Programs at the Building and District Levels

	1993-1994	1994-1995	1995-1996
Classes	Kindergarten	First grade	Second grade
Looping program	95.6	95.5	96.0
Building	93.2	93.0	95.0
District	93.2	93.0	95.0

Note. Adapted from Enhancing Urban Student Achievement Through Family Oriented School Practices (p. 16), by F. M. Hampton, D. Mumford, and L. Bond, 1997. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.



### Student Attendance and Relationships Between Students and Teachers

Close relationships between children and the teacher in a looping environment promote school attendance (Educational Research Service, 1998). Because of the extended time together, students develop a strong sense of belonging to the group and are apt to be responsive to the need to be present for continued instruction. There is a strong message sent in a looping environment. The message is that each students' daily presence is important to the group (Educational Research Service).

Supporters of looping believe that long-term relationships between students and teachers give students a "third parent" that children can depend on, fostering a family-like atmosphere ( Anonymous, 1996, p.7). The family-like atmosphere gives students emotional security. They become less shy and more confident in their abilities. It is because of the emotional security provided by the established student-teacher relationships in a looping environment that children want to come to school (Forsten et al., 1997).

### Student Attendance and Student Achievement

As attendance improves in a looping environment, so does achievement. Improvements in attendance and achievement occurred in schools in Massachusetts, Ohio, and Minnesota. Rappa (1993) reported improvement in

attendance and achievement in Attleboro, Massachusetts, after the implementation of looping. Students in the Project Families Are Students and Teachers Program in East Cleveland, Ohio, attended school more days and achieved higher test scores in reading and mathematics on the Comprehensive Tests of Basic Skills than the comparison groups of students in the building and school district (Hampton et al., 1997).

The third school that reported improvement in achievement and attendance in a looping environment was in Orchard Lake Middle School in West Bloomfield, Minnesota. Students in grade six were placed with the same two core teachers for mathematics-science and language arts-social studies for three years (Burke, 1996). There were 54 self-nominated students and two volunteer teachers. The principal expected and realized improvement in student attendance and achievement (Burke, 1996). Details on the collection of data were not available. These findings support an association between student attendance and student achievement.

### Guiding Questions

Some of the questions that guided my research were derived from the goals of looping identified through interviews with the principal and looping teachers at the school studied (see Appendices A and B). Other questions were derived from

the research on looping. These questions guided the evaluation of looping in this study:

1. How does looping affect student attendance?
2. How does looping affect student achievement?
3. How does looping affect instructional time in the classroom?
4. How does looping affect relationships among students in the classroom?
5. How does looping affect relationships between students and the teacher in the classroom?

### Definitions

The following definitions were used for the purposes of this study:

1. **Achievement** is the acquisition of knowledge. In this study, achievement is the third grade scaled scores on the Standards of Learning tests in Virginia in English (total score), mathematics (total score), science, and history and social science.
2. **Attendance** is being present in school. In this study, attendance is the number of days present in the 1996-1997 and 1997-1998 school years. Attendance was obtained from students' cumulative records.
3. **Instructional time saved** is the minutes per month saved by reducing the time spent on skills taught during the previous year in mathematics. Time

saved was collected with a teacher's log (see Appendix C). Teachers recorded the date, time teaching started, time teaching ended, skill, and whether the skill was review or new.

4. **The relationship between students and teacher** is the connection or bonding that occurs between students and the teacher in a classroom. The relationship between children and teacher was determined through observations by the researcher. A teacher observation form was used to identify verbal and non-verbal behaviors of the teacher and students (see Appendix D). Matrices (see Appendices E and F) were used to total the observed interactions. The number of each type of interaction in the looping cohorts was compared to the number of each type of interaction in the non-looping cohorts. Through these comparisons the relationship between the teacher and students was identified.
5. **Relationships among students** are the connections or bonding that occur among children in the classroom. Relationships among children were determined through observations by the researcher. A student observation form was used to identify verbal and non-verbal behaviors of the students by the researcher (see Appendix D). Matrices (see Appendices E and F) were used to total the interactions observed. The number of each type of

interaction in the looping cohorts was compared to the number of each type of interaction in the non-looping cohorts. Through these comparisons the differences in the relationships among the students in the looping and non-looping environments were identified.

## CHAPTER 2

### METHODOLOGY

The purpose of this section is to provide information about the school studied, the populations, and the procedures used to gather data. Data were obtained from the records of students, observation reports of teacher-student and student-student interactions, transcripts of interviews with teachers, and logs of teacher activities. The data were analyzed with descriptive statistics.

#### The Setting of the Study

The school system in this study is located in an urban area on the East Coast. It is populated with approximately 400,000 city residents, including military installations, and averages 2.5 million tourists per year.

The schools are populated with more than 78,000 students. There are currently 55 elementary schools, 15 middle schools, and 14 high schools in the school division. Included in this number are an elementary school for the gifted, a magnet middle school, an alternative middle school, a mathematics and science high school magnet center, three alternative high schools, one vocational high school, and an adult education center. The student population of the school division includes 38 % who are military dependents or federally affiliated, 33.6 % minority, and a dropout rate of 4.3 %. All schools are fully accredited by the

Southern Association of Colleges and Schools. Thirteen elementary and two middle schools passed the Standards of Learning tests in the 1999-2000 school year.

The school in this study has traditional and non-traditional organizational components. These features are noticeable in the following description of the school.

### Students

The school has grades kindergarten through five with an enrollment of 773 students. The ethnic composition of the student body is 86% Caucasian, 10% African American, 2% Asian or Pacific Islander, and 2% other. The programs implemented in the building and the percentages of students enrolled in each follow: (a) gifted 8.6%, (b) free or reduced-price lunch 8%, (c) and special education 10%.

### Personnel

There are 39 instructional employees providing services in this school. Two are administrators, one principal and one assistant principal. Other staff members include 30.5 teachers and 8.5 specialists. The identification of specific grade-levels and the number of teachers at each level follow: (a) kindergarten has 2.5, (b) first grade with six, (c) second grade has five, (d) third has six, (e) fourth with

five, and (f) fifth has six. Specialists include (a) one gifted resource teacher, (b) one art teacher, (c) one music teacher, (d) one physical education teacher, (e) one and a half guidance counselors, (f) one librarian, (g) one reading resource teacher, and (h) one computer resource teacher.

### Grade Levels

The grade levels in the school vary. The following is a description of each grade level and its special features.

Beginning with the kindergarten, there are 2.5 teachers and five classes on this level. Two teachers are full-time and each teaches two classes. The third teacher is half-time and teaches only one kindergarten class.

First grade has six classes and teachers. Every year since the 1994-1995 school year, one class on this grade level has been looping. In 1998 another class began to loop.

Second grade has five teachers and classes. One teacher on this level has teamed with a first grade teacher to loop since 1994-1995. In 1998 another second grade teacher volunteered to team with a first grade teacher to begin looping.

Third grade has six classes and teachers in self-contained classrooms. The teachers are responsible for all subjects except physical education, art, and music.



Fourth grade has five teachers and classes. Two teachers are departmentalized. Each teacher teaches specific subjects and students change classrooms when it is time to receive instruction from the other teacher. Two additional teachers are teaming. Both teachers teach language arts and mathematics. Students in both classes are divided so that one teacher instructs the higher level students, and the other teacher instructs the lower level. One teacher teaches social studies and the other teacher is responsible for the instruction of science. After receiving instruction from the teacher who teaches social studies, students exit the classroom to attend their next class with the other teacher who teaches science. One fourth grade class is self-contained.

The fifth grade level is departmentalized like the fourth grade level. There are six fifth grade teachers and classes. All classes are departmentalized.

#### Gifted Clusters

Gifted clusters are classes developed by placing students in regular education classes and adding a minimum of two and a maximum of eight gifted students to each class. There are nine gifted clusters: (a) two in grade two, (b) three in grade three, (c) two in grade four, and (d) two in grade five.

### Parallel Block Scheduling

In parallel block scheduling, two teachers work together in providing instruction to smaller groups of students (Canady, 1990). For example, one teacher's class is assigned art on Monday, and the other teacher's class is assigned art on Tuesday. On Monday, both teachers send only one-half of their students to the art teacher. The other half of the students remain in the classroom for instruction with their regular teacher. On Tuesday, both teachers send the other half of their students to art. During this time the teachers work with the other half of their students. Teachers may divide their classes according to the needs of students. This arrangement reduces class size during the scheduled periods and gives the teacher the opportunity to help students individually or in small groups.

### Populations of Looping Cohorts

There were two populations of looping cohorts in this study. One population included the cohorts that completed a looping cycle and for which Standards of Learning test scores were available. These were the two looping classes that were in the first grade in 1995-1996 and 1996-1997. The other population included the cohorts that were still in the second year of the looping cycle. These cohorts were available for studying the relationships among students and between teachers and students in the second year of looping. There were two of these--the cohorts that

were in the first grade in 1998-1999 and in the second grade in 1999-2000. The groups from which data were obtained were the 1995-1996 and 1996-1997 cohorts, which were through the looping cycle and in second grade in 1996-1997 and 1997-1998, and the two 1998-1999 cohorts that were in their second year of the cycle in 1999-2000 (see Table 2).

A questionnaire (see Appendix G) pertaining to the educational background and work history of teachers was developed and given to all teachers in this study for completion. Data are in Table 3.

