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Parent involvement with at-risk students: A case study

Everhart, Barbara Link, Ed.D.

The University of North Carolina at Greensboro, 1991

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**PARENT INVOLVEMENT WITH AT-RISK STUDENTS:
A CASE STUDY**

by

Barbara Link Everhart

**A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education**

**Greensboro
1991**

Approved by


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APPROVAL PAGE

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The purpose of this study was to investigate the effect of a parent involvement program, known as The Take-Home Computer Program (THC), on the reading achievement of Chapter I students. It also assessed parents', students', and teachers' perceptions of the benefits of the program.

The study was conducted in a rural school system and included 191 Chapter I students in grades three through eight. All students were randomly selected. Seventy of the students were designated as the experimental group and 72 were assigned to the control group. The remaining 49 students participated in the THC Program after the post-test had been given. Their post-test scores on the California Achievement Tests (CAT) did not reflect the effects of the THC Program; therefore, their scores were not used in the study.

The experimental group of students and their parents participated in a workshop which trained parents how to work with their children on the computer to reinforce reading skills. A computer and appropriate grade level software were loaned to each of the families for use in their home for a six-week period. Students in the control group and their parents did not participate in the THC Program. The California Achievement Tests were used as pretest and post-test measurements of reading achievement gains for the experimental group and control group.

At the conclusion of the study, surveys were sent to all 119 students who participated in the THC program, their families, and the 18 Chapter I teachers who taught all 191 students in the Chapter I classes. Responses to the survey questions were compared to a normalized theoretical distribution centered on

no change using the chi-square test. All of the responses by the parents, students, and teachers were statistically significant at the .05 level.

Post-test scores for the experimental group and control group were compared to determine if involvement in the THC Program had resulted in greater achievement gains in reading scores for the experimental group. A t-test for independent samples was computed on the CAT post-test scores in reading comprehension and total reading. Although the gains on both tests for the experimental group were greater than the control group's gains, the difference in the scores for the two groups was not statistically significant at the .05 level; however, it was significant at the .10 level.

Based on the analysis of the findings, the major conclusions of the study were:

1. Students who participated in the THC Program made greater achievement gains in reading on the CAT than a comparison group.
2. Parents reported that their children's interest in reading increased, their grades improved, and they read more.
3. Parents are interested in learning ways to help their children improve in schoolwork.
4. Students reported that their involvement with the THC Program increased their understanding of reading skills, improved their grades, and they enjoyed having their parents work with them on the computer.
5. Teachers observed positive changes in students' reading habits and skills performance.
6. Teachers felt the THC Program made parents more responsive to helping their children with schoolwork.

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CHAPTER I

INTRODUCTION

Parent involvement is known to be an important factor in helping students to succeed in school. A review of the research reveals strong evidence (Henderson, 1987; Becher, 1984, & Walberg, 1984) that involving parents in the educational process increases their children's academic success.

For the past 15 years, there has been increased interest by educators and parents in improving the parent-teacher-school relationship and expanding the roles parents play in child care and educational programs. Interest in such efforts has grown steadily as social, political, economic, educational, and legislative forces have converged in response to the difficult educational problems arising from changing cultural and societal norms. Several factors have refocused attention on the rights, responsibilities, and impact of parents on the educational process. These factors include declining achievement scores, rising educational costs, distrust of bureaucratic institutions, and recognition of cultural and ethnic differences (Becher, 1984).

Research indicates that parent involvement plays a critical role, not only in the prevention and remediation of educational and developmental problems, but also in the facilitation of children's development and achievement (Becher, 1984). Vast numbers of people are being strongly encouraged or required to participate in parent involvement efforts (Becher, 1984). The widely cited document A Nation at Risk: The Imperative for Educational Reform (National

Commission on Excellence in Education, 1983) also adds emphasis to this effort by its call to parents to assume an active role in ensuring excellence in their children's education. As more parents respond to this call, there is a strong need for research-based practices (Becher, 1984).

A growing body of research reveals the positive effects of parent involvement in educational programs, the means for bringing about these effects, and the means for improving parent-teacher relationships (Becher, 1984). Studies show that as a result of parent involvement, parents have developed more positive attitudes regarding the school and their staffs; helped gather community support for programs (Armer, Yeargen, & Hannah, 1977); become more actively involved in community activities; developed more positive attitudes about themselves; increased their self-confidence; and enrolled in programs to improve their personal development (Radin, 1972). The relationship between parents and children improved, and the frequency of parents' involvement in children's activities increased (Schaefer, 1972). Parent involvement also increased children's academic achievement and cognitive development (Henderson, 1981; Becher, 1984).

A variety of successful approaches for implementing parent involvement programs have been examined by researchers.

1. Parents' meetings and workshops were used to educate parents and stimulate more participation in the education and development of children (Esterson, Feldman, Krigsman, Warshaw, 1975; Evans, 1973; Greenwood, Breivogel, & Bessent, 1972).

2. Parent-teacher conferences served as opportunities to describe ways in which parents could be actively involved in the educational program (Rotter & Robinson, 1982).
3. Parents received increased specific information concerning the school program and student performance in more written and personal communications (Evans, 1973; Greenwood et al., 1972).
4. Parents were encouraged to visit the school and classroom and to become directly involved in teaching activities (Cramer, 1972).
5. Parents were encouraged to participate in decision-making and evaluation activities (Armer et al., 1972).

As shown in the studies cited, it would appear that many forms of parent involvement strategies are useful. The most effective approaches are those which are well-planned and comprehensive in nature, offer more types of roles for parents, and occur over an extended period of time (Becher, 1984).

Purpose of Study

During the past decade, there has been a significant increase in the purchase of computers by schools for classroom instruction. A recent trend for the utilization of computers has been to use them to involve parents in learning activities with their children in the home. Epstein (1985) has suggested some reasons for using computers in parent involvement programs:

1. The use of home computers may increase shared learning between the parents and students. Working on activities together, parents may learn new computing skills and applications along with their children. Both children and parents may assume roles of "active learner," "co-learner," or "teacher". This shared learning may improve skills and attitudes which can carry over to school activities.
2. Home computers can extend learning time for students who need extra practice to master basic skills. Provided with appropriate grade level material, students may be assisted in learning by computer software in ways that cannot always be accomplished with textbooks and lectures. This may be especially true for students who do not respond to current classroom organizations. These students may be more responsive to the patience, praise, and practice time offered by well-designed software and caring parents.
3. The use of home computers can offer enrichment programs for student growth. The school day is often consumed with teaching basic skills and texts. Students can be directed to enrichment with higher-order thinking skills exercises, educational games, or simulation activities with parents.
4. Students and parents can use home computers to explore basic concepts and components of computing. Both can learn about the keyboard, use of data files, text editing, and word processing.

The purpose of this study was to investigate the effectiveness of a parent involvement program which trained parents to work with their children on a

computer in the home to reinforce reading skills. The study will examine the following outcomes: (1) the effect of the parent involvement program on students' reading scores, and (2) the attitudes of parents, teachers, and students concerning the benefits of the parent involvement program.

The focus of the study was on 191 Chapter 1 students who were enrolled in 11 elementary schools and 3 middle schools in grades 3 through 8 in a rural school system in a southeastern state. The experimental design employed involved a before and after comparison between an experimental and a control group of students. Test data were examined to assess difference in reading scores between the students in the experimental group and the control group.

Surveys were sent to parents, students, and teachers who were involved in the parent involvement program to obtain information about their perceptions of the program.

Specifically, the following research questions were used to investigate the effectiveness of the parent involvement program:

1. Is there a statistically significant difference between reading scores for students whose parents are involved in the parent involvement program and for students whose parents did not participate?
2. Do parents perceive the program as an effective way to involve parents in their children's education?
3. Do parents think their participation in the parent involvement program increased their children's interest in reading?

4. Do parents think their participation in the parent involvement program helped their children's academic achievement?
5. Do parents see a greater need for involvement in school activities after participation in the parent involvement program?
6. Do parents have a better understanding of how their children are taught reading skills after participation in the parent involvement program?
7. Do teachers perceive the parent involvement program as an effective way to involve parents in children's education?
8. Do teachers think that the parent involvement program improved their students' academic achievement in the classroom?
9. Do teachers think students' involvement in the program had a positive effect on their attitude toward reading?
10. Do students perceive themselves as better students after participating with their parents in the program?
11. Do students think their parents spend more time helping them with their school work since participating in the parent involvement program?
12. Do students reflect a positive attitude toward the parent involvement program?

Significance of the Study

A growing body of professional literature has affirmed that parent involvement is a significant ingredient of academic excellence (Epstein, 1987;

Henderson, 1987). Findings from diverse studies over the past two decades have revealed that an active parent-school partnership can contribute not only to the enhancement of the educational performance of students, but also to the improvement of parenting skills and family life (Cone, Delawyer, & Wolfe, 1985; Lillie, 1975; Schaefer, 1972).

This study is significant because it examined the effectiveness of a parent involvement program utilized by a large number of school systems in the United States. As of June 30, 1990, there were 258 active programs in 32 states involving 30,000 students each year. A total of 40 states have been involved (Stevens, 1990). This program, known as The Take-Home Computer Program (Epps, 1988), involved the expense of purchasing computers, software, and workbooks; contracting for a technician to check and repair computers; hiring a consultant to train parents; and utilizing teachers' time to select students and make weekly assignments for them. The results of this study may serve as a guide for other school systems to determine whether this program is a judicious way to involve parents in the educational process considering the cost.

Assumptions

The assumptions underlying this study dealing with parent involvement were:

When parents become actively involved in the educational process, they will affect positively their children's academic performance.

When parents are provided an opportunity to learn how to work with their children to improve learning, they will become involved in the process.

When students and parents work together to learn skills, their attitudes toward schools improve.

Limitations of the Study

This study was limited to 14 schools in a rural school system which were eligible for Chapter I funding and to students eligible for the Chapter I Programs located at these schools. Students selected to participate in the program had to meet Chapter I guidelines. Their scores on the California Achievement Tests (CAT) were not higher than the 49th percentile.

Organization of the Dissertation

School leaders are searching for ways to involve parents effectively in the educational process of their children. Research has indicated that there are many successful approaches to involving parents. This study provided a measure of how effective a parent involvement program utilizing computers in the home was on student achievement and parents', students', and teachers' attitudes toward the benefits of the program.

Chapter 2 consisted of a review of the research relevant to an overview of the history of parent involvement, empirical justification for parent education

programs, and studies which describe the effects of parent education programs on the development of intelligence and achievement in children.

Chapter 3 reported the methods and procedures of the study. The development of the surveys sent to the parents, students, and teachers was described. The procedure for selecting the students was also presented.

Chapter 4 provided an analysis of the data. Pre- and post-test scores were displayed and analyzed. Survey results were displayed in tables with statistical data.

Chapter 5 provided a discussion of the findings, previous research related to the findings, implications, and recommendations. It also contained suggestions for future research and a summary.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter reviews the literature relevant to parent involvement in education. The first part of the chapter provides an overview of the history of parent involvement. The second part examines research which has served as empirical justification for parent education programs. The third and final section presents studies which describe the effects of parent education programs on the development of intelligence and achievement in children.

History of Parent Involvement

The concept of parents-as-teachers is not new, but has an ancient and honorable tradition. In the Bible, in the book of Deuteronomy, the ancient Hebrews were enjoined to take the principles of their beliefs and told, "Thou shalt teach them diligently unto thy children, speaking of them when thou sittest in thy house, when thou walkest by the way, when thou liest down and when thou risest up." Through a special ceremony, the father of the household was told how to handle individual differences in children's understanding, was instructed how to answer the wise, stubborn or simple child, and was shown how to instruct the one who is not even able to ask a question (Gordon, 1972).

In spite of traditions which have been handed down through centuries, educators in modern times have developed and preached a different philosophy. As education has become professionalized and bureaucratized, and as subject matter has become far too complex to be handled in simple fashion in the home, the parent has been told that he/she not only has little role as a teacher, but also that his/her efforts to help in the home may be destructive for the child's learning (Gordon, 1972).

Schools have, however, been traditionally involved with parents through missionary work. The early beginning of this effort can be traced to the start of kindergarten in the 1890s (DeYoung & Wynn, 1964). Educators were told to labor earnestly in the home through regular home visits as well as in the kindergarten classes. The evolution of kindergarten brought a rising interest by mothers in the early educational process of young children. In 1894, a mothers' conference was held in Chicago, and three years later the National Congress of Mothers was organized in Washington, D.C. A formal charter was granted to this organization in 1900, and it became known as the National Congress of Parents and Teachers (DeYoung & Wynn, 1964).

G. Stanley Hall's work in the 1880s was an attempt to improve the physical health of children. His main interest was to create a science of pedagogy. He sent questionnaires out to parents and teachers asking them to observe children so they could learn about their behaviors (Schlossman, 1976).

The more recent history of parent involvement, especially under the impetus of various poverty programs, has been based on two global assumptions - what parents already know and what parents can learn to do. Specifically, this means: (1) In early childhood, parental behaviors influence

the development of children, and (2) schools could intervene in the home to help develop low-income parents' knowledge and skills to improve the development and achievement of children (Gordon, 1972).

Since 1960, there have been a number of dramatic experiments in parent involvement, and the meaning of parent involvement has changed along with prevailing social philosophies (Ascher, 1987). The involvement of the federal government in the 1960s through the New Frontier and Great Society Programs under the Kennedy and Johnson administrations were initiated in order to counteract the adverse effects that poverty can have on parents and children. One of the most significant pieces of legislation involving parent involvement was the passage of the Economic Opportunity Act of 1964, also known as the War on Poverty. This act created the Office of Economic Opportunity (OEO) which provided for a variety of Community Action Programs in the nation's poor neighborhoods, such as Head Start, Follow Through, and Job Corps (Ascher, 1987; Morrison, 1978).