Table 2

Number of Classes and Students Involved in Looping by Grade and Year in the School Studied

Grade	1994-1995 <sup>a</sup>	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
1 <sup>st</sup>	1 NA <sup>b</sup>	1 21	1 21	1 18	2 44	2 46	
2 <sup>nd</sup>		1	1	1	1	2	2

Note. The number of students involved in looping each year is reported on the arrow.

<sup>a</sup>No test data available. <sup>b</sup>NA=number of students not available.

Table 3

Educational and Work History of Looping and Non-Looping Teachers in the Year Noted

Year of first grade	Looping				Non-looping			
	Age	Highest degree held	Years of experience	Org. <sup>a</sup>	Age	Highest degree held	Years of experience	Org. <sup>a</sup>
1995- 1996	54	B.S.	4	3	39	B.S.	17	4
1996- 1997	46	B.S.	19	3	41	B.S.	3	3
1999- 2000	49	B.S.	23	3	54	B.A.	16	1
	44	B.S.	3	4	36	B.S.	8	1

Note. One looping teacher in 1995-1996 and 1996-1997. One non-looping teacher in 1995-1996 and 1996-1997. There were two looping and two non-looping teachers in the study in 1999-2000.

<sup>a</sup>The total number of memberships in professional organizations.

The looping classes in this study are composed of heterogeneously grouped students. The grouping procedure at the school follows: The principal and kindergarten teachers serve as a committee to heterogeneously group students for first grade according to academic performance, special needs, and behavior.

First, the kindergarten teachers identify students academically as high, medium, or low. Next, students labeled gifted and students with disabilities are identified.

Then, the names of students with behavior problems are provided to the committee. After this identification process, students are distributed as evenly as possible across the first grade classes. These classes continue into second grade as intact groups.

### Selection of the Looping Cohorts

A process of elimination determined the selection of the looping classes (cohorts) for this study. From the looping classes in Table 2, three classes (cohorts) were chosen.

Classes were chosen as follows: The 1994-1995 cohort was removed from the choices because records were unavailable, and students in this cohort had graduated to middle school. The 1997-1998 cohort was removed because the Standards of Learning test results would not be available until the end of the students' third grade in the spring of 2000, after the data for this study were already

collected. Finally, the 1999-2000 cohort was eliminated because the children had not yet gone to second grade and their SOL test scores would not be available until the spring of 2002. The remaining cohorts (1995-1996, 1996-1997, and 1998-1999) were selected to participate in the study.

The classes of 1995-1996 and 1996-1997 were selected because the records for attendance and the Standards of Learning test scores, which are variables in this study, were available. The two-second grade looping classes of 1998-1999 were selected because they were in their second year of the looping cycle and relationships and instructional time, which are also variables in this study, could be observed in the 1999-2000 school year. Therefore, my final selection of classes to participate in the study became the looping cohorts and their teachers for 1995-1996, 1996-1997, and 1998-1999.

### Populations of Non-Looping Cohorts

There were two populations of non-looping cohorts. One population included the non-looping cohorts that started with the looping cohorts in 1995-1996 and 1996-1997. There were six non-looping classes in the third grade in 1997-1998 and six non-looping classes in the third grade in 1998-1999. These cohorts were in first grade at the same time as the selected looping cohorts. The other population included the cohorts that started with the looping cohorts that were in the second grade in 1999-2000. There were four of these non-looping cohorts.

Data were obtained from four randomly selected non-looping classes, one from those classes that started first grade at the school in 1995-1996, one from the classes that started first grade at the school in 1996-1997, and two from the classes that started first grade at the school in 1998-1999.

A questionnaire (see Appendix G) pertaining to the educational background and work history of teachers was developed and given to all non-looping teachers in this study for completion. Data at the time of the study are shown in Table 3. The non-looping cohorts that began first grade in 1995-1996 and 1996-1997 and the number of students in those cohorts at the end of third grade (the time they were tested) are shown in Table 4. These cohorts are the non-looping population



from which a sample of cohorts was selected to compare attendance and achievement with looping cohorts. The cohort classes in 1999-2000 comprise the non-looping population from which a sample was selected to compare instructional time, relationships between students and the teacher, and relationships among students.

Table 4

Populations of Non-Looping Cohorts by Grade and Year in the School Studied

Populations	Grade at the time of the study	1997-1998 (Started 1995-1996)		1998-1999 (Started 1996-1996)		1999-2000 (Started 1998)	
		Cohts	Studts	Cohts	Studts	Cohts	Studts
1 <sup>a</sup>	3 <sup>rd</sup>	6	136	6	119		
2 <sup>b</sup>	2nd					4	91

Note. Cohts=cohorts, Studts=students.

<sup>a</sup>Population for comparing achievement and attendance data. <sup>b</sup>Population for comparing instructional time and relationships among students and between students and teachers.

### Selection of the Non-Looping Cohorts

The non-looping cohorts were randomly selected because all classes were grouped heterogeneously. A random numbers table was used to make the selections. Two non-looping classes were selected to compare students to looping classes with respect to Standards of Learning test scores and attendance data. Because students in the looping classes started first grade in 1995-1996 and 1996-1997, the comparison groups of non-looping classes were selected from those remaining first grade classes with students who started first grade in 1995-1996 and 1996-1997. All teachers in the non-looping classes were assigned a number for identification. The two teachers needed for comparing attendance and achievement were selected randomly. The same procedure was followed to obtain the two teachers for comparing instructional time and relationships among students and between students and teachers. These students will be in the second grade in the 1999-2000 school year.

### Data Collection and Analysis

The data collection began with telephone interviews with the principal and the two teachers who volunteered to loop in 1994-1995 and 1995-1996. They were interviewed to determine the goals of the program. These goals were used to identify variables for comparing the outcomes of looping and non-looping

classrooms. The review of previous research on looping provided additional variables. From these goals and expected outcomes found in the literature, five criteria were established for evaluating the program. They were (a) student attendance, (b) use of instructional time, (c) student achievement, (d) relationships among students, and (e) relationships between students and the teacher. All variables were included in the model of relationships in Figure 1. Of the variables shown in Figure 1, four were used in this study. A discussion of how data were collected for each variable follows.

#### Attendance

Attendance data (number of days present) for students in the 1995-1996 and 1996-1997 looping cohorts (in second grade in 1996-1997 and 1997-1998) and two randomly selected non-looping classes for the same years were obtained. These data were retrieved from the cumulative records of the students.

#### Achievement

The principal was interested in improving students' test scores on the Standards of Learning tests, and she believed that looping might help achieve this goal. Thus, scaled scores on the Standards of Learning tests in Virginia in English, mathematics, science, and history and social science for students in the 1995-1996 and 1996-1997 looping and two randomly selected non-looping cohorts for the

same years (in second grade in 1996-1997 and 1997-1998) were obtained. The scores were retrieved from class profiles.

### Validity of the Standards of Learning Tests

A test is developed for a specific purpose. The Standards of Learning tests were developed to measure the extent to which students acquired the knowledge and skills expected by the Virginia Board of Education for each grade level. A test has content validity if the expected content and skills are included on the test. The evidence provided by the Virginia Board of Education in support of the content validity of the Standards of Learning tests follows.

The Standards of Learning tests are developed with the assistance of The Content Review Committee, which includes Virginia educators. The committee reviews each test question prior to field testing. To receive approval for field testing, each question must meet the following criteria:

Does the question measure the SOL objective it was designed to measure?

Does the question appropriately measure content or skills that students in Virginia should be expected to learn by the spring of the designated grade level or near the end of the course?

Is the difficulty of the question appropriate?

Is the question free from content that stereotypes, offends, or unfairly penalizes students on the basis of personal characteristics such as gender, ethnicity, religion, or socioeconomic status? (Virginia Department of Education, 1999, p. 3)

A question is used as a field-test question only if it meets the above criteria. Then it is given to students as a field-test question during an administration of the Standards of Learning tests. As a result of this process new test questions are readily available.

After the field test, the Content Review Committee evaluates the field-test questions to determine whether or not a field-tested question will appear in operational form. If the questions pass all requirements, they are placed in the item bank, which may increase yearly, for possible future use on a Standards of Learning test form.

To ensure that the tests have no "factors that would unfairly impact a group of students," a bias review is conducted (Virginia Department of Education, 1999, p. 5). A Bias Review Committee is assigned to each content area. Its purpose is to ensure a fair test that will allow all children, regardless of race, origin, and socioeconomic status, to have the same opportunity to perform academically.

Another type of validity is concurrent validity. To check the concurrent validity of the Standards of Learning tests, students' test results on Standards of Learning tests were compared to their test results on other similar tests. Correlations were calculated for the relationships between the Standards of Learning tests and the Stanford 9 tests (see Table 5) and the Literacy Passport tests.

Table 5

Spearman Rank Order Correlation Coefficients Between School Pass Rates on the Subtests of Virginia's Standards of Learning Tests, 1998, and School Percentile Ranks on the Subtests of the Stanford Nine, 1997, for Grades 3 and 5

SOL subtest	Stanford 9 subtest						
	Reading vocabulary	Reading comprehension	Total reading	Language	Math procedures	Math problem solving	Total math
Grade 3							
English	.76	.77	.78	.72			
Mathematics					.67	.76	.75
Grade 5							
English	.76	.77	.78	.76			
Mathematics					.67	.76	.74



School pass rates on the fifth grade Standards of Learning tests in spring 1998 were correlated with the pass rates on the sixth grade Literacy Passport tests of spring 1998 (Virginia Department of Education, 1999). The coefficients follow:

(1) The Standards of Learning English test had a correlation coefficient of .64 with the Literacy Passport reading test. (2) The Standards of Learning English test (writing) had a correlation coefficient of .68 with the Literacy Passport writing test. (3) The Standards of Learning mathematics test had a correlation coefficient of .54 with the Literacy Passport mathematics test. This is not strong evidence for the concurrent validity of the tests.

#### Reliability of the Standards of Learning Tests

The developers of the Virginia Standards of Learning tests used the Kuder-Richardson Formula #20 (KR-20) to statistically measure test reliability. “The Kuder-Richardson Formula measures the degree to which the test questions consistently measure the same body of content and skills” (Virginia Department of Education, 1999, p.11). The values of the Kuder-Richardson Formula #20 range from 0 to .99. The goal is to achieve a Kuder-Richardson Formula #20 value as high as possible; however, test developers realize that obtaining .99 is unrealistic (Virginia Department of Education, 1999).

The Standards of Learning tests in third grade had the following Kuder-Richardson values: (1) English--.90, (2) mathematics--.91, (3) history and social science--.84, and (4) science--.85. On fifth grade level, the Kuder-Richardson values were as follows: (1) English --.89, (2) mathematics---.88, (3) history and social science--.80, (4) science--.81, and (5) computer and technology--.81.

The Kuder-Richardson Formula #20 was used as the reliability measure for all Standards of Learning tests except writing. Person separation reliability was used for the writing portion of the Standards of Learning. Person separation reliability is an item-response theory equivalent to the Kuder-Richardson Formula #20. It is only used for grade five because the writing test on this level includes a combination of multiple-choice and student writing responses. The fifth grade Standards of Learning English test of 1998 included 21 test questions (20 multiple-choice items and one writing prompt). A person separation reliability value of .84 was calculated for the writing test. According to the Department of Education, even with the differences in measuring the test sections, using the Kuder-Richardson Formula for multiple choice and person separation for writing responses, the Standards of Learning test reliability information confirms that Virginia's Standards of Learning tests meet reliability standards (Virginia Department of Education, 1999).

### Instructional Time

The two teachers in their second year of looping in 1999-2000 and two randomly selected, second grade, non-looping teachers in the same year were provided a log for recording the first month of instruction in mathematics (see Appendix C). The first month of instruction was selected for keeping the log because it is claimed that in a looping environment time is not wasted during the first several weeks in September because teachers and students do not need to get acquainted (Burke, 1996), and review of previous work takes less time. The data provided in the instructional log would either support or not support this claim.

The instructional log included the date of instruction, time the instruction started, time the instruction ended, skill taught, and whether the skill was review or new material. The log was reviewed to determine whether the period for keeping the log should be extended to collect additional data. The time period of the log was not changed.

Before data were collected, three teachers examined the log to determine its usability. The first teacher thought that it would be fine, except to change the word "content" to the word "skill." The second teacher said it was usable; however, she thought that teachers should be made aware that the column referring to review does not mean a review of the day before but a review of skills from the previous

grade level. Likewise, she thought the column labeled "new" meant the concept taught is for present grade-level skills. To help other teachers understand, the researcher added superscripts to both words "new" and "review" and wrote definitions for each corresponding superscript on the log. The third teacher concurred with the first two teachers on the usability of the log but suggested widening the space for the skill column. She felt that teachers would not have enough space to identify the skill taught. All changes were accepted and incorporated into the form (see Appendix C).

The logs were given to teachers with verbal instructions for completing them. The researcher provided additional examples as needed and answered all questions. Teachers were informed that the logs would be picked up and new logs would be distributed every few days.

The number of minutes spent on review and new skills for each teacher was calculated. A comparison of the minutes for looping and non-looping teachers was conducted.

### Relationships Among Students

Observations of students by the researcher were conducted in two looping and two non-looping classroom environments to determine the relationships among children in both settings.

A matrix was developed based on Flanders' (1982) interaction analysis. Interactions among students were tallied and recorded (see Appendices E and F). Twenty-five categories of verbal and nonverbal behavior were observed. They are in Table 6. Numerals one through twenty-five were codes for the observed behavior (see Appendix H).

An observation tool was used to record the codes in three-second intervals (see Appendix D). The researcher completed five student-student observations in each class. Each observation was five minutes and the observer recorded data every three seconds. Five pairs of students from each of the two looping and two non-looping classes were observed. The number in each category observed was converted into a percentage of all observed interactions among the children in each environment. For example, the number of interactions "accepts help/helps" (1, 14) for the non-looping students equaled 31 of the 979 total interactions of both non-looping cohorts. The percentage of 31 of 979 interactions is 3.2. Percentages were used to compare the types of interactions among children in looping and non-looping cohorts.

Table 6

Categories for Student Interaction Analysis

Code	Behavior	Definition
1	Accepts help <sup>d</sup>	Allows others to assist
2	Answers question <sup>d</sup>	Responds with words
3	Asks question <sup>a</sup>	Seeks information
4	Blank <sup>d</sup>	No response
5	Compliments <sup>b</sup>	Expresses praise
6	Displays unhappy emotions <sup>b,d</sup>	Temper tantrums, cries, other outbursts
7	Does not follow directions <sup>d</sup>	Does not comply or adhere to instructions

(table continues)

Table 6 (continued)

Categories for Student Interaction Analysis

Code	Behavior	Definition
8	Eye contact (negative) <sup>c</sup>	Staring, rolling the eyes
9	Eye contact (positive) <sup>c</sup>	Looking at another
10	Follows directions <sup>d</sup>	Adheres to instructions
11	Frowns <sup>c</sup>	Wrinkling of the brow to indicate displeasure
12	Gestures (negative) <sup>c</sup>	Thumbs down, throws hands up in despair
13	Gestures (positive) <sup>c</sup>	Thumbs up, hand and arm movement to show excitement
14	Helps <sup>c</sup>	Assists others

(table continues)

Table 6 (continued)

Categories for Student Interaction Analysis

Code	Behavior	Definition
15	Ignores <sup>d</sup>	Disregards
16	Laughs <sup>b</sup>	Expressing happiness by giggles, snickers, or other sounds
17	Listens <sup>d</sup>	Giving attention to another
18	Physical contact (negative) <sup>c</sup>	Striking or other unwelcomed touching
19	Physical contact (positive) <sup>c</sup>	Handshakes, patting on the back, hugging
20	Raises hand <sup>c</sup>	Upward movement of hand

(table continues)



Table 6 (continued)

Categories for Student Interaction Analysis

Code	Behavior	Definition
21	Shares <sup>c</sup>	Dividing responsibilities equally, fairly using materials with others, or communicating feelings or personal information with another
22	Smiles <sup>c</sup>	Moving the corners of the mouth in an upward direction to indicate pleasure or affection
23	Tone of voice (negative) <sup>b</sup>	Angry, annoyed

(table continues)

Table 6 (continued)

Categories for Student Interaction Analysis

Code	Behavior	Definition
24	Tone of voice (neutral) <sup>b</sup>	Normal
25	Tone of voice (positive) <sup>b</sup>	Happy, excitement

<sup>a</sup>From Interaction Analysis in the Classroom: A Manual for Observers, by N. Flanders, 1982, Ann Arbor, MI: University Microfilms International. <sup>b</sup>From Body Language: A Guide for Professionals, by H. Lewis, 1998, New Delhi: Response Books. <sup>c</sup>From Nonverbal Behavior Applications and Cultural Implications, by A. Wolfgang, 1979, New York: Academic Press. <sup>d</sup>Added by the researcher after trial runs.

### Relationships Between Students and Teachers

Observations of teachers in looping and non-looping classrooms were conducted by the researcher to compare relationships between children and teachers in the two settings. A matrix was developed based on Flanders' (1982) interaction analysis. Interactions between students and teachers were tallied and recorded (see Appendices E and F).

Twenty-five verbal and nonverbal categories were developed, and many were the same ones selected in the above relationships among children (see Table 7). The following were selected from Flanders (1982): Accepts feelings, answers questions, asks question, criticizes or justifies authority, directs students, and praises or encourages. Others were the same verbal and non-verbal behaviors cited by Wolfgang (1979) and Lewis (1998) in their descriptions of relationships among children. The non-verbal behaviors cited by Wolfgang (1979) were: smiles, frowns, helps, shares, eye contact, gestures, head movement, close proximity, and physical contact. One verbal behavior was taken from Lewis (1998): laughs. The observer developed additional categories to complement the ones selected. They are: blank, ignores, listens, and talks.

Numerals one through twenty-five were assigned to the behaviors as codes. An observation tool was used to record the codes in three-second intervals

(see Appendix D). Students in looping cohorts were identified by stickers or teacher identification. There were five, five-minute observations with data recorded every three seconds for each class observed. Each observation was twenty-five minutes. There were two looping and two non-looping classrooms participating in the student-teacher interaction observations. The number of each interaction in each type of classroom (looping or non-looping) was converted into a percentage of all observed interactions between children and teacher for that type of classroom. For example, the 33 interactions "asks question/answers question" (3,2) in Table 16 for the looping classrooms equaled 3.7 percent of the 888 total interactions of the two looping cohorts. This information was useful in comparing teacher-student relationships in looping and non-looping cohorts.