Head Start was based on the philosophy that if children were to be changed, then corresponding changes had to occur in the lives of parents and teachers who are partners in the learning process. Leaders of Project Head Start believed that lives of children could not be changed without involving parents; therefore, one of the key component areas became a parent involvement program (Morrison, 1978). Implementation of the parent involvement component was based on the following objectives (Head Start Program Performance Standards, 1973):

1. Parents would be involved in a planned program of activities and experiences which would enhance their roles as principal influences in their children's education and development.
2. Parents would be recognized as:
 - A. Guardians of their children's well-being.
 - B. Educators of their children.
 - C. Contributors to the Head Start Program and their communities.
3. Parent participation opportunities would be provided as follows:
 - A. Involvement in decision-making, planning and implementation of the program.
 - B. Participation in classroom and other activities as paid employees, volunteers, or observers.
 - C. Involvement in activities which parents had helped to develop.
 - D. Working with their own children on activities in cooperation with Head Start staff.

These objectives of the Head Start Program reflected the idea that parents should be viewed as human beings who have needs and who have contributions to make to their children. The main thrust of the parent involvement component was to actualize the parent to help the child (Morrison, 1978).

A survey of Head Start parents revealed a positive relationship between extensive parent participation and children's scores, reflecting improved task orientation, academic achievement, verbal intelligence, and self-concept. The

amount of parent involvement was apparently far more important than the model of participation. Parents who participated to a larger extent saw themselves as more successful and skillful, and their involvement in community activities increased to higher levels than those prior to their involvement in Head Start (MIDCO, 1972).

Parent participation, in the sense of advocacy and accountability or oversight, reached its height in the early 1970s after the enactment of the Elementary and Secondary Education Act (ESEA) of 1965, known as Title I. This act targeted services for educationally low-performers who resided in low-income areas because these children were considered less likely to have the same educational opportunities at home as other children (DeKanter, Ginsburg, & Milne, 1986).

Early Title I legislation largely ignored the natural role of parents as their children's mentors and teachers, but stressed a major role for parents in developing local projects. Initial evaluation of learning gains for Title I students were low and led to investigations by the National Association for the Advancement of Colored People (NAACP) Legal Defense and Education Fund which found that school districts had abused the use of compensatory education funds. In 1971, tighter federal legislation and regulations were enacted and Parent Advisory Councils (PACs) were legislated for the district level. In 1974, the law was expanded to require councils at the schools, with members of all councils to be selected by parents. The legislation was again expanded in 1978, which specified that advisory councils be given responsibility for advising, planning, implementing, and evaluating the program (DeKanter et al., 1986).

As parent committees became established, funds were also provided to pay parents for their time and to finance expenses and trips for parent group meetings. Along with the growth of PACs, the use of parents as aides in the classroom emerged as another type of school-based parent activity.

In 1981, an educational amendment eliminated the need for local school systems to establish formal advisory councils. This elimination was the result of general federal efforts to return more control over program decisions to local school officials (DeKanter et. al., 1986).

More recent federal legislation in 1989 represented a clarification of parent involvement policies. Although these regulations list PACs and other school-based strategies as permissible parent activities, the emphasis is more on a home-based role for parents. Districts are instructed to inform parents of the reasons for their children's involvement in the Chapter I program, tell them the objectives of the program, train them to work with their children in the home, and build a partnership between home and school (Federal Register, 1989).

The late 1970s and early 1980s saw a waning of parent involvement. On one side was the often staunch resistance by professionals to fully allow it, while on the other side was the frequent politicization by small groups of parents, community members, and professionals for their own interests (Ascher, 1987). Since both the law and local educational planning were always ambiguous in intent, this allowed for the acting out of maximum ambivalence by all concerned. One reason given for less parent participation was that many low-income parents remained passive about involvement. Many educators who were working hardest to improve schools felt that the battles over parent

participation were deflecting attention from other serious problems which were endemic to the schools (Ascher, 1987).

Although federal legislation continued to require parent involvement in its programs, the effective school movement of the late 1970s did not include parent involvement as one of its components. One goal of the effective school movement was to convince educators that success of public education could no longer be tied to whether or not parents were induced to become involved. A school should stand or fail on the basis of what went on inside its doors. Schools judged to be successful must be successful with all children - even those whose home life was chaotic and whose parents did not participate either at school or in the home (Ascher, 1987). In Edmonds' (1979) own words, he insisted that:

While recognizing the importance of family background in developing a child's character, personality, and intelligence, I cannot overemphasize my rejection of the notion that a school is relieved of its instructional obligations when teaching the children of the poor (p. 21).

Edmonds, in an effort to lift blame for school failure from poor and minority families, insisted that some schools do succeed with these children "partly because these schools are determined to serve all of their pupils without regard to family background" (Edmonds, 1979, p. 21). Eventually, the effective school movement added parent participation as one of its requirements, but the original six characteristics of effective schools conspicuously omitted any mention of parent-school ties (Ascher, 1987).

Recently, a number of social and educational factors have refocused on the connection between parents and good schools. First has been the national concern with the family and the importance of family life which has arisen in response to the disappearance across social classes of the two-parent family with only one working parent. The present focus on parent participation in the schools is an effort to awaken parents to the importance of their roles in the education of their children (Ascher, 1987).

Second, criticism of current teachers and teaching has raised questions as to whether the schools can handle successfully those tasks which have been assigned to them, especially since today's children arrive at school apparently more difficult to teach because of the many social problems they encounter—e.g., broken families, poverty, and drugs (Ascher, 1987). Educators have sensed the importance of having parents help in the preparation of children before they start to school.

Third, an enlarging body of research shows that the home environment is one of the most powerful predictors of school achievement. In 1981 the National Committee for Citizens in Education (NCCE) published an annotated bibliography, The Evidence Grows, which described 35 studies on the importance of parent involvement with their children in the educational process. All of the studies indicated that parent involvement in almost any form produced measurable gains in student achievement (Henderson, 1987).

In 1987, the NCCE completed an update to its bibliography which found 18 new studies that, together with the earlier research, placed the conclusion well beyond dispute. This conclusion suggests that if schools are to be judged

successful when they raise students' achievement, then involving parents can make a critical difference in accomplishing this task (Henderson, 1987).

Parents have always been a part of a child's early education, but it was federal legislation in the 1960s that moved parents into an active role in the school and strengthened that role in the 1980s. As today's educators deal with various social problems (e.g., broken families, drugs, poverty) and face a critical public, there is renewed interest in increasing parent involvement in the school. Current research supports that parent involvement programs improve children's academic performance.

Literature Supporting Parent Involvement

During the 1960s, many studies were conducted dealing with how children learn (Bloom, 1964; Hunt, 1961). Much of this research indicated that the predominate philosophy of pedagogy toward the preschool child was not as beneficial as previously thought. During the '40s, '50s, and early '60s, the emphasis had been on: (1) not forcing or stimulating cognitive learning; (2) emphasizing socialization; (3) learning through play; and (4) postponing "real" learning until first grade. Research in the '60s raised questions about these traditional attitudes (Morrison, 1978). In his research on young children, Bloom (1964) reached the following conclusion:

...Both the correlational data and the absolute scale of intelligence development make it clear that intelligence is a developing function and that the stability of measured intelligence increases with age. Both type of data suggests that in terms of

intelligence measured at age 17, about 50% of the development takes place between conception and age 4, about 30% between ages 4 and 8, and about 20% between ages 8 and 17 (p. 88).

Bloom's study (1964) indicated that the period of most rapid intellectual growth occurred from birth to age 8, or during the time the child spends most of his/her time in the home environment; therefore, what children are to become intellectually is determined before they enter school. This observation has implications for the schools to work with the parents to provide an enriched home environment which could give the child the experiences necessary for optimum intellectual growth (Morrison, 1978).

A second implication of Bloom's research is that what happens to the young child early in life, prior to age 8, will have a life-long impact and influence upon the child's behavior and achievement. Early learnings and the effects of early experiences are extremely difficult to exchange, alter, or replace and affect how a child behaves intellectually, emotionally, and psychomotorically (Morrison, 1978).

A third implication which can be deduced from Bloom's data is that it is no longer a defensive position to view the child as being born with a fixed intelligence. Educators and parents need to think in terms of developmental intelligence. This means that when a child is born, he/she possesses the capacity for intellectual development which encompasses a broad range. While heredity may determine the range of intelligence, it is the environment (e.g., experiences, culture, relationships) which will determine the extent to which the intellectual potential of the child will or will not be developed (Morrison, 1978).

Research has not only focused on the importance of the family in the early years of the child, but has also examined the influence the family has on the life of the child (Coleman, 1966). Jencks and his colleagues (1972) studied factors related to inequality in the United States and arrived at this conclusion:

We found that family background had much more influence than IQ genotype on an individual's educational attainment. The family's influence depended partly on its socio-economic status and partly on cultural and psychological characteristics that were independent of socio-economic level. The effect of cognitive skill on educational attainment proved difficult to estimate, but it was clearly significant. We found no evidence that the role of family background was declining or that the role of cognitive skill was increasing. Qualitative differences between schools played a very minor role in determining how much schooling people eventually get (p. 254).

Jencks (1972) further commented on the inability of schools to eliminate inequality in our society. "There seem to be three reasons why school reform cannot make adults more equal. First, children seem to be far more influenced by what happens at home than by what happens in schools." (p. 255). His second reason was that school reforms have little effect on those variables which affect a child's life, and, third, the influence of the school apparently does not persist into adult life.

Another study which supports the role and influence of the family in the educational process was conducted by Mayeske and his associates (1973). Their study concluded that family background played a profound role in the development of achievement, not only through the social and economic well-being of the family, but also through the values its members held for education,

and the activities that parents engage in with their children to make these values operational.

The '60s were a decade of high expectations and high-powered federally funded programs which envisioned the end of poverty and the emergence of accelerated I.Q. and achievement scores. It was found, however, that academic gains made by children participating in compensatory programs, such as Head Start, were lost when parents' school involvement was terminated (Bronfenbrenner, 1974). The importance of continuous parental involvement was reported by Bronfenbrenner (1974) following a study of the effects of intervention programs:

The evidence indicates that the family is the most effective and economical system for fostering and sustaining the development of the child. The evidence indicates further that the involvement of the child's family as an active participant is critical to the success of any intervention program. Without such family involvement, any effects of intervention, at least in the cognitive sphere, are likely to be ephemeral, to appear to erode once the program ends. In contrast, the involvement of parents as partners in the enterprise provides an on-going system which can reinforce the effects of the program while it is in operation, and help to sustain them after the program ends (p. 55).

The two institutions primarily responsible for the upbringing of children in American society are the family and the school. Social science research tended to dichotomize the roles of each until the 1960s by proposing that families socialized children and schools educated them (Zeldin, 1989). The study by Coleman and his colleagues (1966) demonstrated that student achievement is highly correlated with family status variables such as income, parent education, family structure, and attitudinal factors, such as parents'

sense of control over their lives. Jencks (1972) found that half the variance in achievement among children was due to what the child brings with him/her from the home or community. Mayeske (1973) found that high student achievement was significantly related to parents who spent time interacting with their children and who held high expectations for their academic success. Other studies show that factors such as high family income and/or mothers with high educational attainments and positive orientations toward schools, correlate positively with higher student achievement (Murnane, Maynard, & Ohls, 1980; Hawley & Rosenholtz, 1984).

Some researchers have looked at the relationship between specific family process variables and parent behaviors, and the development of intelligence, competence, and achievement in children (Becher, 1984). Certain family process variables have been found to affect children's development and achievement in positive ways. Becher (1984), Seginer (1983), White (1981), Walberg (1984), and Bloom (1980) provide a review of this research. Those processes which contribute to high achievement as shown by these authors' research include:

1. Verbal communication in the home appears to be associated with school achievement (e.g., reading to young children or engaging older children in discussions).
2. Parents' expectations for academic success are related to school performance. Parents who exert pressure for achievement, provide guidance, support school policies, and view themselves as teachers are found to have children who succeed in school.

3. **Nurturing parents who give frequent verbal praise and set clear and consistent standards without being harsh have children who perform better in school.**
4. **High achieving students tend to come from homes where space and time are well organized, and books and materials are readily available.**
5. **The assignment and completion of homework has a positive effect on the factual, conceptual, and attitudinal aspects of learning if the assignment is consistent with the child's ability.**
6. **Parents' guided use of television correlates positively with student achievement.**

The identification of family variables is significant since parents can change their parenting styles if they choose to do so. This research demonstrates that parents have powerful resources for stimulating and reinforcing their children's learning (Zeldin, 1989). Hawley and Rosenholtz (1984) point out that parents are a great untapped resource that schools could use to improve students' achievement and that initiatives by schools to inform parents about child-rearing practices could be very valuable.

In summary, the findings are convincing that parents play an influential role in shaping their children's success and learning in school. Parents can and do affect and reinforce their children's learning through their attitudes, beliefs, parenting styles, and orientations toward schooling and achievement. If schools are to maximize their effectiveness in students' achievements, then

teaching parents to strengthen and reinforce their children's learning is crucial for the educational process.

Effects of Parent Education Programs

In addition to the studies on naturally occurring parent behaviors and aspects of the home environment associated with the development of intelligence, there is research assessing the effects of parent education programs on such development (Becher, 1984). Most of this empirical work began in the mid to late-1960s and extended through the mid-1970s. It centered on federally funded compensatory program efforts to train low income parents how to teach their children in order to prevent or remediate basic cognitive and school achievement deficiencies.