Table 7

Categories for Teacher Interaction Analysis

Code	Behavior	Definition
1	Accepts feelings <sup>a</sup>	Accepting and clarifying the feeling tone of the students in a non-threatening manner, feelings may be positive or negative; predicting or recalling feelings included
2	Answers question <sup>a</sup>	Responds with words
3	Asks question <sup>a</sup>	Seeks information
4	Blank <sup>d</sup>	No response

(table continues)

Table 7 (continued)

Categories for Teacher Interaction Analysis

Code	Behavior	Definition
5	Close proximity (negative) <sup>c</sup>	Leaning forward or moving toward a student to discourage or stop a misbehavior
6	Close proximity (positive) <sup>c</sup>	Leaning forward or moving toward a student to encourage
7	Criticizes or justifies authority <sup>a</sup>	Statements intended to change student behavior from unacceptable to acceptable
8	Directs students <sup>a</sup>	Giving specific instructions
9	Eye contact (negative) <sup>c</sup>	Staring, rolling the eyes

(table continues)

Table 7 (continued)

Categories for Teacher Interaction Analysis

Code	Behavior	Definition
10	Eye contact (positive) <sup>c</sup>	Looking at another
11	Frowns <sup>c</sup>	Wrinkling of the brow to indicate displeasure
12	Gestures (negative) <sup>c</sup>	Thumbs down, throws hands up in despair
13	Gestures (positive) <sup>c</sup>	Thumbs up, hand and arm movement to show excitement
14	Head movement (nod) <sup>c</sup>	Up and down motion of the head
15	Head movement (shake) <sup>c</sup>	Side to side motion of the head
16	Helps <sup>c</sup>	Assists student

(table continues)

Table 7 (continued)

Categories for Teacher Interaction Analysis

Code	Behavior	Definition
17	Ignores <sup>d</sup>	Disregards
18	Laughs <sup>b</sup>	Expressing happiness by giggles, snickers, or other sounds
19	Listens <sup>d</sup>	Giving attention to another
20	Physical contact (negative) <sup>c</sup>	Touching that is not welcomed
21	Physical contact (positive) <sup>c</sup>	Handshakes, patting on the back, hugging
22	Praises or encourages <sup>a</sup>	Expressions of approval, inspires with words

(table continues)



Table 7 (continued)

Categories for Teacher Interaction Analysis

Code	Behavior	Definition
23	Shares <sup>c</sup>	Communicating feelings or personal information with student
24	Smiles <sup>c</sup>	Moving the corners of the mouth in an upward direction, to indicate pleasure or affection
25	Talks <sup>d</sup>	Instructs or converses with student

<sup>a</sup>From Interaction Analysis in the Classroom: A Manual for Observers, by N. Flanders, 1982, Ann Arbor, MI: University Microfilms International. <sup>b</sup>From Body Language: A Guide for Professionals, by H. Lewis, 1998, New Delhi: Response Books. <sup>c</sup>From Nonverbal Behavior Applications and Cultural Implications, by A. Wolfgang, 1979, New York: Academic Press. <sup>d</sup>Added by the researcher after trial runs.

### Interrater Reliability

Qualifying the researcher as an observer of teacher and student interactions required much practice. An educator was selected to assist the researcher in this task. The educator is certified in kindergarten through grade twelve with twenty-two years teaching experience and eight years administrative experience. The educator is an assistant principal within the same school system as the researcher.

To obtain interrater reliability, the researcher and educator watched one video of classroom interactions repeatedly as a practice tool (Video Services Department, 2000, February 21). Another video was used as the actual tool to obtain interrater reliability (Video Services Department, 2000, February 22). The criterion for an adequate level of reliability was set at 80% agreement. The percentage was calculated by dividing the smaller by the greater number of interactions observed by the raters.

It took several weeks and many attempts to achieve interrater reliability. Interrater reliability is a procedure that requires communication between observers and many hours of practice. At first, the researcher and educator tried the coding process as recommended by Flanders (1982) to record behaviors identified in interactions. Flanders used number codes for behaviors, and each code was recorded as observed. That procedure proved unsuccessful because in this study

there were twenty-five number codes and it was difficult to recall the codes. The behaviors were easier to recall. An observation tool was devised (see Appendix D). Two lines of twenty columns to record three-second interactions equaled one minute. A page contained five minutes of interactions. In teacher-student interaction observations, the teacher's behavior was recorded on the top line and the student's behavior was recorded on the bottom line in each row. In student-student interaction observations, one student's behavior was recorded on the top line and the other student's behavior was recorded on the bottom line in each row.

The most difficult part of the observation process was achieving 80% agreement between the observers. This task included many days of talking about the behaviors and why they were recorded in a particular manner. A typical day of practice included three hours of talking and recording with not much agreement. Finally, agreement was reached. The raters obtained 80% agreement (see Tables 8 and 9) on all recorded interactions.

Table 8

Summary of Interrater Reliability for Student to Student Interactions in Observed Classrooms

Interactions	Researcher	Educator	Agreement
	Number	Number	<u>%</u>
	observed	observed	
Accepts help/helps (1, 14)	226	231	98
Asks question/answers question (3, 2)	4	5	80
Eye contact (negative)/tone of voice (neutral) (9, 24)	1	1	100
Follows directions/follows directions (10, 10)	35	35	100
Gestures (negative)/tone of voice (negative) (12, 23)	6	6	100
Helps/ follows directions (14, 10)	12	14	86

(table continues)

Table 8 (continued)

Summary of Interrater Reliability for Student to Student Interactions in Observed Classrooms

Interactions	Researcher	Educator	Agreement
	Number	Number	<u>%</u>
	observed	observed	
Helps/smiles (14, 22)	9	11	82
Helps/tone of voice (neutral) (14, 24)	12	11	92
Laughs/tone of voice (neutral) (16, 24)	7	8	88
Physical contact /follows directions (18, 10)	1	1	100
Smiles/smiles (22, 22)	13	13	100
Smiles/tone of voice neutral) (22, 24)	6	7	86

(table continues)

Table 8 (continued)

Summary of Interrater Reliability for Student to Student Interactions in Observed Classrooms

Interactions	Researcher	Educator	Agreement
	Number	Number	<u>%</u>
	observed	observed	
Praises/blank	4	4	100
Tone of voice (positive)/listens	69	67	97
Tone of voice (neutral)/tone of voice (neutral)	11	10	91

Table 9

Summary of Interrater Reliability for Teacher-Student Interactions in Observed Classrooms

Interactions	Researcher	Educator	Agreement
	Number	Number	<u>%</u>
	observed	observed	
Asks question/answers question (3, 2)	35	31	89
Asks question/blank (3, 4)	57	61	93
Asks question/raises hand (3, 20)	35	31	89
Blank/follows directions (4, 10)	21	21	100
Close proximity (positive)/follows directions (6, 10)	6	6	100

(table continues)

Table 9 (continued)

Summary of Interrater Reliability for Teacher-Student Interactions in Observed Classrooms

Interactions	Researcher	Educator	Agreement
	Number	Number	<u>%</u>
	observed	observed	
Directs students/listens (8, 17)	31	34	91
Listens/answers question (19, 2)	12	15	80
Listens/tone of voice (positive) (19, 25)	27	24	89
Praises/answers question (22, 2)	1	1	100
Praises/blank (22, 4)	4	4	100
Talks/listens (25, 4)	117	109	93
Talks/raises hands (25, 20)	21	21	100



## Summary

Various participants and different methods of collecting data were used to obtain data in the area of looping. Participants in the study were an administrator, three looping teachers, four non-looping teachers, and students from four looping and four non-looping environments. The teaching experience of the teachers ranged from three years to 23 years in the looping cohorts and from three years to 17 years in the non-looping cohorts.

Data were collected from the students' records, interviews with the principal and teachers, interaction observations, and instructional logs. The data were useful in examining differences between looping and non-looping environments.

## CHAPTER 3

### FINDINGS

The findings are presented as follows: First, comparisons of the 1995-1996 and 1996-1997 looping and non-looping cohorts on attendance and achievement are presented. Second, differences in instructional time for the 1999-2000 looping and non-looping cohorts are shown. Finally, comparisons of student and teacher relationships for the 1999-2000 looping and non-looping cohorts are provided.

#### Attendance and Achievement

The attendance data in Table 10 are for school year 1996-1997 when the looping and non-looping cohorts, which began first grade in 1995-1996, were in second grade. The achievement data are for school year 1997-1998 when these students were in third grade. The attendance data in Table 11 are for school year 1997-1998 when the looping and non-looping cohorts, which began first grade in 1996-1997, were in second grade. The achievement data are for 1998-1999 when these students were in third grade.

There was no difference in the attendance of students in looping and non-looping cohorts for either year. There was less than an average of one-day difference in the attendance of looping and non-looping students when both cohorts were in second grade.

Students in the 1995-1996 looping cohort out performed students in the non-looping cohort for the same year in history and social science. There were no differences in achievement in English, mathematics, or science between the cohorts for either the 1995-1996 or 1996-1997 years. Nor did the cohorts differ in history and social science in 1996-1997.

Table 10

Comparison of 1995-1996 Looping and Non-Looping Cohorts on Attendance and Achievement in English, Mathematics, Science, and History and Social Science

Variables	Looping			Non-looping			t	p
	<u>N</u>	<u>M</u>	<u>SD</u>	<u>N</u>	<u>M</u>	<u>SD</u>		
Attendance <sup>a</sup>	13	172.69	4.50	14	172.64	6.56	.02 <sup>c</sup>	.98
English <sup>b</sup>	14	441.57	72.84	14	404.57	51.29	1.55 <sup>c</sup>	.13
Mathematics <sup>b</sup>	14	475.86	74.12	14	451.93	70.66	.87 <sup>c</sup>	.39
Science <sup>b</sup>	14	439.29	44.30	14	421.00	41.19	1.13 <sup>c</sup>	.20
History and social science <sup>b</sup>	14	442.57	52.70	14	389.43	33.00	3.20 <sup>d</sup>	<.01

Note. Scaled scores 0-600 are reported for each test: 0-399 is failing; 400-600 is passing; 400-499 is pass/proficient; 500-600 is proficient/advanced.

<sup>a</sup>Attendance is the number of days present in 1996-1997, the second year of the looping process. <sup>b</sup>The scores for English, mathematics, science, and history and social science are scaled scores on the Virginia Standards of Learning Assessment for 1997-1998, the year the students were in third grade. <sup>c</sup>Equal variances assumed.

<sup>d</sup>Unequal variances assumed.

Table 11

Comparison of 1996-1997 Looping and Non-Looping Cohorts on Attendance and Achievement in English, Mathematics, Science, and History and Social Science

Variables	Looping			Non-looping			t	p
	<u>N</u>	<u>M</u>	<u>SD</u>	<u>N</u>	<u>M</u>	<u>SD</u>		
Attendance <sup>a</sup>	13	174.92	6.97	15	175.87	5.15	-.41 <sup>c</sup>	.68
English <sup>b</sup>	13	428.08	60.30	17	407.76	62.48	.90 <sup>c</sup>	.38
Mathematics <sup>b</sup>	13	503.92	77.62	17	472.59	75.61	1.11 <sup>c</sup>	.28
Science <sup>b</sup>	13	426.69	42.42	17	412.12	38.68	.98 <sup>c</sup>	.34
History and social science <sup>b</sup>	13	424.69	41.66	17	391.12	48.12	1.97 <sup>c</sup>	.06

Note. Scaled scores 0-600 are reported for each test: 0-399 is failing; 400-600 is passing; 400-499 is pass/proficient; 500-600 is proficient/advanced.

<sup>a</sup>Attendance is the number of days present in 1997-1998, the second year of the looping process. <sup>b</sup>The scores for English, mathematics, science, and history and social science are scaled scores on the Virginia Standards of Learning Assessment for 1998-1999, the year the students were in third grade. <sup>c</sup>Equal variances assumed.

### Instructional Time

The amount of instructional time spent on review and new concepts by looping and non-looping teachers is shown in Table 12. The non-looping teachers spent over four times more review minutes in mathematics than looping teachers over 22 days of school at the beginning of second grade. The looping teachers reported nearly six times more new minutes than non-looping teachers. However, these data may not reflect actual differences.

Looping teachers recorded strategies used to review skills as new skills on the instructional log if the strategies had not been used with the students in the first grade. That is, looping teachers identified the strategy and not the skill. Therefore, some skills identified as new were actually skills that had been taught in first grade. Although looping teachers reported spending more time teaching new skills than non-looping teachers, the pacing was the same. By the end of the first five weeks of school, both looping and non-looping teachers completed the first unit in mathematics at the same time and were ready to start the same new unit in the sixth week. All teachers were following the pace for presenting mathematics with the textbook as established by the Department of Curriculum and Instruction of the school division.

Table 12

Differences in the Amount of Time Spent on Review of Concepts and the Presentation of New Concepts in Mathematics by Looping and Non-Looping Teachers at the Second Grade Level

Week	Number of teaching days	Looping teachers (N=2)				Non-looping teachers (N=2)			
		Review minutes		New minutes		Review minutes		New minutes	
		Total	<u>M<sup>a</sup></u>	Total	<u>M<sup>a</sup></u>	Total	<u>M<sup>a</sup></u>	Total	<u>M<sup>a</sup></u>
1	4	155.00	38.75	290.00	72.50	480.00	120.00	0.00	0.00
2	4	105.00	26.25	370.00	92.50	445.00	111.25	75.00	18.75
3	5	99.00	19.80	526.00	105.20	490.00	98.00	155.00	31.00
4	5	175.00	35.00	395.00	79.00	680.00	136.00	40.00	8.00
5	4	60.00	15.00	420.00	105.00	445.00	111.25	75.00	18.75
Total	22	594.00	27.00	2001.00	90.95	2540.00	115.45	345.00	15.68

<sup>a</sup>Mean for both teachers per day.

## Relationships Among Students

A summary of all observed student interactions in looping and non-looping cohorts is in Table 13. The interactions observed were negative and positive. A discussion of both follows.

### Positive Student to Student Interactions Observed

The looping cohorts demonstrated over one and one half times more positive interactions than the non-looping cohorts (see Table 14). The positive interactions observed were accepts help/helps, accepts help/blank, gestures (positive)/blank, laughs/blank, laughs/laughs, laughs/smiles, and smiles/tone of voice (neutral).

The main differences between the looping and non-looping cohorts were:

1. Students in looping cohorts accepted or gave help more frequently than students in non-looping cohorts.
2. Students in looping cohorts smiled or laughed over twice as much as the students in non-looping cohorts.

The relationships among students in the looping cohorts seemed trusting and friendly.



Table 13

Summary of All Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping ( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Accepts help/helps (1,14) <sup>c</sup>	50	5.3	31	3.2
Accepts help/blank (1,4)			2	.2
Answers question/listens (2, 17)			28	2.9
Asks question/answers question (3, 2)			1	.1
Asks question/tone of voice (neutral) (3, 24)	1	.1	6	.6
Follows directions/tone of voice (neutral) (10, 24)			3	.3

(table continues)

Table 13 (continued)

Summary of All Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping ( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Follows directions/follows directions (10, 10)	682	72.2	569	58.1
Gestures (negative)/blank (12, 4)	1	.1	1	.1
Gestures (positive)/blank (13, 4)	1	.1		
Helps/listens (14, 17)			3	.3
Helps/tone of voice (neutral) (14, 24)	4	.4		
Helps/tone of voice (negative)			3	.3

(table continues)

Table 13 (continued)

Summary of All Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping ( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Ignores/asks question (15, 3)	1	.1	3	.3
Ignores/blank (15,4)			2	.2
Ignores/tone of voice (neutral) (15, 24)	2	.2	14	1.4
Laughs/blank (16, 4)			1	.1
Laughs/laughs (16, 16)	2	.2		
Laughs/smiles (16, 22)	1	.1	2	.2
Listens/tone of voice (negative) (17, 23)	3	.3	2	.2

(table continues)

Table 13 (continued)

Summary of Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping (N=20) <sup>a</sup>		Non-looping <sup>a</sup>	
	<u>N<sup>b</sup></u>	<u>%</u>	<u>N<sup>b</sup></u>	<u>%</u>
Listens/asks question (15, 3)	5	.5	31	3.2
Listens/tone of voice (neutral) (17, 24)	125	13.2	239	24.4
Physical contact (negative)/physical contact (negative) (18, 18)			1	.1
Physical contact (negative)/tone of voice (negative) (18, 23)	2	.2		
Physical contact (negative)/tone of voice (neutral) (18, 24)	1	.1		
Smiles/smiles (22, 22)	7	.7	3	.3
Smiles/tone of voice (neutral) (22, 24)	9	1.0	3	.3

(table continues)

Table 13 (continued)

Summary of All Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping (N=20) <sup>a</sup>		Non-looping (N=20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Tone of voice (neutral)/tone of voice (neutral) (24, 24)	47	5.0	28	2.9
Tone of voice (neutral)/tone of voice (negative) (24, 23)			1	.1
Tone of voice (negative)/tone of voice (neutral) (23, 24)	1	.1		
Tone of voice (negative)/tone of voice (negative) (23, 23)			2	.2
Total	945	99.9	979	100.0

<sup>a</sup>Five pairs of students were observed in each of the two looping and non-looping classrooms. Each pair was observed for five minutes. <sup>b</sup>Number of interactions. <sup>c</sup>This is the student to student interaction code: The first number refers to one student's behavior and the second number refers to the second student's behavior. Data are in Appendices E and F.

Table 14

Summary of Positive Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping ( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Accepts help/helps (1, 14) <sup>c</sup>	50	71.4	31	73.8
Accepts help/blank (1, 4)			2	4.8
Gestures (positive)/blank (13, 4)	1	1.4		
Laughs/blank (16, 4)			1	2.4
Laughs/Laughs (16, 16)	2	2.9		
Laughs/smiles (16, 22)	1	1.4	2	4.8

(table continues)

Table 14 (continued)

Summary of Positive Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping ( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	%	<u>N</u> <sup>b</sup>	%
Smiles/smiles (22, 22)	7	10.0	3	7.1
Smiles/tone of voice (neutral) (22, 24)	9	12.9	3	7.1
Total	70	100.0	42	100.0

<sup>a</sup>Five pairs of students were observed in each of the two looping and non-looping classrooms. Each pair was observed for five minutes. <sup>b</sup>Number of interactions. <sup>c</sup>This is the student to student interaction code: The first number refers to one student's behavior and the second number refers to the second student's behavior. Data are in Appendices E and F.