A study by Lazar & Darlington (1982) assessed the long-term effects of early childhood education experiences on children from low-income families. This study was in response to public assertions that early intervention programs, such as Head Start, were ineffective services for children from low-income and minority families. In 1976, Lazar and Darlington, along with the 12 investigators who had independently designed and implemented infant and preschool programs in the 1960s, pooled their original data and conducted a collaborative follow-up of the original subjects who were aged 9-19 at the time. Findings from this study showed that early education programs impacted on children in four areas: school competence, developed abilities, children's attitudes and values, and impact on the family. Children who attended

programs were significantly more likely to meet their school's basic requirements, did better on intelligence tests than the control group for several years after the program ended, and gave achievement related reasons for being proud of themselves. The mothers of children who participated in early education programs had higher aspirations for their children than did control mothers.

Referring to the research on relationships between parent participation in the schools and student achievement (Henderson, 1981, 1987; Becher, 1984; Schaefer, 1972), Herman and Yeh (1983) suggested three reasons for this positive relationship. First, parents who are involved in school activities know more about their children's school experience and are better able to complement them in the home. Second, participating parents communicate with the teachers and are better able to discuss their children's needs. Lastly, students witness their parents' behavior and are more likely to understand that education is to be valued.

Research by Walberg, Bole, and Waxman (1980) demonstrates that high parent participation correlates with high achievement. They found that students in classes which actively involved parents gained more than half a grade in reading performance over students in classes of teachers who involved parents less intensively. Herman and Yeh (1983) surveyed second and third grade teachers and parents and found parent interest and participation in school activities are positively related to student achievement. Epstein's (1984) survey of Maryland schools indicated that teachers who involved third and fifth grade students' parents made greater gains on standardized reading achievement tests than did students whose teachers did not stress parent involvement.

Studies by Sheats and Dunkleberger (1979) and Dougherty and Dougherty (1977) indicated that parental contact with the school is associated with higher attendance rates and completion of homework by students.

Epstein (1982) also identified some effects on teachers and parents. She reported that teachers who had a few active parents at school tended to feel more comfortable asking other parents to help with learning activities. Further, parents who have frequent requests to assist their children with learning activities were more aware of the teachers' efforts, knew more about the school program, and rated the teachers higher in interpersonal skills and overall teaching abilities. Epstein also reported that teachers who were leaders in the use of parent involvement in learning activities in the home were able to involve parents with all educational backgrounds, not just well-educated parents.

The Michigan legislature in 1972 authorized funds for school districts to conduct performance contracts to improve reading skills in local schools. Gillum, Schooley, & Novak (1977) conducted a study of three of the school districts which included a parent involvement component. One purpose of their study was to determine if differences in the parent involvement features accounted for differences in reading achievement. Approximately 2,000 students in grade two through six were involved. Parent involvement features in the three districts varied widely:

1. District A - A community information program was established to inform parents about the contracting program. Four meetings were held during the year.

2. **District B -** An open house was held at the beginning of the year, and a demonstration was presented at a PTA meeting.
3. **District C -** Parents received intensive inservice training along with the teachers. The contractor provided individualized guidelines for parents on how to improve their children's performances in school through the use of various materials. Incentive vouchers were redeemable for educational materials, and parents were paid a stipend for attendance at meetings.

District C students scored significantly higher in reading than either District A or B. The major distinction among the design of the programs was the parent involvement component.

Ely (1984) studied the impact of microcomputers on children from low socio-economic homes where students used computers in a summer camp setting and were permitted to take them home for a six-week period. Parents were required to attend three training sessions; each session was two hours in length. Parent-caretakers were asked what they thought would be the results of their involvement in the program. Their replies were "characterized by tremendous faith that computers will affect learning and grades" (page 18). The study hypothesized that the target population would demonstrate higher performance skills in logic, problem solving, programming, and computer literacy awareness than those students who did not have access to a computer at home. A computer performance rating instrument was completed on each student by the teacher. The difference between the groups was not found to be significant. Ely reported that the control group had very poor attendance and

there was the possibility that the students who did not attend were not the strongest students. Interview themes from the parents, however, gave positive support for the hypothesis. During interviews, parent-caretakers attested that their children were developing a style of learning that was self-powered: they overcame mistakes, learned to use other sources, and attacked hard solutions without giving up. Adults reported the children in the treatment group learned these skills because they wanted to and saw the need, rather than the skills being assigned (Ely, 1984). Parent-caretakers also attested to dramatic attitudinal changes in the students in the treatment group.

According to Ely, perhaps the most important finding may be the belief of parent-caretakers in the treatment group in the ability of their children to "make it," a single-mindedness toward actively helping their children succeed, and a belief that education is the means to that end.

Evaluations of parent education programs have demonstrated improved child behavior in academic achievement, attitudes, and values, as well as positive changes in parents' behaviors, such as increased support for children's educational activities. The research is clear on the importance of involving parents: when parents are given support and guidance, they can supplement positively the learning that takes place in the classroom.

Conclusions

The role of the parent in the development of intelligence and achievement has been the focus of many studies. A variety of standardized

tests have been used to determine levels of development and performance. In addition, many educational prevention programs have been assessed as to the degree to which parents can be trained to affect more positively their children's academic success in school. From these studies, several important conclusions can be drawn: (1) parent involvement improves students' achievement, (2) the family provides the primary educational environment, (3) the benefits of parent involvement is strong throughout all grade levels, (4) parents must be involved at both the school and in the home, (5) children from low-income and minority families have the most to gain from involving parents, and (6) educators must not look at home and school in isolation, but see them as interconnected with each other (Henderson, 1987).

CHAPTER III

METHODOLOGY

This study was designed to investigate the effectiveness of a parent involvement program which trained parents to work with their children on a computer in the home to reinforce reading skills. The parent involvement program used in this study was developed and marketed by Jostens Learning Corporation, San Diego, California, under the title The Take-Home Computer Program (Epps, 1988). The program provided the following components: (1) an Apple IIc computer and monitor which were taken home and used by the student and parents for a six-week period; (2) software for reinforcement drill and practice on reading skills; (3) a two and one-half hour training workshop for parents on how to work with their children to improve reading skills; and (4) an enrichment program that allowed parents and students to interact and enjoy "fun-type" learning activities which stimulated higher-order thinking skills.

Subjects of Study

The subjects for this study were Chapter I students, parents of Chapter I students, and Chapter I teachers. The students were in grades three through eight and were eligible for the Chapter I Remedial Reading Program in 11 elementary schools and three middle schools in a rural school system in a southeastern state.

The criteria for eligibility of students in the Chapter I Program consisted of three categories - test scores, basal reading level, and teacher judgment - and were based on a three point system. Students placed in the program were selected on the basis of severity of need. Following is a breakdown by category of the selection process:

Category 1 - Test Scores:

Students who scored at or below the 49th percentile on the North Carolina State Testing Program were identified and ranked on the bases of their percentile scores. Selection points were awarded in the following manner:

<u>Percentile Interval</u>	<u>Selection Score</u>
1 - 20	3 points
21 - 35	2 points
36 - 45	1 point
46 - 49	0 points

Category 2 - Basal Reading Level

Classroom teachers identified all students reading below grade level in the basal reading series. The Chapter I teacher assigned points for the reading level based on the reading level of the student in the basal reading series. Point assignment is given below:

<u>Grade 3</u>	<u>Selection Score</u>
Level 6	3
Level 7	2
Level 8	1

<u>Grade 4</u>	<u>Selection Score</u>
Level 8	3
Level 9	2
Level 10	1

<u>Grade 5</u>	<u>Selection Score</u>
Level 9	3
Level 10	2
Level 11	1

<u>Grade 6</u>	<u>Selection Score</u>
Level 10	3
Level 11	2
Level 12	1

<u>Grade 7</u>	<u>Selection Score</u>
Level 11	3
Level 12	2
Level 13	1

<u>Grade 8</u>	<u>Selection Score</u>
Level 12	3
Level 13	2
Level 14	1

Category 3 - Teacher Judgment

Teacher judgment of students' classroom performance and knowledge of reading skills was rated; points were assigned based on three categories:

<u>Assessment of Students</u> <u>Reading Skills</u>	<u>Selection Score</u>
Had severe reading problems; extremely low reading skills for present grade level; definitely needed Chapter I service	3
Had moderate reading problems; very low reading skills for present grade level; needed Chapter I service	2
Had minimal reading problems; low reading skills for present grade level; would benefit from Chapter I reading service	1

Selection points were averaged for each student. All students were then ranked by grade level from the highest score (3 points) to the lowest score (1 point). This represented a prioritizing on the basis of greatest need. Students who had a score of three were determined to be in the greatest need and were selected first to participate in the program. Students who had a score of two were selected next, and students who had a score of one were selected if space was available in the program.

The subjects of this study are described below:

1. Students: All students for this study were Chapter I students in grades three through eight who scored below the 49th percentile on the California Achievement Tests (CAT), and were selected according to the criteria described for selecting Chapter I students.

At the beginning of the 1989-90 school year, Chapter I teachers at the 11 elementary schools and three middle schools listed alphabetically the names of the students they were to serve

in their Chapter I classes. Using a table of random numbers, each teacher selected 12 students' names and placed them on a list. Letters were sent by each teacher to the parents of the first seven students on the list inviting them to participate in the parent involvement program. The other five students on the list served as alternate students. If any of the first selected seven students' parents declined to accept the invitation, a letter was sent to the first alternate parent on the list. A total of 119 students had parents who agreed to participate in The Take-Home Computer Program (THC). All of the 119 students were sent surveys for the purpose of obtaining their opinions about the benefits of the program.

In order to assess the effectiveness of the The Take-Home Computer Program on the reading achievement of students, 70 of the 119 students were designated the experimental group. Students and parents had been assigned to attend a specific workshop after parents returned letters acknowledging they would be a participant in the program; thus those students who were assigned to attend one of the workshops prior to the post-test date (April, 1990) were assigned to the experimental group of students.

A second group of students was selected by the Chapter I teachers to be the control group. Using the same alphabetical listing of Chapter I students as used for selection of the treatment group, the Chapter I teachers randomly selected a total of 72 students to be in the control group. These students did not participate in The Take-Home Computer Program.

2. **Parents:** Surveys were sent to the parents of the 119 students who participated in the program. A total of 119 surveys was mailed to parents.

3. **Teachers:** The teachers involved in the study were the 18 Chapter I teachers who taught the students in the Chapter I Reading Program, and assisted in The Take-Home Computer Program through homework assignments.

A description of the groups involved in the study is shown in Tables 1 and 2.

Instrumentation

The parental involvement program for Chapter I during the 1988-89 school year included the implementation of The Take-Home Computer Program as a pilot program. As a part of the evaluation process for the Chapter I Program, surveys were developed and sent to the families of the students involved (121 families), 121 students, and 19 teachers to assess their perceptions about the effectiveness and benefits of the computer program.

Content and face validity were established for the three survey instruments by distributing them to an Associate Superintendent of Instruction, a

Table 1

Subjects of Study: Experimental and Control Groups

Experimental Group						
Grade	Total Number	Boys	Girls	Black	White	
3	22	9	13	0	22	
4	11	4	7	0	11	
5	7	4	3	0	7	
6	15	6	9	0	15	
7	9	6	3	1	8	
8	<u>6</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>4</u>	
Totals	70	31	39	3	67	

Control Group						
Grade	Total Number	Boys	Girls	Black	White	
3	18	11	7	0	18	
4	11	9	2	2	9	
5	12	7	5	3	9	
6	8	6	2	1	7	
7	10	3	7	0	10	
8	<u>10</u>	<u>5</u>	<u>5</u>	<u>0</u>	<u>10</u>	
Totals	69^a	41	28	6	63	

^aThree parents declined to participate in the program. The number of the control group was reduced from 72 to 69.

Table 2

Subjects of Study: Parents, Teachers, and Other Students

STUDENTS' PARENTS

NUMBER SURVEYED: Parents of 119 Students

PERSONS FILLING OUT SURVEYS:

No. of <u>Mothers</u>	No. of <u>Fathers</u>	No. of <u>Other Adults</u>
80	14	1

SCHOOLING COMPLETED BY PARENTS:

<u>Some High School</u>	<u>High School Graduate</u>	<u>Some College</u>	<u>College Graduate</u>	<u>Post Graduate</u>
21	42	24	7	1

NUMBER OF PARENTS EMPLOYED OUTSIDE THE HOME:

<u>Full-Time</u>	<u>Part-Time</u>	<u>Not Employed</u>
71	8	16

OCCUPATIONS OF PARENTS

<u>Name of Occupation</u>	<u>Number of Persons</u>
Furniture Workers	14
Law Enforcement	1
Sales	8
Office Worker	16
Factory Workers	12

(table continues)

Table 2

Subjects of Study: Parents, Teachers, and Other Students

STUDENTS' PARENTS						
OCCUPATIONS OF PARENTS						
<u>Name of Occupation</u>	<u>Number of Persons</u>					
Self-Employed	4					
Homemaker	16					
Food Industry	5					
Professionals	6					
Construction	3					
Mechanic	1					
Bus Driver	2					
Day-Care	1					
Maintenance	1					
TEACHERS						
NUMBER OF TEACHERS SURVEYED: 18 Chapter I Teachers (All women)						
<u>OTHER STUDENTS IN THE PROGRAM WHO WERE SURVEYED^a</u>						
Grade	Total Number	Boys	Girls	Black	White	
3	13	7	6	0	13	
4	13	9	4	1	12	
5	5	3	2	0	5	
6	6	2	4	0	5	
7	7	4	3	1	7	
8	<u>5</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>5</u>	
Totals	49	28	21	2	47	

^aThese students completed the THC Program after the CAT (post-testing) was given in April, 1990; therefore, their test scores were not used in the study. These students participated in the study by completing a student survey.