### Negative Student to Student Interactions Observed

The non-looping cohorts exhibited 2.5 times more negative interactions than the looping cohorts (see Table 15). The primary negative interactions observed were ignores/tone of voice (neutral), listens/tone of voice (negative), helps/tone of voice (negative), and ignores/asks question.

There were specific differences observed between the looping and non-looping cohorts. They were:

1. Students in non-looping cohorts used ignores/tone of voice (neutral) behaviors seven times more frequently than students in looping cohorts.
2. A negative tone of voice was used over twice as often by students in the non-looping cohorts than students in looping cohorts.
3. Students in looping cohorts used negative physical contact more frequently than students in non-looping cohorts.

Although negative physical contact occurred more often in looping cohorts (the number of observations was small), the looping cohorts had more positive interactions and fewer negative interactions, thus student to student relationships were more positive in the looping cohorts.



Table 15

Summary of Negative Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping ( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	%	<u>N</u> <sup>b</sup>	%
Gestures (negative)/blank (12, 4) <sup>c</sup>	1	9.1	1	3.6
Helps/tone of voice (negative) (14, 23)			3	10.7
Ignores/asks question (15, 3)	1	9.1	3	10.7
Ignores/blank (15, 4)			2	7.1
Ignores/tone of voice (neutral) (15, 24)	2	18.2	14	50.0
Listens/tone of voice (negative) (17, 23)	3	27.3	2	7.1
Physical contact (negative)/physical contact (negative) (18, 18)			1	3.6
<u>(table continues)</u>				

Table 15 (continued)

Summary of Negative Student to Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =20) <sup>a</sup>		Non-looping( <u>N</u> =20) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Physical contact (negative)/tone of voice (negative) (18, 23)	2	18.2		
Physical contact (negative) <sup>a</sup> /tone of voice (neutral) (18, 24)	1	9.1		
Tone of voice (negative)/tone of voice (neutral) (23, 24)	1	9.1		
Tone of voice (negative)/tone of voice negative) (23, 23)			2	7.1
Total	11	100.1	28	99.9

<sup>a</sup>Five pairs of students were observed in each of the two looping and non-looping classrooms. Each pair was observed for five minutes. <sup>b</sup>Number of interactions. <sup>c</sup>This is the student to student interaction code: The first number refers to one student's behavior and the second number refers to the second student's behavior. Data are in Appendices E and F.

## Relationships Between Students and Teachers

A summary of all teacher and student interactions in looping and non-looping cohorts is in Table 16. The interactions observed were negative and positive. A discussion of both follows.

### Positive Teacher-Student Interactions Observed

There were twice as many positive interactions demonstrated by teachers and students in non-looping cohorts than teachers and students in looping cohorts (see Table 17). The positive interactions involved primarily teacher proximity and praise. The main positive differences between the looping and non-looping cohorts were:

1. Teachers in non-looping cohorts directed statements of praise to students more times than teachers in looping cohorts.
2. In non-looping cohorts, teachers stood within close proximity to students in a positive manner, while this behavior was not observed for teachers in looping cohorts.

Teachers in non-looping cohorts demonstrated by words and action a closer relationship with students than teachers in the looping cohorts.

Table 16

Summary of All Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>		-
	<u>N<sup>b</sup></u>	<u>%</u>	<u>N<sup>b</sup></u>	<u>%</u>	
Answers question/listens (2, 17) <sup>c</sup>	1	.1			
Asks question/answers questions (3,2)	33	3.7	33	4.6	
Asks question/listens (3, 17)	30	3.4	62	8.6	
Asks question/raises hand (3, 20)	6	.7	18	2.5	
Blank/follows directions (4, 10)	53	6.0	58	8.1	
Blank/raises hand (4, 20)	1	.1	4	.6	

(table continues)

Table 16 (continued)

Summary of All Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Blank/tone of voice (neutral) (4, 24)			1	.1
Close proximity (positive)/answers question (6,2)			1	.1
Close proximity (positive)/asks question (6,3)			1	.1
Close proximity (positive)/follows directions (6,10)			1	.1
Close proximity (positive)/listens (6, 17)			3	.4
Criticizes/answers question (7,2)	1	.1	1	.1
Criticizes/follows directions (7, 10)			2	.3

(table continues)

Table 16 (continued)

Summary of All Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Criticizes/listens (7, 17)	12	1.4	3	.4
Directs students/answers question (8, 2)			1	.1
Directs students/follows directions (8, 10)	5	.6	9	1.3
Directs/listens (8, 17)	83	9.3	28	3.9
Directs/tone of voice (neutral) (8, 24)			3	.4
Listens/answers question (19, 2)	27	3.0	64	8.9
Listens/asks question (19, 3)			2	.3

(table continues)

Table 16 (continued)

Summary of All Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	<u>%</u>	<u>N</u> <sup>b</sup>	<u>%</u>
Listens/tone of voice (neutral) (19, 24)	20	2.3		
Praises/answers question (22, 2)			5	.7
Praises/blank (22, 4)			3	.4
Praises/follows directions (22, 10)			1	.1
Praises/listens (22, 17)	23	2.6	29	4.0
Praises/raises hand (22, 20)			1	.1
Praises/tone of voice (neutral) (22, 24)			1	.1

(table continues)

Table 16 (continued)

Summary of All Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>	
	<u>N</u> <sup>a</sup>	%	<u>N</u> <sup>a</sup>	%
Talks/answers question (25, 2)	17	1.9	13	1.8
Talks/follows directions (25, 10)	26	2.9	9	1.3
Talks/listens (25, 17)	528	59.5	345	48.0
Talks/raises hand (25, 20)			13	1.8
Talks/tone of voice (neutral) (25, 24)	22	2.5	4	.6
Total	888	100.1	719	99.8

<sup>a</sup>N=two teachers and five students per teacher for a total of 10 students each in looping and non-looping classrooms. <sup>b</sup>Number of interactions observed. <sup>c</sup>This is the teacher to student interaction code: The first number refers to the teacher's behavior; the second number refers to the second student's behavior. Data are in Appendices E and F.





Table 17 (continued)

Summary of Positive Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>	
	<u>N</u> <sup>a</sup>	%	<u>N</u> <sup>b</sup>	%
Praises/follows directions (22, 10)			1	2.2
Praises/Listens (22, 17)	23	100.0	29	63.0
Praises/raises hand (22, 20)			1	2.2
Praises/tone of voice (neutral) (22, 24)			1	2.2
Total	23	100.0	46	100.1

<sup>a</sup>N=two teachers and five students per teacher for a total of 10 students each in looping and non-looping classrooms. <sup>b</sup>Number of interactions observed. <sup>c</sup>This is the teacher to student interaction code: The first number refers to the teacher's behavior; the second number refers to the second student's behavior. Data are in Appendices E and F.

### Negative Teacher-Student Interactions Observed

There were over twice as many criticisms directed to students by teachers in the looping cohorts than by teachers in the non-looping cohorts (see Table 18).

Because of the criticism observed, the relationships between teachers and students may be closer in the non-looping cohorts than the looping cohorts; however, more data are needed to test this assertion.

### Summary

The findings in the comparison of looping and non-looping cohorts follow. There were no differences in attendance and achievement except for one year with one looping cohort in history and social science. The 1995-1996 looping cohort scored higher on the history and social science Standards of Learning test than the 1995-1996 non-looping cohort. There was no evidence of instructional time saved at the beginning of the second year of looping; by the second month of school all cohorts were at the same point of instruction in the mathematics textbook. Students appeared to develop closer relationships in looping cohorts and teacher-student relationships appeared closer in non-looping cohorts. It is clear that more data are needed to test the relationships examined in this study.

Table 18

Summary of Negative Teacher-Student Interactions in Looping and Non-Looping Classrooms

Interactions	Looping ( <u>N</u> =2, 10) <sup>a</sup>		Non-looping ( <u>N</u> =2, 10) <sup>a</sup>	
	<u>N</u> <sup>b</sup>	%	<u>N</u> <sup>b</sup>	%
Criticizes/answers questions (7, 2)	1	7.7	1	16.7
Criticizes/follows directions (7, 10)			2	33.3
Criticizes/listens (7, 17)	12	92.3	3	50.0
Total	13	100.0	6	100.0

<sup>a</sup>N=two teachers and five students per teacher for a total of 10 students each in looping and non-looping classrooms. <sup>b</sup>Number of interactions observed. <sup>c</sup>This is the teacher to student interaction code: The first number refers to the teacher's behavior; the second number refers to the second student's behavior. Data are in Appendices E and F.

## CHAPTER 4

### CONCLUSIONS, DISCUSSION, SUGGESTIONS FOR PRACTICE, AND RECOMMENDATIONS FOR FUTURE RESEARCH

The five guiding questions are revisited for discussion in this chapter.

Conclusions, interpretations of the findings, suggestions for practice, and recommendations for future studies are provided.

#### Conclusions

Conclusions for differences between looping and non-looping cohorts are presented for student attendance, student achievement, use of instructional time, relationships among students, and relationships between students and teachers.

#### Looping and Student Attendance

Looping has no relationship to the attendance of students in the second year they are with a teacher. In this study there was no difference in the attendance of students who stayed with the same teacher for two years from first to second grade and students who had a new teacher in second grade.

#### Looping and Student Achievement

There may be a relationship between looping and achievement in history and social science. Students in a looping cohort that started first grade in 1995-1996 performed better academically in history and social science at the end of the third

grade than students in a non-looping cohort that began first grade in the same year. However, there was no difference in the history and social science scores of those who looped and those who did not loop in the cohorts that started first grade in 1996-1997. There is no relationship between looping and achievement in English, mathematics, and science. There were no differences in achievement in these subjects for the looping and non-looping cohorts that began first grade in 1995-1996 and 1996-1997.

### Looping and Instructional Time

The use of instructional time in the first five weeks of school may not be related to looping. The looping and non-looping teachers instructed students at the same pace, and at the end of the first five weeks of school both looping and non-looping cohorts were at the same place in the mathematics textbook.

### Looping and Relationships Among Students

"Positive emotional expressions, such as a smile may create a strong bond and facilitate positive social interactions between individuals" (Wolfgang, 1979, p. 38). Because there were more positive emotional expressions exhibited by students in the looping cohorts than in the non-looping cohorts, students in the looping cohorts may have developed stronger relationships among themselves than students in the non-looping cohorts.

### Looping and Relationships Between Students and Teachers

Teachers in the non-looping cohorts appeared to have established better relationships with students than teachers in the looping cohorts. There are very little data to support this assertion, which was based on the interaction observations. The only behaviors observed were praise, close proximity, and criticism. They influenced the appearance of closeness in the non-looping cohorts. However, according to one looping teacher (personal interview), close relationships exist between the teacher and student in a looping environment. She said, "They talk about things. They bring personal issues to you." The intimacy described by the looping teacher was not exhibited during the observational period in this study. More data are needed.

## Discussion

### Looping and Student Attendance

Zimmerman (1993) believed that the development of close relationships among children promotes regular attendance. Because the development of close relationships has been reported in looping environments (Liu, 1997), the researcher expected an increase in attendance in looping cohorts.

The expectation of the looping cohorts to show an increase in attendance over non-looping cohorts did not transpire. The researcher thinks that the

community in which the school is located affects school attendance. In the Project Families Are Students and Teachers Program, the community of the school district is severely economically depressed. Students came from homes with such problems as drug abuse, neglect, alcoholism, and domestic violence. The close relationships developed in the looping classrooms provided a sense of security to students. Hampton et al. (1997) reported that the project students attended school more frequently than students in the regular classroom environments.

In this study, unlike the one described by Hampton et al. (1997), the school community is not severely economically depressed. Only eight-percent of the students are eligible to receive free or reduced-price lunches. The students do not come from homes with serious problems; many come from a stable home environment. The researcher surmises that there was no difference in school attendance between looping and non-looping cohorts in this study because the students' attendance in this study was not based on the need for close relationships. Students were not seeking a sense of security because they already had it in their homes. Therefore, a difference in attendance was not observed.

### Looping and Student Achievement

Of all the claims made by proponents of looping, student achievement is one that is frequently made. Hampton et al. (1997) and Rappa (1993) reported



improvement in student achievement. Because of the claim that looping improves student achievement, the researcher expected a significant difference in student achievement between looping and non-looping cohorts.

The researcher's explanation for no significant differences in the subject areas except for history and social science for only one year follows. The instructional logs kept by looping teachers in mathematics provided the data to support the conclusion that looping and non-looping cohorts remained at the same pace in the mathematics textbook. This finding may point to the reason for no differences in achievement in the other subjects. The looping and non-looping teachers used the same curriculum and probably paced instruction about the same way. If this is the case, no differences could be expected.

### Looping and Instructional Time

Proponents of looping believe that instructional time is saved in the first month of school because of the familiarity of routines and rules and the established relationships from the previous year. In this study, this belief did not hold true. Although it appeared in the instructional logs kept by looping and non-looping teachers that more time was spent on new skills in the looping cohorts than non-looping cohorts, at the end of the first five weeks of the second grade all looping

and non-looping cohorts were at the same point in the mathematics unit on addition and subtraction facts.

In interviews with the looping teachers, they expressed that because of their knowledge of the first grade mathematics curriculum, they were better able to identify new strategies taught in second grade when compared to first grade (see Appendix I for the interview questions). Because the looping teachers may have been thinking about and recording strategies rather than skills, the number of new skills reported by them may have been inflated. The non-looping teachers, as stated in interviews, considered most skills in this time period as a review of first grade skills.

Therefore, it was determined that although the looping teachers indicated that more new skills were taught, many of the new skills identified were new strategies for re-teaching previously learned skills. The looping and non-looping cohorts ended the first five weeks basically at the same point in the mathematics unit. This finding came from an analysis of the instructional logs and the data collected from interviewing all looping and non-looping teachers.

### Looping and Relationships Among Students

Observations of students' interactions were conducted in looping and non-looping cohorts. Five pairs of students were observed for five minutes in each

looping and non-looping cohort. Before beginning observation, the teachers in the looping cohorts provided the researcher with the identification of students who had been assigned to the class for two years. In one cohort, the teacher placed stickers on the students who had been together for two years. In the other cohort, the teacher identified the clothing of specific students who had been in the cohort since first grade.

The instrument for the observation of interactions was very useful in providing data on students in the looping and non-looping cohorts. Because of the number of positive and negative interactions observed in both environments, it was easy to determine that students in the looping cohorts exhibited more positive interactions than their comparison group.

Interviews with the looping teachers support the finding that good relationships existed. Students form friendship groups and are complimentary to each other. They look out for one another and know how to be helpful. They celebrate accomplishments and come together to comfort one another when such sad events as the death of a loved one occur. One looping teacher described the relationship as, "It's like a family." It is the researcher's belief that the positive behaviors exhibited were due to looping because of the close relationships that developed from the extended time together.

### Looping and Relationships Between Students and Teachers

The researcher believed that there would be more positive relationships between students and teachers in the looping cohorts than the non-looping cohorts. Not so. In this study the opposite was found. The observations were completed in the second semester of the second grade for the looping and non-looping cohorts. It is believed by the researcher that perhaps the non-looping cohorts developed close teacher-student relationships in the first semester of the second grade due to the non-looping teachers' personalities.

Despite the finding that better relationships existed between the teacher and students in the non-looping cohorts, looping teachers maintained through interviews that their relationships with students are strong. Looping teachers said they have close relationships with students. Students are more open in the second year of looping. They are able to talk about personal issues and ask more appropriate learning questions than they normally would ask. They have a comfort zone. As one of the looping teachers described the relationship, "I'm usually called Mom because they are so comfortable."

Had the observations occurred at the beginning of the first semester of the second grade, instead of the second semester of the second grade, the findings may have been different. Perhaps, depending on the differences in teachers, the

looping cohorts might have displayed more positive interactions between the teacher and students because they would have had one year together to develop relationships. Perhaps, the non-looping cohorts would have shown less positive interactions at the beginning of school because this would be their first time together. Because the data on teacher-student relationships were collected in the second semester of the second grade, both looping and non-looping cohorts had time to establish good relationships.

### Recommendations for Practice

Parents, students, and teachers need to be prepared for transitioning to a looping environment. As a result of this study, two recommendations are offered to improve the implementation of looping in schools:

(1) Teachers must be prepared before looping begins. Teachers should read as much as they can about looping in magazine articles and books (Forsten et al., 1997). They must be provided opportunities to visit other schools to observe looping cohorts (Forsten et al.). Educators who have implemented looping in their schools should be invited to share experiences with teachers in staff development training (Forsten et al.). Other staff development training must be available to teachers in instructional practices and strategies that may be helpful in teaching students in a looping environment (Forsten et al.). Grant (1996)

believed teachers need staff development before and during the implementation of looping. This training would help them make a smooth transition from the regular environment to a looping environment.

(2) The policy that all classes remain at the same point in the textbook must be changed. Both the looping and non-looping cohorts remained at the same instructional pace in mathematics during the first five weeks of school. This lock-step pacing reduces the efficient use of time in looping. When looping cohorts are forced to keep the same pace with non-looping cohorts, students in looping cohorts are automatically denied academic progress if they are ready to learn new skills.

### Recommendations for Future Research

Looping has been around for some time; however, there is not much research on the topic. Questions that came to mind while conducting this study led the researcher to the following recommendations for future research:

(1) A study to determine whether there is a difference between teachers who loop and those who do not with respect to teacher attendance. Do teachers in looping cohorts have fewer absences than teachers in regular cohorts? It would be interesting to find out if the close relationships established between the teacher and students in looping cohorts improve teacher attendance.

(2) A study to determine what benefits teachers enjoy from looping. Some benefits to consider are more instructional training which makes them better teachers, traveling opportunities, more planning time, or better relationships with parents.

(3) A study similar to this one after providing teachers with development opportunities on looping and after changing the lock-step pacing policy to find out if instructional time is used more efficiently. Looping and non-looping teachers could maintain instructional logs during the first month of school in mathematics and other subjects. These additional data may confirm the findings in this study or support the claim that looping results in less review at the beginning of the second year of looping.