Director of Vocational Education, a faculty member at the University of North Carolina at Greensboro, two assistant principals, three teachers, a speech pathologist, a psychologist, and a private school administrator. Recommendations by the evaluators for removal of words or phrases having positive overtones were rewritten so that all questions were phrased so as to present the respondents with non-biasing neutral questions.

A test-retest procedure was used to establish instrument consistency for the teacher survey. The surveys were distributed to eight teachers. Two weeks later, the same individuals, having been given the same instructions, filled out a second, identical survey. The two surveys for each individual were checked for an identical response to each item. The number of identical responses on the two tests was divided by the total number of questions on the survey to obtain the consistency of responses between test and retest. Consistency of response between test and retest for teachers was 88%.

Because test-retest consistency of parent and student questionnaires was logistically awkward, and would probably have been resisted, an indirect assessment of the "consistency" and "validity" of these questionnaires was undertaken. Parents were asked to keep logs to record the amount of time they spent working with their children on the computer. One question on both the student survey and parent survey asked them to report the amount of time they spent working on the computer. A consistency of responses was calculated between the parents' responses, the students' responses, and the amount of time reported in the log. An analysis of the data showed that the responses matched 75 percent of the time within 30 minutes per day. Based on the high

percentage of agreement of responses for this question by parents and students, the parent and student questionnaires were considered to be reliable instruments. An explanation of the procedure used to examine the consistency of responses for time spent on the computer by parents and students is described below:

There were 66 logs returned by parents to the schools. Fifty-three of the 66 logs could be matched with the parents' surveys. The actual amount of time spent on the computers was averaged for each log; the mean of the time reported on each log was compared to the time reported on the survey by the same parent. The reported time per day on the surveys matched the actual time reported by parents as follows: the logs matched the surveys 54.7% of the time within 15 minutes and 86.8% of the time within 30 minutes. The mean of the time reported on the parents' surveys was 36 minutes per day and the mean for the logs was 32 minutes.

The responses to the amount of time per day spent on the computer reported by 94 parents' surveys were matched with their children's surveys. The paired parent-student responses as to the amount of time spent on the computer per day matched exactly 46.4% of the time; they matched 58.8% of the time per day within 15 minutes; 75.3% of the time per day within 30 minutes; and 80.4% of the time per day within one hour. The mean for the time per day spent on the computer for the parent surveys was 35 minutes and the mean of the students' reported time was 38 minutes (data based on comparing 94 parent surveys with 94 student surveys).

Student responses on the surveys were matched with the time per day spent on the computer reported on 61 logs. The students' responses matched

50.8% of the time within a range of 15 minutes per day, and 80.3% of the time within 30 minutes per day. The mean of the students' surveys that were matched with the logs was 39 minutes and the mean of the logs was 32 minutes.

Table 3 illustrates the consistency of responses between parent surveys and logs, parent surveys and student surveys, and student surveys and logs. The data indicated that there was a high percentage of agreement between the responses from the surveys and logs in that the reported time agreed more than 75 percent of the time within a period of 30 minutes per day.

An analysis of the reported time spent on the computer by parents and students, and the recorded time in the logs, showed that this question received the same answer 75 percent of the time or more when viewed within a 30 minute period of time. Based on the percentage of agreement of responses to this question, the parent survey and student survey were considered to be reliable instruments.

Procedures

The first part of this study investigated whether parents working with their children on computers to practice and reinforce reading skills improved their comprehension and total reading scores on the California Achievement Tests. An experimental design was employed to compare two groups of students. Seventy of the 119 randomly selected students were designated the experimental group. These students attended the workshop with their parents

Table 3

Consistency of Responses Between Surveys and Logs

Items Matched	Within 15 Mins..	Within 30 Mins..
Parent Survey-Log	54.7%	86.8%
Parent Survey-Student Survey	58.8%	75.3%
Student Survey-Log	50.8%	80.3%

and completed their involvement in The Take-Home Computer Program prior to the post-testing date. (Four rotation cycles were completed before April, 1990.)

A second group of participating Chapter I students was randomly selected by the Chapter I teacher for a control group. The number of students selected for the control group was 72. These students were not involved in The Take-Home Computer Program but did receive remedial reading instruction from the Chapter I teacher.

All students in the experimental and control groups were tested with their grade level California Achievement Tests (CAT), Form E, in March, 1989. These test scores were used as pretest scores. In April, 1990, these students were tested at their present grade level with the CAT, Form E. These scores were used as post-test scores.

The second part of this study investigated parents', students', and teachers' perceptions of the benefits of the program. A mail survey was sent to parents and students who participated in The Take-Home Computer Program, and to the Chapter I teachers who had these students for the Chapter I Reading Program. Responses to the questionnaire served as the database for the analysis of this section of the study.

The specific objectives of the survey study were to ascertain if:

1. Parents thought this program was an effective way to involve parents in their child's educational program, increased their child's interest in reading, raised their child's academic level, and raised their awareness of the importance of parent participation in school programs.

2. Students thought their involvement in this program improved their reading grades, increased the time parents helped with schoolwork, and increased their interest in reading.
3. Teachers thought this program was an effective way to involve parents in their child's reading program, improved their student's academic achievement, and affected their students' reading habits.

The surveys were mailed at the end of the final rotation of the program (seven rotations were completed for the school year) to all participants (parents and students) in The Take-Home Computer Program and to the Chapter I teachers who taught these students.

Parents' Workshop

Parents and their children attended a two and one-half hour workshop taught by a consultant from the Jostens Learning Corporation on how to work together on a computer to reinforce and practice reading skills and enrichment activities in the home. The training of parents and students covered the following information:

Goals and Objectives: The consultant explained that the purpose of the program was to teach parents how to work with their children on the computer to reinforce reading skills that had been taught by the teacher in the classroom and to encourage parents and students to work together towards a higher level of cooperation and communication.

Instructional Materials: Parents were introduced to instructional material which they would use with their children in the program.

The **Parent Guide** provided information about the reading skills used in the program and a description of each enrichment diskette. There were also special activities included which parents could use as "Rainy Day Activities" which gave additional practice for reading skills.

The **Student Prescription** sheet listed the names of reading skills found on each reading level on the diskettes. There was one sheet for each of the levels, beginning with level two and extending through level eight.

The **Basic Skills Workbook** was designed to supplement and reinforce the reading skills on the diskettes. The workbooks used were levels 3-8 (third through eighth grade).

The **Basic Skills Answer Key** was given to the parents to provide answers for correcting assignments in the workbook.

The **Enrichment Software User's Manual** introduced parents and students to the enrichment diskettes and explained how to use the various activities.

The Basic Skills software covered the basic reading skills in various formats (multiple-choice, fill-in the blanks, high-light answers). The diskettes were packaged according to grade level in blue binders.

The Enrichment software included activities which provided an opportunity to use the computer as a data base management tool and for entertainment, spelling practice, and writing.

Hardware: Each student was provided with a Iic computer and Iie monitor for personal use in the home for a six-week period.

After an explanation of the purpose and goals of the program, the consultant introduced the parents and their children to the computers by asking them to use the introductory Apple Presents Program on the computer. This taught parents the basic fundamentals of following directions and using the computer. When this activity was completed, the consultant moved into demonstrating for the parents how to work with their children to improve their reading skills.

The parents were introduced to the Parent Guide which provided definitions and examples of reading skills. This book listed the reading skills which were found on the diskettes. Journal pages were included in this book so parents could keep a record of the time they spent on the computer with their children, the type of activity, and the score achieved on an activity.

Each parent was provided a prescription sheet which matched the child's reading level. The child's classroom teacher was responsible for diagnosing

the child's reading level and making weekly assignments for each student. The parent was shown how to take the name of the reading skill assigned by the teacher and use the prescription sheet to locate the skill on the diskette and in the workbook. Parents were shown how to use the answer key to correct workbook pages.

Parents were then asked to select a skill from the prescription sheet, find the diskette and workbook pages for that skill, insert the diskette, and complete the activity for the skill. The consultant worked with individual parents to insure they understood and followed directions as they assisted their children at the computers.

When the parents and their children had completed the skill, they were instructed to remove the diskette, return it to its binder, and to insert an enrichment diskette from the yellow binder. The consultant referred the parents to the enrichment guide which explained the programs found on the 10 enrichment diskettes. The parents and students were then asked to complete an activity on the enrichment diskette they had loaded in the computer. Individual assistance was provided to the parents and students by the consultant and teachers as the participants worked on the computer.

At the end of this activity, parents were taught how to care for the computer, hook it up, and box it safely in its container. They were instructed to call their children's teachers if they had any problems with the computer or if they had questions about the program.

CHAPTER IV

RESEARCH DATA

The purpose of this study was to investigate the effects of a parent involvement program, known as The Take-Home Computer Program, on Chapter I students' reading scores (comprehension and total reading). It also sought to assess the effects of the program on parents', students', and teachers' perceptions of the benefits of the program.

The research questions for this study were:

1. Is there a statistically significant difference between reading scores for students whose parents are involved in the parent involvement program and for students whose parents did not participate?
2. Do parents perceive the program as an effective way to involve parents in their children's education?
3. Do parents think their participation in the parent involvement program increased their children's interest in reading?
4. Do parents think their participation in the parent involvement program helped their children's academic achievement?
5. Do parents see a greater need for involvement in school activities after participation in the parent involvement program?
6. Do parents have a better understanding of how their children are taught reading skills after their participation in the parent involvement program?

7. Do teachers perceive the parent involvement program as an effective way to involve parents in children's education?
8. Do teachers think that the parent involvement program improved their students' academic achievement in the classroom?
9. Do teachers think students' involvement in the program had a positive effect on their attitude toward reading?
10. Do students perceive themselves as better students after participating with their parents in the program?
11. Do students think their parents spend more time helping them with their schoolwork since participating in the parent involvement program?
12. Do students reflect a positive attitude toward the parent involvement program?

This chapter reports the statistical analysis relative to the research questions. To answer research question one, a one-tailed t-test for independent samples was computed on post-test CAT scores for the treatment group and control group to determine if there was a statistically significant difference between the two groups.

Research questions 2-12 were coordinated with the responses on the parents', students' and teachers' survey questions. Responses to the survey questions were compared to a normalized theoretical distribution centered on no change using the chi-square test. The null distribution against which the responses were compared is as follows:

1.	+2	3.46%
2.	+1	23.84%
3.	0	45.14%
4.	-1	23.84%
5.	-2	3.46%

The level of significance used for all analysis of data was .05.

Analysis of Reading Scores

The first part of this study investigated the effects of parent involvement through the use of a computer program, known as The Take-Home Computer Program, on the reading achievement scores of students (comprehension and total reading). The first research question investigated asked: Is there a statistically significant difference between reading scores for students whose parents are involved in the parent involvement program and for students whose parents did not participate?

There were 70 Chapter I students randomly selected to form the experimental group to participate in The Take-Home Computer Program. Three of the students moved to another school system during the year; their scores were not included. The number of students' scores used was reduced from 70 to 67.

A second group of 72 Chapter I students was selected as a control group. Parents of three students did not want to participate in the study, and seven

students moved during the school year. The number of scores used for the control group was reduced from 72 to 62.

Before conducting an analysis of the reading post-test scores of the CAT to determine if there was a statistically significant difference between the experimental group and control group, it was necessary to examine the pretest scores to assess whether there were pre-treatment differences between the two groups. A t-test for independent samples was computed on the CAT pretest scores. The random assignment of students in the treatment group and control group was found to have resulted in equivalent groups. The means for the treatment group and control group were, respectively, 31.57 and 31.24 on the reading comprehension test, and their pretest scores on total reading were 31.37 and 31.08, respectively. In both cases, the compiled value of the t-test was .15 indicating that there was not a statistically significant difference between the two groups and that the randomization process was effective.

The mean reading score on comprehension of the experimental group after the program was 39.40 compared to a mean score of 36.15 for the control group [$t(127) = 1.49$]. This difference is not significant at the .05 level; however, it is significant at the .10 level. Similarly, the treatment group's mean on the total reading after involvement in the parent involvement program was 38.04 compared to 35.03 for the control group. Again, this difference is significant at the .10 level but not at the .05 level.

Table 4 indicates that the differences in the means in the pretest scores for reading comprehension and total reading is not statistically significantly different. The data also show that the treatment group made greater gains

Table 4

Pretest/Post-test Mean Scores of Experimental and Control Students In Reading (Comprehension and Total Reading)

Group	No. of Students	Reading Comp. NCE Mean Score		Total Reading NCE Mean Score	
		Pre	Post	Pre	Post
Experimental	67	31.57	39.40	31.37	38.04
Control	62	31.24	36.15	31.08	35.03
t		.15	1.49*	.15	1.34*
df		127	127	127	127

$p < .05$

* $p < .10$

than the control group on the post-tests in both comprehension and total reading and were statistically significant at the .10 level.

Analysis of Survey Responses

The second part of this study involved sending surveys to all parents, students, and teachers who participated in The Take-Home Computer Program during the 1989-90 school year to assess their perceptions of the benefits of the program. A total of 119 students participated with their parents, attended one of the seven training workshops, and took the computer home for a six-week period. (The dates of the workshops were September 12, 1989, October 30, December 18, February 1, 1990, March 26, May 14, and July 16, 1990.) Nine of the students moved to another school system during the school year and were unavailable to fill out the surveys. There were 110 parent surveys mailed to the families who had attended the workshop with their children and had taken a computer home to work with them on reinforcing reading skills. Student surveys were distributed to the 110 students by the Chapter I teachers at the different schools. Surveys were sent to the Chapter I teachers who participated in the program.