(4) A study to analyze relationships among students and between teachers and students. Observations could be conducted in the first month of school, instead of during the second semester. This time period would permit a good test of whether relationships from the first year of looping carry over to the second year of looping. Doing observations in the second semester after all teachers and students had the opportunity to develop close relationships was not a good test for differences in relationships.

(5) A study to determine whether teachers' areas of expertise or interests affect student achievement. Why was the difference in achievement in social studies between the 1995-1996 looping and non-looping cohorts not found in the 1996-1997 cohorts? Was the difference related to the teacher's interest or expertise in social studies? Teacher interest and expertise should be included as variables in future studies.

### Summary

There are many claimed benefits of looping; however, it is difficult to find support for these benefits. It was my intent to design a study that would validate some of the claims made for looping. Only two claims were validated: (1) Students in looping classrooms may achieve slightly better in history and social sciences than students in non-looping classrooms. (2) Relationships may be stronger among students in looping classrooms.

The effects of looping may be enhanced if teachers are trained to take advantage of opportunities presented in looping environments and if the regulations of school districts do not force the lock-step pacing of the curriculum.

Future research in this area is needed on the variables included in this study. More comparisons of looping and non-looping environments would add credence



to the findings of this study or to the claims of those who are "true believers" in the efficacy of looping.

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## APPENDIX A

### Interview Questions for Principal to Determine the Goals of Looping and Other Background Information

1. What are the goals of looping at the school studied?
2. What are the benefits or advantages of looping?

## APPENDIX B

### Interview Questions for Teachers to Determine Goals of Looping and Other Background Information

1. What did you intend to accomplish?
2. What are the benefits or advantages of looping?
3. Tell me about the relationships between you and the children during the second year of looping.
4. Tell me about the relationships among children during the second year of looping.

APPENDIX C

Teacher's Log in Mathematics

Date	Time started	Time ended	Skill	Review <sup>a</sup>	New <sup>b</sup>
Example 9/4	8:30	9:00	Number facts	X	

<sup>a</sup>Review of the previous grade-level. <sup>b</sup>Present grade-level skills.



APPENDIX D

Interaction Observation Tool


Note. Each of the five sections represents a one-minute observation. Each column represents three seconds. The first and second rows of each section represent the individuals who are interacting.

## Data Matrix of Interactions for Looping Teachers and Students

Teacher behaviors

Student behaviors																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	T <sup>a</sup>
1																										0
2																	1									1
3		33															30			6						69
4										53										1						54
5																										0
6																										0
7		1															12									13
8										5							83									0
9																										0
10																										0
11																										0
12																										0
13																										0
14																										0
15																										0
16																										0
17																										0
18																										0
19		27																						20		47
20																										0
21																										0
22																	23									23
23																										0
24																										0
25		17								26							528							22		593
T <sup>a</sup>	0	78	0	0	0	0	0	0	0	84	0	0	0	0	0	0	677	0	0	7	0	0	0			

Student behaviors

Student behaviors																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	T <sup>a</sup>	
1														50													50
2																											0
3																								1			1
4																											0
5																											0
6																											0
7																											0
8																											0
9																											0
10										682																	682
11																											0
12				1																							1
13				1																							1
14																								4			4
15			1																					2			3
16															2							1					3
17			5																				3	125			133
18																							2	1			3
19																											0
20																											0
21																											0
22																						7		9			16
23																								1			1
24																								47			47
25																											0
T <sup>a</sup>	0	0	6	2	0	0	0	0	0	682	0	0	0	50	0	2	0	0	0	0	0	8	5	190	0	945	
T <sup>a</sup> =Totals are shown for rows and columns.																											

\*T= Totals are shown for rows and columns.

Note. See Appendix H for codes. In teacher-student matrix (top), vertical numbers 1-25=teacher behaviors and horizontal numbers 1-25= student behaviors. Vertical and horizontal numbers=student behaviors in the bottom matrix.



### Data Matrix of Interactions for Non-Looping Teachers and Students

		Student behaviors																									T <sup>a</sup>	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
Teacher behaviors	1																										0	
	2																										0	
	3		33															62			18							
	4										58										4				1			
	5																											
	6		1	1							1							3										
	7		1								2							3										
	8		1								9							28							3			
	9																										0	
	10																										0	
	11																										0	
	12																										0	
	13																										0	
	14																										0	
	15																										0	
	16																										0	
	17																										0	
	18																										0	
	19		64	2																								66
	20																										0	
	21																										0	
	22		5		3						1							29			1				1			40
	23																										0	
	24																										0	
	25		13								9							345			13				4			384
T <sup>a</sup>	0	118	3	3	0	0	0	0	0	80	0	0	0	0	0	0	470	0	0	36	0	0	0	9				

		Student behaviors																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	T <sup>a</sup>	
Student behaviors	1				2										31													0
	2																	28										0
	3		1																						6			0
	4																											0
	5																											0
	6																											0
	7																											0
	8																											0
	9																											0
	10										569														3			572
	11																											0
					1																							1
																												0
																			3						3			6
				3	2																				14			19
				1																				2				3
				31																					2	239		272
																				1								1
																												0
																												0
																											0	
																								3		3	6	
																									2		2	
																								1	28			
T <sup>a</sup>		0	1	34	6	0	0	0	0	0	569	0	0	0	31	0	0	31	1	0	0	0	5					
T <sup>a</sup> =		Totals are shown for columns and rows.																										

**Note.** See Appendix H for codes. In the teacher-student matrix (top), vertical numbers 1-25=teacher behaviors and horizontal numbers 1-25=student behaviors. Vertical and horizontal numbers=student behaviors in the bottom matrix.

## APPENDIX G

### Educational Background and Teaching History

#### Questionnaire for Teachers

Please complete the following information pertaining to your educational and employment history.

1. Which environment describes your present classroom environment?

\_\_\_\_ Looping

\_\_\_\_ Non-looping

2. List the degrees held and identify the year in which each degree was received.

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3. How many years of teaching experience? In what grades?

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4. List other work experiences in the area of education that are not listed above.

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5. I am a member of the following professional organizations:

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## APPENDIX H

## Teacher and Student Interaction Codes

Teacher

1	Accepts feelings	9	Eye contact (negative)	17	Ignores
2	Answers question	10	Eye contact (positive)	18	Laughs
3	Asks question	11	Frowns	19	Listens
4	Blank	12	Gestures (negative)	20	Physical contact (negative)
5	Close proximity (negative)	13	Gestures (positive)	21	Physical contact (positive)
6	Close proximity (positive)	14	Head movement (nod)	22	Praises or encourages
7	Criticizes or justifies authority	15	Head movement (shake)	23	Shares
8	Directs students	16	Helps	24	Smiles
				25	Talks

Student

1	Accepts help	9	Eye contact (positive)	17	Listens
2	Answers question	10	Follows directions	18	Physical contact (negative)
3	Asks question	11	Frowns	19	Physical contact (positive)
4	Blank	12	Gestures (negative)	20	Raises hand
5	Compliments	13	Gestures (positive)	21	Shares
6	Displays unhappy emotions	14	Helps	22	Smiles
7	Does not follow directions	15	Ignores	23	Tone of voice (negative)
8	Eye contact (negative)	16	Laughs	24	Tone of voice (neutral)
				25	Tone of voice (positive)

## APPENDIX I

### Teacher Interview Questions Pertaining to the Instructional Log for Mathematics

1. Tell me about your mathematics program.
2. Do you plan for the year as a grade level? Explain.
3. Do you pace yourself so that everyone on the grade level starts and ends a unit simultaneously?
4. Do you administer pre- and post-tests? How is this information used?
5. When completing the instructional logs for this study, what was your understanding of the term “review?”
6. When completing the instructional logs for this study, what was your understanding of the term “new?”
7. Do you consider all or any part of the first-unit skills as review of the previous year? Explain.  
  
If review, was it redundant or reinforcement?
8. Do you consider all or any part of the first-unit skills as new?  
  
Explain.
9. If the strategy was new in teaching a review skill, how did you identify it on the instructional log, “new” or “review?”

10. At the end of the first unit, were all teachers finished with instruction at the same time? Did all begin the next unit within the same week? If not, what was the time span?



## VITA

Miriam Betz Freeman was born in Baton Rouge, Louisiana. She moved to Virginia Beach, Virginia, in 1989 where she presently resides. Miriam received a Bachelor of Science Degree in Business in 1971 from Southern University and A & M College and returned to graduate school where she received a Master of Education Degree in Elementary Education in 1973 from the same university. After relocating to Virginia Beach, she received a Certificate of Advanced Study in Administration in 1991 from Old Dominion University and an Educational Specialist Degree in Educational Leadership and Policy Studies from Virginia Polytechnic Institute and State University in 1999.

In 1974 Miriam Betz Freeman began teaching in an elementary school in Baton Rouge, Louisiana, moved to Suffolk City Public Schools in Suffolk, Virginia, and then to the Virginia Beach Public School. Her career as a teacher continued for ten years in the elementary grades and one year in a junior high school. She was promoted to the position of assistant elementary school principal in 1992 and remains in that position in Virginia Beach, Virginia.

Miriam Betz Freeman is a member of the National Association of Elementary School Principals, the Virginia Beach Association of Elementary School Principals, and the Virginia Beach Reading Council. She enjoys spending

time with her family, taking walks, supporting her children in league sporting events and academic endeavors, and attending religious services at church. Her family means everything to her.