The surveys were distributed to all participants the first week of October, 1990. A second mailing was sent the third week of October to parents who had not responded to the first mailing. Telephone calls were made to those parents who did not respond to the second mailing. Chapter I teachers followed up the student surveys and returned them to the researcher.

Of the 110 parent surveys mailed, 95 were returned. All 110 student surveys and 18 teacher surveys were returned. The percentage of return for the surveys was: parents, 86%; students, 100%; and teachers, 100%.

Research questions 2-12 dealt with parents', students', and teachers' perceptions of the effects of the program. In order to compensate for the large number of statistical tests being performed in this study (i.e., 11 different questions for parents, 11 questions for teachers, and 15 for students), the Bonferroni correction to the significance level was used. In this investigation it was decided to set the family error rate at .05. For the 11 questions involving the parents and the 11 questions involving the teachers, the Bonferroni correction results in a by-contrast error rate of .005. Thus, chi-square values greater than 14.86 are considered significant at the .05 level.

For the 15 student questions, the Bonferroni correction results in a by-contrast significance level of .003. Thus, chi-square values greater than 13.86 are significant at the .05 level.

Research questions 2-12 and the corresponding survey questions are shown in Tables 5, 6, and 7. Table 5 shows questions two through six which dealt with parents' perceptions of the benefits of the program to them as parents, and for their children in relation to increased interest in reading and improved academic achievement. All responses by the parents were significantly positive.

Table 6 shows research questions seven, eight and nine. These questions are matched with teacher survey questions and their responses. The responses by the teachers indicated that they felt the program was beneficial for

Table 5

Research Questions and Corresponding Questions on Parent Surveys

Research Questions	Survey Questions ^a	Parent Responses ^b					x ² *
		VP	P	NC	N	VN	
2. Do parents perceive the program as an effective way to involve parents in their children's education?	Should THC Program be continued next year?	86	8	1	0	0	2155.63
	Would you participate in the program again?	75	10	5	4	0	1642.28
	How do you feel about your involvement in the THC Program?	62	28	5	0	0	1108.35
3. Do parents think their participation in the program increased children's interest in reading?	How has child changed reading habits?	17	60	18	0	0	159.10
	What effect did THC have on child's interest in reading?	28	47	19	1	0	249.05

(table continues)

Table 5

Research Questions and Corresponding Questions on Parent Surveys

Research Questions	Survey Questions ^a	Parent Responses ^b					x ² *
		VP	P	NC	N	VN	
4. Do parents think their participation in THC Program helped children's academic achievement?	Did workbook assignments affect reading skills?	28	57	9	0	0	293.87
	Has your involvement affected child's grades?	24	58	13	0	0	232.30
5. Do parents see a greater need for involvement in school activities after participation in the program?	Has your involvement helping you child do schoolwork changed?	26	35	30	4	0	186.01
	Did participation in THC increase communication about schoolwork with your child?	35	44	16	0	0	368.53
	Has your involvement in school activities increased?	16	20	58	1	0	78.73

(table continues)

Table 5

Research Questions and Corresponding Questions on Parent Surveys

Research Questions	Survey Questions ^a	Parent Responses ^b					X ² *
		VP	P	NC	N	VN	
6. Do parents have a better understanding of how their children are taught reading skills after participation in the parent involvement program?	Has your understanding of how your child is taught reading changed?	55	31	9	0	0	868.53

^aSurvey questions have been shortened. See Appendix A for full text.

^bParent responses are shown on 5-point Likert scale (VP = Very positive, P = Positive, NC = No change, N = Negative, VN = Very negative). See Appendix A for text.

*The family-wise error rate for all these statistical tests is .05. All responses were significantly positive. The by-contrast error rate was always less than .001.

Table 6

Research Questions and Corresponding Questions on Teacher Survey

Research Questions	Survey Questions ^a	Teacher Responses ^b					x ² *
		VP	P	NC	N	VN	
7. Do teachers perceive the parent involvement program as an effective way to involve parents in children's education?	How responsive are the THC parents to helping with schoolwork?	7	10	1	0	0	84.42
	How do you feel about continuing program for another year?	15	2	0	1	0	346.02
	How have parents responded to involve- at your school since the THC?	4	8	6	0	0	27.10
	How effective is THC in involving parents in reading program?	10	8	0	0	0	158.16
	Did you have a problem getting parents to parti- cipate in the program?	7	7	0	4	0	76.13
	Describe your feelings about the program.	11	6	0	1	0	185.74

(table continues)

Table 6

Research Questions and Corresponding Questions on Teacher Survey

Research Questions	Survey Questions ^a	Teacher Responses ^b					X ² *
		VP	P	NC	N	VN	
8. Do teachers think that the parent involvement program improved their students' academic achievement in the classroom?	Did workbook affect students' reading skills?	4	13	1	0	0	47.27
	How did involvement with THC affect students grades?	2	14	2	0	0	34.58
	Have students' comprehension skills changed?	3	15	0	0	0	48.91
9. Do teachers think students' involvement in the program had a positive effect on their attitude toward reading?	Have students changed their reading habits?	3	9	6	0	0	19.71
	What effect did THC have on students' interest in reading?	5	11	2	0	0	50.97

^aSurvey questions have been shortened. See Appendix C for full text.

^bTeacher responses are shown on 5-point Likert scale (VP = Very positive, P = Positive, NC = No change, N = Negative, VN = Very negative). See Appendix C for text.

*The family-wise error rate for all these statistical tests is .05. All references were significantly positive. The by-contrast error rate was always less than .001.

their students and an effective way to get parents involved in the reading program.

The data in Table 7 report how students perceived the program as affecting them. Students' responses show that they felt they had improved as a result of their participation in the program. Responses by the students to all the survey questions depicted that they felt they read more, understood reading skills better, had improved their grades, and parents helped more with homework as well as spent more time talking to them about their schoolwork. All chi-square scores were statistically significant.

Five identical questions were asked on the three surveys. These questions are presented in Table 8 with responses shown in frequencies (F) and percentages (P). An analysis of the responses to the five questions showed the three groups responded very closely to the same percentage when the "very positive" and "positive" categories were combined. A greater percentage of students gave the program an "A" than did either parents or teachers, and the students were more confident that they had increased their interest in reading "a great deal," improved skills "very much," and improved grades "a great deal," whereas parents and teachers reported "a little" change.

One section of the parent survey listed 12 statements about parent involvement in The Take-Home Computer Program of which six were positive statements and six were negative. In all instances, except one, the number of affirmative responses was significantly greater than the negative responses. The statement, "I would have liked to talk to the teacher about the program," was a negative statement implying the parent had not talked with the teacher about the THC Program. Of the 95 responses to this question, 79 responses agreed

Table 7

Research Questions and Corresponding Questions on Student Survey

Research Questions	Survey Questions ^a	Student Responses ^b			x ² *		
		Yes	No	Not Sure			
10. Do students perceive themselves as better students after participating with their parents in the program?	Since THC involvement, do you read more?	73	16	21	54.40		
	Did workbook help you understand reading skills?	96	4	9	147.46		
		<u>Responses</u>					
		<u>50%</u>	<u>60%</u>	<u>70%</u>	<u>80%</u>	<u>90%</u>	<u>100%</u>
	What did you usually score on the reading assignment?	0	0	1	17	55	37
		<u>Responses^c</u>					
		<u>VP</u>	<u>P</u>	<u>NC</u>	<u>N</u>	<u>VN</u>	x ² *
	How has your interest in reading changed?	52	40	13	2	3	666.36
	How have your grades changed?	55	47	6	2	0	768.80
	Did workbook assignment help you?	60	42	7	1	0	902.89

(table continues)

Table 7

Research Questions and Corresponding Questions on Student Survey

Research Questions	Survey Questions ^a	Student Responses ^b				χ ² *
		Yes	No	Not Sure		
11. Do students think their parents spend more time helping them with their homework since participating in the parent involvement program?	Does mom/dad help you with homework?	92	16	2	128.06	
	Did mom/dad or someone else help you with the workbook?	93	13	3	134.07	
	Does mom/dad talk with you about schoolwork?	97	7	5	152.14	
12. Do students reflect a positive attitude toward the THC Program?	If you gave the THC Program a grade, what would it be?	<u>Responses</u>				
		<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
		78	22	5	1	1
	Did using the computer help your reading?	91	8	10	123.54	
	Should computer program be continued?	101	4	5	169.50	

(table continues)

Table 7

Research Questions and Corresponding Questions on Student Survey

Research Questions	Survey Questions ^a	Student Responses ^b				X ^{2*}	
		Yes	No	Not Sure			
12. Do students reflect a positive attitude toward the THC Program?	Did you enjoy working on computer with mom/dad?	105	2	3		191.23	
	Would you like to be in the computer program next year?	85	11	14		95.79	
		<u>Responses</u>					
	Describe your feelings about the THC Program.	<u>VP</u> 71	<u>P</u> 31	<u>NC</u> 7	<u>N</u> 0	<u>VN</u> 1	X ^{2*} 1250.71

^aSurvey questions have been shortened. See Appendix B for full text.

^bStudent response categories were varied. See Appendix B for categories.

^cStudent response shown on 5-point Likert scale (VP = Very Positive, P = Positive, NC = No Change, N = Negative, VN = Very Negative.) See Appendix B for full text.

*The family-wise error rate for all these statistical tests is .05. All responses were significantly positive. The by-contrast error rate was always less than .001.

Table 8

Responses to Coordinated Questions on Parents', Students', and Teachers' Surveys

Coordinated Question	Parent		Student		Teacher	
	F	(P)	F	(P)	F	(P)
If you gave the THC a grade, what would it be?						
A	56	(66)	78	(73)	9	(50)
B	23	(27)	22	(21)	8	(44)
C	6	(07)	5	(05)	0	
D	0		1	(01)	1	(05)
E	0		1	(01)	0	
Have students' interest in reading changed?						
Increased a great deal	28	(29)	52	(47)	5	(28)
Increased a little	47	(49)	40	(36)	11	(61)
No change	19	(20)	13	(12)	2	(11)
Decreased a little	1	(01)	2	(02)	0	
Decreased a great deal	0		3	(03)	0	
How did workbook affect reading skills?						
Improved skills very much	28	(30)	60	(55)	4	(22)
Improved a little	57	(61)	42	(38)	13	(72)
No change	9	(09)	7	(06)	1	(05)
Not quite as good	0		1	(01)	0	
Not nearly as good	0		0		0	
How did involvement affect grades?						
Improved a great deal	24	(25)	55	(50)	2	(11)
Improved a little	58	(61)	47	(43)	14	(78)
No change	13	(14)	6	(05)	2	(11)
Not quite as good	0		2	(02)	0	
Not nearly as good	0		0		0	

(table continues)

Table 8

Responses to Coordinated Questions on Parents', Students', and Teachers' Surveys

Coordinated Question	Parent	Student	Teacher
	F (P)	F (P)	F (P)
How do you feel about your involvement in the THC Program?			
Very good	62 (55)	71 (65)	11 (61)
Good	28 (29)	31 (28)	6 (33)
No opinion	5 (05)	7 (06)	0 (06)
Bad	0	0	1 (06)
Very bad	0	1	0

F = Frequencies

P = Percentage

with the statement. The positive statement, "My questions about the program were answered by the teacher," received a strong affirmative answer (85 positive responses). The positive-negative statements are shown in Table 9. The "N" or "P" shown at the end of each statement indicates whether the statement is negative or positive.

Major Study Findings

Based on the analysis of the data from test scores and surveys, the major findings of this study are:

1. Students who participated in the study made greater gains than a comparison group.
2. Parents reported that the program was effective in helping their children make progress in reading.
3. Teachers reported that their students made gains in reading as a result of involvement in the program.
4. Students reported that the program helped them to improve reading skills, increased their interest in reading, and their parents help more with schoolwork.

Parents' recommendations for the program indicated strong support for continuation and expansion for this parent involvement program. These recommendations are listed in Appendix H.

Table 9
Parent Responses to Positive-Negative Statements About The Take-Home Computer Program

Question	Parent Responses ^a			
	A	TA	TD	D
I would have liked to talk with the teacher about the program. (N)	46	33	4	9
My questions about the program were answered by the teacher. (P)	74	11	1	6
My child often got tense when we worked together on the computer. (N)	20	20	2	52
My child liked for me to help with his/her practice on reading skills. (P)	69	21	1	4
I got tense when I tried to work with my child on the computer. (N)	14	13	5	63
I felt comfortable helping my child work on the computer. (P)	78	11	1	5
My child preferred to work alone on the computer. (N)	19	21	9	45
My child likes for me to help on the computer. (P)	67	16	3	8

(table continues)

Table 9

Parent Responses to Positive-Negative Statements About The Take-Home Computer Program

Question	Parent Responses ^a			
	A	TA	TD	D
Schools should not try to show parents how to help their child learn things at home. This is not their business. (N)	1	2	8	83
Schools should show parents how to help their child with schoolwork at home. (P)	69	21	1	2
This program did not help me understand how my child is taught reading. (N)	4	7	7	74
I understand more about how my child learns to read. (P)	63	30	0	2

^aParent Responses were: A = Agree, TA = Tend to Agree, TD = Tend to Disagree, D = Disagree

Students were asked to respond to what they liked or did not like about the program. These comments are shown in Appendix I. Students' surveys strongly supported continuing the program for the next school year.

When students were asked what they scored on the reading assignments on the computers, 92 of the 110 reported they scored 90% to 100%. When asked how well they did in school, 20% said they made all good grades; 39% reported they made some good grades; 39% reported they made some good and some bad grades; and none reported they made all bad grades.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Parent involvement has become an important part of the public schools' educational process. Educators are now faced with the dilemma of selecting or developing a parent involvement program or model that will motivate parents to become involved in the schools and thus help their children achieve success in schools. There are presently many commercial programs for this purpose on the market. This study was designed to investigate the effectiveness of a commercially developed parent involvement program which uses computers in the homes to work with children to reinforce reading skills and stimulate critical thinking. Specifically, the study attempted to determine if students who participated in The Take-Home Computer Program would make greater gains than a control group of students who did not participate in the program. The study also investigated parents', students', and teachers' perceptions of the benefits of the program on students' growth in reading, and whether this was an effective program for involving parents in the schooling of children.

Discussion of Findings

The following findings were based on the data analysis of CAT scores and survey responses by parents, students, and teachers. Research questions were matched to specific survey questions.

Research Question: Is there a statistically significant difference between reading scores for students whose parents are involved in the parent involvement program and for students whose parents did not participate?

The t-test performed on post-test scores of the CAT did not show a statistically significant difference at the .05 level; however, it was significant at the .10 level. The experimental group had an NCE gain of 7.83 compared to the control group's gain of 4.91 in reading comprehension. This indicated a difference of 2.92 NCEs gain for the experimental group. Total reading gains on the CAT for the experimental group and control group were, respectively, 6.67 NCEs and 3.97 NCEs, indicating a difference of 2.7 NCEs greater gain for the experimental group.

Research Question: Do parents perceive the program as an effective way to involve parents in their children's education?

Four questions on the surveys were matched with this research question to assess how the parents felt about the program. Question number one asked parents to grade the program as an effective way to involve parents in their children's education. The responses showed that 83% of the parents graded the program an A or B. Question number seven asked if the program should be continued for other parents and students. The responses were strongly in favor with 99% of the parents recommending continuation of the program. Parent survey question number 11 asked the participants if they would

participate in the program again. There were 75 of the 95 parents who responded they would like very much to participate again, and 10 who reported they would like to participate a little. When asked in question number 13 how they felt about their participation in the program, 62 said, "Very good," and 28 responded, "Good". Five of the parents reported no opinion for this question. The responses to these four questions indicated that the parents felt their participation in the program was a good experience and an effective way to be involved in their children's education.

Research Question: Do parents think their participation in the parent involvement program increased their children's interest in reading?

Questions two and five provided data for this research question. They assessed how parents perceived their children's reading habits had changed and whether the reading program had increased their children's interest in reading. Sixty parents reported that their children read a little more, and 17 parents felt they read a great deal more. Responses to question 5 showed that 28 parents (29%) felt their children's interest had increased a great deal and 47 parents (49%) reported interest had increased a little. There were 19 parents (20%) who reported no change. The parent responses imply that parents perceive that their children were more interested in reading after involvement in the computer program.

Research Question: Do parents think their participation in the parent involvement program helped their children's academic achievement?

Data used to respond to this question came from survey questions three and four dealing with workbook assignments and grades, respectively. Responses showed that 30% of the parents said the assignments improved their children's skills a great deal, and 61% said it improved them a little. Parent responses thus indicated a positive answer to this question.

Research Question: Do parents see a greater need for involvement in school activities after participation in the parent involvement program?

Four questions on the parent survey dealt with this research question. First, parents indicated that they were more involved in schoolwork (64%); second, 79% said they have increased communication with their children about schoolwork; and third, 87% reported they set aside time to work with their child on schoolwork. The fourth question asked if they were more involved in school activities. Thirty-eight percent said they were; however, 61% reported no change from what they had been doing. Several parents had written beside this question that they had always been involved in school activities. By virtue of parents reporting that they had become more involved, the answer to this question is considered affirmative.

Research Question: Do parents have a better understanding of how their children are taught reading skills after participation in the parent involvement program?

There was one question used to answer this question on the five-point scale format. Parents responded with 58% saying it had increased their understanding a great deal, and 33% responded it had increased their understanding a little. A question on the positive-negative statements of the survey dealt with this question. Ninety-three of the 95 parents felt that the program had helped them to understand how their children learned to read. Based on the analysis of data from these two questions, the answer is yes for this research question.

Research Question: Do teachers perceive the parent involvement program as an effective way to involve parents in children's education?

Seven questions were asked on the teacher survey to respond to the above research question. In giving the program a grade, 50% gave an A and 44% gave a B. Eighty-three percent strongly recommended the program be continued for another year, and 61% felt very good about the program when asked to describe their feelings about it.

When asked if parents were more responsive to helping children with homework, 39% said they were very much responsive, and 56% said a little responsive. Teachers also felt that parents had become more responsive to involvement at their schools with 12 of the 18 teachers reporting increased involvement. When teachers were asked if they had problems getting parents to participate in the computer program, 14 of the 18 said they had no problems.

One question asked teachers if they saw this program as an effective program for involving parents. Ten responded, "Very much effective," and eight said, "A little effective".

The data from these seven questions support an affirmative answer to this research question. Teachers felt the program was effective in involving parents.

Research Question: Do teachers think that the parent involvement program improved their students' academic achievement in the classroom?

Survey questions matched to this research question asked about the effect of the program on students' grades, comprehension, and workbook skills. Teachers responded to these questions by reporting they perceived a little improvement because of the program. Thirteen teachers supported a little improvement for workbook skills, 14 saw improvement in grades, and 15 saw a

little improvement in comprehension. These responses provided a yes to the research question.

Research Question: Do teachers think students' involvement in the program had a positive effect on their attitude toward reading?

Teachers responded to two survey questions that provided data for the research question. The questions asked if students had changed their reading habits, and what effect did the program have on students' interest in reading. Responses by the teachers indicated that 50% felt students were reading a little more, 17% felt they were reading a great deal more, and 33% saw no change. Sixty-one percent of the teachers felt students' interest in reading had improved a little, and 28% reported interest had improved a great deal. This data provided a positive answer to this research question.

Research Question: Do students perceive themselves as better students after participating with their parents in the program?

Students were asked the following questions: Do you read more? Did the workbook help you to improve skills? Did your grades improve? Did your interest in reading change? What did you usually score on reading assignments on the computer? Responses to these questions were as follows: 77% said they read more, 87% said the workbook helped them to improve, 77%

said their grades improved, and 84% reported an increase in their interest in reading. This data indicated an affirmative answer to the research question.

Research Question: Do students think their parents spend more time helping them with their school work since participating in the parent involvement program?

Student survey questions which provided information for this research question dealt with the following: Did mom or dad help you with homework, assist you in the workbook, and talk to you about schoolwork? Students responded with a strong yes to all three questions (out of 110 students, 92 said yes to mom or dad helping with homework, 93 said they helped with the workbook, and 97 said mom or dad talked about schoolwork). The answer to the research question is yes.

Research Question: Do students reflect a positive attitude toward the parent involvement program?

Data collected for this question came from the following questions: Did the computer help you in reading? Should the program be continued? Did you enjoy working on the computer with mom or dad? Would you like to be in the program again? How would you describe your feelings about the program? What grade would you give the program? The percentage of students saying

yes are as follows: 83% said the computer helped in their reading; 91% felt the program should be continued; 95% enjoyed working with mom or dad; 77% said they would like to participate in the program again; 93% felt very good or good about being in the program; and 91% gave an A or B as a grade for the program. These positive responses provide an affirmative answer to the research question.

Conclusions

As a result of the analysis of this data, the following conclusions were developed. It should be remembered that this study was conducted in one school system with Chapter I students who scored below the 49th percentile on the California Achievement Tests in Total Reading.

1. The Take-Home Computer Program was effective in raising achievement scores in comprehension and total reading for Chapter I Students.
2. The program increased parents' perception that their involvement with their children can and does increase their children's interest in reading, improves reading skills, and raises academic achievement.

3. **Parents believe that as a result of their involvement in the THC Program their children read more.**
4. **Recommendations from the parents, students, and teachers show the importance of continuing parent involvement programs by the schools.**
5. **Parents believed that this experience increased their communication with their children about schoolwork.**
6. **Parents want schools to show them how to work with their children at home on schoolwork.**
7. **Parents have positive feelings about being involved in programs that train them to work with their children on schoolwork.**
8. **When parents are trained in ways to help their children improve in reading, they will set aside time for this activity in their homes.**
9. **Parents developed an understanding of how children are taught reading as a result of their involvement in the computer program.**
10. **Parents want to communicate with teachers about their children's reading programs.**

11. Through their training in the THC Program, parents felt comfortable assisting their children with reading skills on the computer.
12. The parents and students would participate again in this program.
13. Students perceived that involvement with the computer increased their understanding of reading skills and their interest in reading.
14. Students felt their involvement in the THC Program improved their grades.
15. Students enjoyed having their parents work with them on the computer to reinforce reading skills.
16. Students had positive feelings about using a computer in the home.
17. Teachers observed positive changes in students' reading habits, skills performance, and grades which they attributed to the program.
18. Teachers believed parents increased their school involvement and were more responsive to helping their children with schoolwork after their involvement with the THC Program.

19. Teachers had little difficulty getting parents to participate in the THC Program.
20. Teachers felt The Take-Home Computer Program was effective in involving parents in the reading program.

In summary, interpretation of data from this study supports that The Take-Home Computer Program is an effective way to involve parents in the education of their children. Parents, students, and teachers agreed that there were positive changes in the reading habits of the Chapter I students who participated in the program. All who were involved strongly recommended that the program be continued.

Previous Research Related to the Conclusions of this Study

Many conclusions of this study are supported by previous research studies. Henderson (1987) maintained in her synthesis of research on the topic of parent involvement that students whose parents are involved do better in school. She pointed out that students who are failing in school improve dramatically when their parents become involved in their children's school.

Epstein (1989) found that parent involvement could be related to more positive attitudes by parents toward teachers and schools, and improved teacher morale. She also reported in her study of 2300 parents that parents

said they wanted teachers to advise them about how to help their children at home.

In her research on parent involvement, Becker (1984) reported that parents who assume an active, participating, interactive strategy with their children regarding the reading process have children who exhibit higher reading achievement levels and more positive attitudes towards reading than children who have parents who assume a more passive role. She also found that higher-scoring children came from homes in which there was considerably more reinforcement of school behavior than for children who did not score as high.

Implications

The Take-Home Computer Program enabled students in this study to develop better attitudes toward reading, increased their interest in reading, improved reading skills, and raised academic grades. It also provided a channel of communication between the students and their parents as they worked together to reinforce reading skills, thus opening an avenue for conversant dialogue between parents and teacher using definable, named skills.

The program's format provided the parents with the opportunity to understand how students learn to read through the use of reading skills. Parents who understand the importance of reading skills are more likely to provide their children with help at home or contact the teacher when they feel their children are having problems with schoolwork.

The overwhelming positive responses by the parents as to the beneficial effects of the program on their children' reading habits provide strong support for school systems to plan and implement parent involvement programs which train parents in specific strategies for helping their children learn skills. The data could also be used to justify the purchase of additional computers for parent involvement.

The increased interest and improvement in reading of the experimental group in this study should have some effect on all areas of these students' school behavior. If improved reading interests, skills, and comprehension are evident, along with better reading habits, these behavioral changes will affect the students' other school subjects. Content area learning will improve as a knowledge of reading is necessary for all subject areas. According to Durkin (1978) and Sheldon and Carillo (1952), improved reading attitudes will similarly affect all areas of the curriculum.

Based on the findings of this study and research of others about the importance of parent involvement, the success of any such program can best be optimized through careful planning and implementation. This might include the hiring of a Parent Coordinator who could provide training for teachers and parents, and assist in developing other types of parent involvement programs. If the hiring of a Parent Coordinator is not feasible, strategies to train teachers to work with parents to implement parent involvement should be considered by the school's administration.

The data compiled in this study clearly indicate that a district level parent involvement program can be beneficial for students in terms of higher test scores in comprehension and total reading. If a school system is interested in

raising its test scores, it should look seriously at involving parents in training programs that teach parents how to work with their children at home. The data also verifies that parents are interested in being a part of the educational process for their children. Teachers need to be made aware that parents will participate when concrete ways for involvement are offered to them.

The positive attitudes of the parents toward this particular program offer an opportunity to use parent spokesmen for expanding parent involvement programs. These spokesmen could be trained to work with other parents who might be more receptive to communication from parents who are already involved in parenting programs.

Recommendations

After collecting and analyzing the data from this study, the following recommendations are made:

1. It would be desirable to ensure that all schools are involved in parent involvement programs. A program of staff development should be undertaken for administrators and teachers to stress the importance of parent involvement and provide models of how it can be done.
2. School boards should be encouraged to fund purchasing computers and software for parent involvement programs.

3. **Media coverage of present parent involvement programs should be provided to alert parents to what is happening between parents and schools.**
4. **A parent questionnaire should be developed to assess parents' attitudes about their present involvement in their children's schools and their ideas for involvement.**
5. **A Parent Coordinator should be hired to coordinate parent involvement programs within the school system.**
6. **Parent training workshops should be planned for parents on a variety of topics.**
7. **Classroom teachers should be used to provide inservice for The Take-Home Computer Program at their school.**

Recommendations for Future Research

1. **It is recommended that a longitudinal study be conducted to follow the students in the experimental group in order to assess long-term effects of their involvement in The Take-Home Computer Program.**

2. Since this study was used with at-risk students in the Chapter I program, it is recommended the same study be conducted with students who are not eligible for Chapter I.
3. It is recommended that the parents involved in this study be surveyed again in three years to investigate if they are actively involved in school activities.

Summary

This study of The Take-Home Computer Program showed that the parents involved in the program believed that their involvement with their children on the computer made a significant difference in their children's interest in reading, reading habits, and grades. The study also showed teacher and student support for the program. An analysis of the test data revealed that the experimental group made greater gains in reading than the control group.

Recommendations included the initiation of training programs for administrators, teachers, and parents on ways to involve parents in the educational process and for the program's expansion. Since it is difficult to assess the impact of a six-week program on student achievement, it was recommended that a longitudinal study be conducted on the experimental group for further assessment.

In conclusion, the importance of this research may be seen in generating some evidence of the value of The Take-Home Computer Program as a vehicle for parent involvement and its effect on student achievement. The evidence of its effectiveness in this school system can be used by other school systems in deciding its desirability for use by their students and parents.

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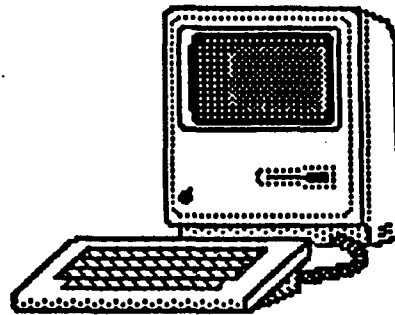
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APPENDIX A
Parent Survey Instrument

TAKE-HOME COMPUTER PARENT SURVEY



**DAVIDSON COUNTY SCHOOLS
1990-91**

Is the Take-Home Computer Program a good way to involve parents in their children's reading program? To answer this question, I need your help. Your answers to the survey questions will provide information about the effectiveness of the program in helping children improve in reading. Information collected will be compiled in a study. Your answers will be kept confidential. Please complete the survey and return it in the enclosed envelope. Thank you for filling out this survey.

1. If you could give the computer program a grade for involving parents in the education of their children, what would it be? (Please circle one.)

A B C D E

Please check one answer.

2. Since your involvement in the program, how has your child changed his/her reading habits?
- Reads a great deal more
 - Reads a little more
 - No change
 - Reads less
 - Reads a great deal less
3. How did the workbook assignments made by the teacher affect your child's reading skills?
- Improved skills a great deal
 - Improved skills a little
 - No change
 - Skills not quite as good
 - Skills not nearly as good
4. How has your involvement with the program affected your child's grade?
- Improved grades a great deal
 - Improved grades a little
 - No change
 - Grades not quite as good
 - Grades not nearly as good
5. What effect do you think your involvement in the program had on your child's interest in reading?
- Increased interest a great deal
 - Increased interest a little
 - No change
 - Decreased interest a little
 - Decreased interest a great deal

6. Has your involvement with helping your child do schoolwork changed since your participation in the program?
- Increased involvement a great deal
 - Increased involvement a little
 - No change
 - Decreased involvement a little
 - Decreased involvement a great deal
7. Should the computer program be continued next year for other parents and students?
- Yes, recommend very much
 - Yes, recommend a little
 - No opinion
 - No, do not recommend
 - No, strongly against continuing program
8. How has your understanding about how your child is taught reading changed since working on the computer with your child?
- Improved my understanding a great deal
 - Improved my understanding a little
 - No change
 - Understanding not quite as good
 - Understanding not nearly as good
9. Did participation in the program increase your communication about schoolwork with your child?
- Yes, increased our communication very much
 - Yes, increased our communication a little
 - No change
 - No, decreased our communication a little
 - No, decreased our communication a lot
10. Since your involvement with the program, are you continuing to set aside time for working with your child on schoolwork?
- Yes, set aside 15-20 minutes a day
 - Yes, set aside 1/2 hour a day
 - Yes, set aside one hour a day
 - Yes, set aside more than one hour a day
 - No time set aside

11. If you were invited to participate in the program next year, would you be willing to participate again?
- Yes, I would like to participate very much
 - Yes, I would like to participate a little
 - No opinion
 - No, I would not participate
 - No, I definitely would not participate
12. Has your involvement in school activities (such as parent-teacher conferences, PTO, visits to school) changed since your involvement in the program?
- Yes, involved very much
 - Yes, involved a little
 - No change
 - Less involvement
 - A great deal less involvement
13. On the whole, how do you feel about your participation in this parent involvement program using a computer?
- Very good
 - Good
 - No opinion
 - Bad
 - Very bad
14. How much time did you spend on the computer each day with your child?
- 15-20 minutes
 - 1/2 hour
 - 1 hour
 - More than one hour
15. How many days a week did you work on the computer?
- 1 day 3 days 5 days 7 days
 - 2 days 4 days 6 days

The next few questions ask how you feel about the program. For each statement below, please check one answer.

- A. I would have liked to talk with the teacher about this program.
- Agree
 - Tend to agree
 - Disagree
 - Tend to disagree

Please go to next page---->

- B. My questions about the program were answered by the teacher. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- C. I understand more about how my child learns to read. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- D. My child often got tense when we worked together on the computer. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- E. I got tense when I tried to work with my child on the computer. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- F. My child liked for me to help on the computer. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- G. Schools should not try to show parents how to help their child learn things at home. This is not their business. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- H. My child liked for me to help with his/her practice on reading skills. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- I. I felt comfortable helping my child work on the computer. Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- J. My child preferred to work alone on the computer. Agree
 Tend to Agree
 Disagree
 Tend to Disagree

- K. Schools should show parents how to help their child with schoolwork at home.**
- Agree
 Tend to Agree
 Disagree
 Tend to Disagree
- L. This program did not help me understand how my child is taught reading.**
- Agree
 Tend to Agree
 Disagree
 Tend to Disagree
-

Who is filling out this survey? (Circle one number.)

- 1 Mother or stepmother of the child
- 2 Father or stepfather of the child
- 3 Other adult

How much schooling did you complete? (Circle one number.)

- 1 Some high school
- 2 Graduated high school
- 3 Some college
- 4 Graduated college
- 5 Some graduate schooling beyond college

Are you currently employed outside the home? (Circle one number.)

- 1 Yes, full-time
- 2 Yes, part-time
- 3 No

What is your current occupation? (Please fill in on line.) _____

What recommendations would you make for this program?

APPENDIX B
Student Survey Instrument

TAKE-HOME COMPUTER STUDENT SURVEY



DAVIDSON COUNTY SCHOOLS
1990-91

TAKE-HOME COMPUTER PROGRAM

Survey for Students

As a part of the Chapter I Program at your school last year, you were selected to take a computer home. Now that you have completed the program, I would like for you to answer some questions about what you thought about using the computer at home. Your answers will be grouped with other students' answers and used in a study to find out how students liked the program. No students' names will be used to identify them. Return this survey to your teacher.

Circle one answer for each question.

- | | | | | | |
|---|-----|----|---|-------------|---|
| 1. If you gave the Take-Home Computer Program a grade, what would it be? | A | B | C | D | E |
| 2. Since having the computer in your home, do you read more? | Yes | No | | Not
Sure | |
| 3. Did the workbook help you understand reading skills? | Yes | No | | Not
Sure | |
| 4. Have your grades in reading improved since using the computer at home? | Yes | No | | Not
Sure | |
| 5. Did using the computer at home help you with your reading? | Yes | No | | Not
Sure | |
| 6. Does your mom or dad help you with your homework? | Yes | No | | Not
Sure | |
| 7. Should the computer program be continued next year for other parents and students? | Yes | No | | Not
Sure | |
| 8. Did your mom or dad or someone in your family help you work in the workbook? | Yes | No | | Not
Sure | |
| 9. Does your mom or dad talk with you about your schoolwork? | Yes | No | | Not
Sure | |

10. Did you enjoy working on the computer with your mom or dad? Yes No Not Sure
11. Would you like to be in the computer program next year? Yes No Not Sure

Check one answer for each question.

12. What did you usually score on the reading assignments on the computer?
- | | | |
|------------------------------|------------------------------|-------------------------------|
| <input type="checkbox"/> 50% | <input type="checkbox"/> 70% | <input type="checkbox"/> 90% |
| <input type="checkbox"/> 60% | <input type="checkbox"/> 80% | <input type="checkbox"/> 100% |
13. How has your interest in reading changed since you used the computer in your home?
- My interest in reading has increased a great deal.
- My interest in reading has increased a little.
- No change
- My interest in reading has decreased a little.
- My interest in reading has decreased a great deal.
14. How have your grades changed since using the computer at home?
- My grades have improved a great deal.
- My grades have improved a little.
- There has been no change in my grades.
- My grades are not quite as good.
- My grades are not nearly as good.
15. How did the workbook assignments help you?
- It helped me understand skills a great deal.
- It helped me understand skills a little.
- There was no change in my understanding of skills.
- I understand skills a little less.
- I understand skills a great deal less.
16. How would you describe your feelings about using the computer at home?
- Very good
- Good
- No opinion
- Bad
- Very bad

Go to next page---->

17. How much time did you spend working on the computer each day?

15-20 minutes

1 hour

1/2 hour

More than one hour

18. How many days a week did you work on the computer?

1 day

3 days

5 days

7 days

2 days

4 days

6 days

19. How well do you do in school?

I make all good grades.

I make some good grades.

I make some good and some bad grades.

I make mostly bad grades.

I am not interested in good or bad grades.

20. What did you like about the program? List below.

a. _____

b. _____

c. _____

21. What did you not like about the program? List below.

a. _____

b. _____

c. _____

22. What grade are you in? _____

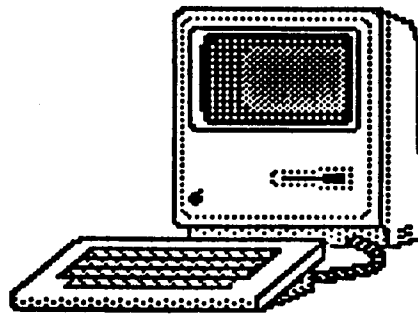
23. I am: a boy a girl

24. My father's job is _____.

My mother's job is _____.

APPENDIX C
Teacher Survey Instrument

**TAKE-HOME COMPUTER
TEACHER SURVEY**



**DAVIDSON COUNTY SCHOOLS
1990-91**

TAKE-HOME COMPUTER PROGRAM

Survey for Teachers

Is the Take-Home Computer Program an effective way to involve parents in their children's reading program? To answer this question I need your help. Please fill out and return this survey to Barbara Everhart. The information will be used in a study and as part of the Chapter I evaluation. All information and opinions will be kept confidential.

1. If you gave the THC a grade for parent involvement, what would it be? (Please circle one.)
A B C D E

Please check one answer

2. Have those students who participated in the program changed their reading habits?
 Reading much more
 Reading a little more
 No change
 Reading a little less
 Reading a great deal less
3. Did the workbook affect your students' reading skills?
 Improved skills very much
 Improved skills a little
 No change
 Skills not quite as good
 Skills not nearly as good
4. How do you think parent involvement in the program affected your students' grades?
 Improved grades very much
 Improved grades a little
 No change
 Grades not quite as good
 Grades not nearly as good

5. What effect do you think your students' involvement in the program has had on their interest in reading?
- Increased interest very much
 - Increased interest a little
 - No change
 - Decreased interest a little
 - Decreased interest a great deal
6. How responsive are parents who were involved in the program in helping their children with schoolwork?
- Very much responsive
 - A little responsive
 - No change
 - Not responsive
 - Not responsive at all
7. How do you feel about continuing this program for another year?
- Yes, recommend very much
 - Yes, recommend a little
 - No opinion
 - Do not recommend
 - Strongly against continuing the program
8. Have your students' comprehension skills changed since their involvement in the program?
- Very much improved
 - A little improved
 - No change
 - Not quite as good
 - Not nearly as good
9. How have parents responded to involvement at your school after participating in the THC program?
- Increased involvement very much
 - Increased involvement a little
 - No change
 - Less involvement
 - A great deal less involvement

10. How effective do you feel this program is in involving parents in their children's reading program?

- Very much effective
- A little effective
- No change
- Negative effect
- Very negative effect

11. Did you have problems getting parents to participate in the program?

- No, no problems at all
- No, no problems
- No change from past
- Yes, had some problems
- Yes, had a lot of problems

12. How would you describe your feelings about this parent involvement program?

- Very good
- Good
- No opinion
- Bad
- Very bad

13. What suggestions do you have for improving the program? Please list below.

- a. _____

- b. _____

- c. _____

- d. _____

APPENDIX D

Superintendent's Approval to Conduct Study

August 17, 1990

Dr. W. Max Walser, Superintendent
Davidson County Schools
Post Office Box 2057
Lexington, North Carolina 27293-2057

Dear Dr. Walser:

As you are aware, I am in the doctoral program at UNC-G and in the process of writing my dissertation. My dissertation is a study of the effectiveness of parent involvement using computers in the home. This letter is a request for your approval to survey the Chapter I students, parents, and teachers who were involved in the program during the 1989-90 school year and to use students' CAT scores to assess reading growth. This information will also be used for the Chapter I evaluation. Enclosed are copies of the surveys.

If you have questions about the surveys or the study, I will be glad to discuss these matters with you.

Sincerely,

Barbara L. Everhart

Barbara L. Everhart

BLE:cds

Enclosures

pc: Mrs. Peggy Barnhardt

Approved by:

W. Max Walser
W. Max Walser, Superintendent
Davidson County Schools

Date: *Aug 17-90*

APPENDIX E
Cover Letter for Parent Survey

Dear

During the 1989-90 school year, your child was invited to participate in The Take-Home Computer Program. This program was a way to involve parents in the reading program at your school.

Was this a good program for involving parent and child to work together on reading skills? In order to answer this question, I need your help. Enclosed is a survey which asks for your opinion about the program. The information from the survey will be used in a study to learn if parents think this program helped their children improve in reading.

Your child will be filling out a survey at school to answer questions about how he/she feels about involvement in the program. I will also be using the California Achievement Tests scores to learn if the students in the program made gains in their reading. In order for me to use your child's test scores in this study, I need your approval. **Please sign this letter on the line at the bottom of this page and return it along with the survey to me in the enclosed stamped envelope.**

All information from the survey will be kept confidential. No names will be used in the study to identify parents or students. If you would like information about the results of the study, call me at (704) 249-8182 and I will send you a summary of the data.

I appreciate your taking the time to complete the survey and helping me evaluate the importance of this program for you and your child.

Sincerely,

Barbara L. Everhart
Chapter I Director

BLE:cds
Enclosures

You have my permission to use my child's test scores. His/her name will not be used in the study.

Parent's Signature

APPENDIX F
Cover Letter for Teacher Survey

MEMORANDUM

TO: Chapter I Teachers

FROM: Barbara L. Everhart
Chapter I Director

DATE:

RE: Take-Home Computer Program Evaluation

Our last rotation for the Take-Home Computer Program was completed in August. It is now time for us to reflect on this program as a way to involve parents and assess whether students' performances improved and attitudes changed.

The attached survey asks your opinion about the THC program. Please complete and return it to me. The data will be compiled and reported to Raleigh.

As you are aware, I am writing a dissertation on parent involvement. The survey data will be used in this research. No names will be included in the study.

I appreciate your help in completing this survey.

BLE:cds

APPENDIX G

Letter to Parents of Control Group

Dear

During the 1989-90 school year, some students in our schools were involved in a special program called The Take-Home Computer Program. This program loaned a computer and software to families and trained parents how to help their child with reading skills.

Was this a good program for involving parent and child to work together to improve reading skills? In order to answer this question, I am now in the process of conducting a study and need to use test scores of students who were not a part of the program. As a part of the study, I need your permission to use your child's test score on the CAT (California Achievement Tests). Your child's name will not be used in the study, only the test score will be recorded. The test scores will be used to learn if students in the program made more gains than students who were not in the program.

The results of the study will be used as a basis for developing programs to involve parents in helping their children in their homes.

Please indicate below if you are agreeable to my using your child's test score in the study, and return this letter to me in the stamped envelope. If you would like to know the results of this study, please call me at (704) 249-8182. I appreciate your help.

Sincerely,

Barbara L. Everhart
Chapter I Director

Please check:

Yes, you may use my child's test score. His/her name will not be shown or revealed to anyone.

No, I do not want my child's test score used.

Signature of Parent

APPENDIX H
Parents' Recommendations

PARENTS' RECOMMENDATIONS

Parents were asked to make recommendations for The Take-Home Computer Program. Listed below are the responses made by the parents:

- I thought the program was very beneficial. I think it should be made available to all children, whether they have difficulties in reading or not.
- It would have been nice if we had more time to use the computer (more than 6 weeks).
- I think my daughter's change of interest from bad to good will make her more involved with computers this year.
- To me, my son did real well. I really enjoyed working with him. I think it should be for kids and parents of all schools.
- In a busy household such as ours, where there is more than one child, there should be more consideration made in involving the whole family. For example, extra disks involving the other children, based on age.
- The computer program works. Any child with a reading problem needs this program. It works! My child is an A student this year. I would do the program again.
- The encouragement to participate in this program should continue so everyone could have the chance to get involved in it. Sometimes just the mere mention of the word "computer" scares people because of the lack of awareness and experience in the use of them. This program could open that door for many uneasy and hesitant parents.

- I feel this program was a tremendous help to my child. I also was happy to be involved in her education. I would participate in this type of activity again.
- Continue with children who have reading disabilities, and to help teach the parents how to help their child. Some parents do not know how to teach such skills.
- I would recommend that any "special" teacher be very involved with parents, answer questions and explain assignments.
- The program was fine.
- Longer time with computer.
- Get the teacher to talk more with parents about workbook assignments and explain what they are trying to improve.
- I feel that any child that has problems in reading skills should participate in this program because it works for the child and the parent in learning/teaching communication.
- This is a great program.
- I just think it is a great idea. We all had fun on the computer, even though we would get irritated at times. My daughter would get irritated at me for trying to correct her or tell her to read directions carefully.
- In my case, I would like to learn more about the program because it was my first time ever doing anything with a computer.
- Although we now own a computer, I think some of the parents might need more than one session to be of much help to their children.
- I am pleased with this program. It even helped me understand the computer more.
- I would recommend this program very highly.

- Program was excellent. Needed more time with access to computer. Had to return computer at the time we began to make real progress. Computer provided one-on-one opportunity to work at student's speed. Student became more at ease the more she worked with computer.
- I would recommend it very much. It does help and kids do enjoy it.
- The program is very good. We did not have the computer long enough to really see how much it could have helped my child. We had it for only 3-1/2 weeks.
- Keep the program going. It helps children and parents.
- Send this program any time except Christmas vacation. We had the computer then and it is the busiest time of year in my field, so the program could not really be used properly at that time. My son was at his relatives so it was not used to the fullest.
- My son showed me a lot about the program I didn't know. I think the program is great.
- I feel it should be made available to more children every year. It has helped us both a lot.
- It should be offered each year.
- Have the program at school on weekends or at night where the instructor can monitor and can help the children and parents.
- All children having difficulty in reading skills should be offered the program.
- The only thing is my daughter never had enough time because of her homework, sports and bedtime.
- That the kids get to keep the computer longer because I do think it helps.

- I think it is a wonderful program and hope it will stay in the school system.
- I think the computer program is super. I only wish we would keep it longer.
- Felt it was fine.
- Add more spelling activities.
- It should continue!
- I thought the program was super and so did my son! Thanks!
- It is a very good program. It makes a parent feel good to know that they are helping.
- Every child should get the chance to use the computer.
- I think it is good for the kids that really want to learn.
- Have more computer programs.
- Add math with the reading. Have more computer programs.
- That it go for 6 months instead of 6 weeks. More one-on-one with teacher, turn in assignments, question and answer periods with parent. Make disk compatible with more home computer systems. The program is what encouraged our family to get a home computer for all of our kids. There's so much more to learn than what is taught in school with video and disks.
- Computers are very important and my child liked the computer work. It helped him during the summer months. It's a very good program.
- To continue this program and expand to more computers as soon as possible in order to help more children.

- That it be widened so that more students will have the opportunity to sharpen their reading skills.
- Maybe increase the games (volume).
- I recommend the same take-home computer program but more communication between parent and teacher during that time. Thank you!
- I felt it was a good program but the child got agitated and didn't want to take time from other activities. Possibly the program should be done in the winter time.
- More time with computer. More activities.
- This program was very beneficial to my child. It made learning fun and interesting. I strongly recommend keeping this program.
- Some of the disks did not work properly. Sometimes we had other work to do and the computer had to wait. Maybe this could be a summer program.
- Appropriate more funds - one computer per school is a disgrace - should have many more. Great program - willing to share experience with administration if it would help.
- I would give the students more to work with if needed. Finished software too soon.
- I think it is just great!! I recommend it highly for anyone who needs help in reading.
- It is a very good program and I would recommend it to others for use.
- Wasn't long enough. Would have learned more. Younger son used it also.
- I think that the school should keep doing this program.

- Continue it.
- Keep up the good work. Keep the program.
- It was very helpful. Please continue.

APPENDIX I
Students' Responses

STUDENTS' RESPONSES

Students were asked to tell what they liked about the program and what they did not like. Listed below are their responses to these two questions. Section A lists what they liked and Section B lists what they did not like.

SECTION A: What I Liked About the Program

- .Enjoyed spelling and reading skills. Enjoyed games.
- .I liked everything about it.
- .It helped me a lot. Helped me understand things in classes. I really liked it a lot.
- .Liked playing the games. Liked the stories.
- .Liked working with the computer.
- .I like the skills.
- .I liked the program because it was fun.
- .It was fun. Good games. Good skills.
- .It helped me a lot in reading.
- .I would like to own one.
- .I like having a computer at home. I like the games.
- .The games. (Seven students responded with this answer.)
- .I liked it because it helped me with my reading and it was just fun.
- .Helped me understand reading better. Fun.
- .It helped me a lot. It was very fun.
- .It was fun to get to bring the computer home. It helped me learn.
- .I like the games.
- .The games. Working with my mom. The assignments.

.You can use it any time at home. No time limit. Practice as much as you want.

.Having a computer at home.

.Learn more about reading and English skill.

.It taught me to read even more. It also helped me with my reading. It also helped me with my English and spelling. I liked it a lot.

.It was fun.

.Skills. Games.

.It was very educational and helped me in some ways.

.Some of the games.

.Fun. Learning. Games.

.Workbook. Games.

.It helped me read better. Fun to work with. Didn't seem like work.

.I got to learn more. I can read better now.

.I like some of the games and the things to help on my work.

.I like the games and the things on the disc.

.It helps you in vocabulary, reading and spelling. It also helps you understand better.

.Fun. Worked with parents.

.It was fun. Good games. It helped you learn.

.It was fun.

.I enjoyed playing on the computer. It helped me.

.It was fun because my brother and I would play games together after I did my work every day and then we would go outside and play games.

.It helped me.

.The way I was in charge of the program. I went along at my own speed. I didn't want to stop every night and go to bed.

.I liked the games.

.Skills on the disc.

.You get to use the computer. It helps you understand.

.You could work at your own pace. You can work when you want to.

.It was fun. Improved my skill of reading. Makes me better person in school.

.It was fun to learn on. It was a challenge to do the problems.

.It helps me understand more reading. I enjoy reading more.

.Spelling. English.

.Working on the computer. My mom helping me with it.

.It had games and some fun stuff. I got to type and I got to play the computer whenever I wanted.

.It helped me do my work.

.It was fun. Make better grades now.

.I thought it was fun.

.It helped me understand more in school.

.It helped me learn more about punctuation. It helped me read a little better. It was fun to work on it when I had nothing to do.

.It helped me in school. I learned some stuff I didn't know. It was easy. Helped with reading.

.Games. The computer itself. It's fun.

.It was fun. It helped a lot. I liked the disc.

.The whole program.

.I liked the games. The workbook was fun and the computer in general was fun.

.The computer.

.I like the games and the disc cards.

.I like the skills the most. I like the computer, too. I like the workbook.

.It made my reading grades go up.

.The games and puzzle.

.I like to work on the computer.

.I liked the games. I liked working with my mom and dad. It was easy.

.It was fun and the most fun about it was the games. My mom and dad helping me on it.

.Fun. Games.

.It was fun using the games.

.It helped some with reading. It gave me some activities. Enjoyed the games.

.It was fun. It helped me understand stuff better.

.You get to take one (computer) home a long time.

.It was fun for me and my family. I had the best time with it.

.I liked learning the skills.

.It was fun and interesting and it helped me.

.Fun. Helped improve reading skills. My sister got to play with me.

.Enjoyed the work. Liked the games and the work.

.Fun. Helped with my understanding of different skills. Learned new vocabulary words, better understanding of synonyms and antonyms.

.It taught me to concentrate. It was fun. It helped me read better.

.I liked the disc.

.I liked to work on C.P.U.

.I liked the games and the work.

.I like it all. (Two students gave this response.)

.There was not anything I did not like.

.No dislikes.

Some of it was boring. Some of it was hard.

.Had to give it back.

.The work.

.Disks were too easy. It was not hard.

.Some of the games.

.I did not dislike anything about the program.

.Workbook.

.Liked it all. (Answer given by two students.)

.I don't hate anything at all.

.The workbook pages we had to do.

.I had to work on it every day.

.Not one thing.

.I did not like the questions.

.I did not like the reading part, and the sentences on the computer I did not want to read them. I don't like the stories.

.Doing it every day.

.The hard questions.

.The skills.

.The work.

.Did not like workbook. Some of the disks did not work.

.It took up too much time. Took it to my dad's house, then to my mother's house.

.Computer at home and working on it.

.It was fun.

.Playing on the computer.

.It was fun. It would keep me busy. I liked to work the games.

.It is a good learning program. Good for learning skills. Fun games.

.Liked the educational games, particularly the math games. Liked the computer as teacher. Liked working with computer at my own speed and time.

.I liked the games, the skills. It helped me a little.

.I liked the games and using the other discs.

.It's a fun way of learning. Helped me to understand computers.

.It was fun. It helped me a lot. I'm doing better because of it.

.It was fun. It helped me. I wish I could do it again.

SECTION B: What I Did Not Like About the Program

.Thirty children did not respond to this question.

.A response of "Nothing" or "None" was given by 34 children.

.Some of the disks were boring, but most of them were fun.

.I liked everything.

.Some of the workbook pages.

.How long I had to spend on it. I didn't like reading some parts and getting frustrated.

.Wish the computer was available for longer period of time.

.Some of the skills. Dumb games. Not understanding some of the skills.

.It did not last long.

.Work.

.I like it all. (Two students gave this response.)

.There was not anything I did not like.

.No dislikes.

Some of it was boring. Some of it was hard.

.Had to give it back.

.The work.

.Disks were too easy. It was not hard.

.Some of the games.

.I did not dislike anything about the program.

.Workbook.

.Liked it all. (Answer given by two students.)

.I don't hate anything at all.

.The workbook pages we had to do.

.I had to work on it every day.

.Not one thing.

.I did not like the questions.

.I did not like the reading part, and the sentences on the computer I did not want to read them. I don't like the stories.

.Doing it every day.

.The hard questions.

.The skills.

.The work.

.Did not like workbook. Some of the disks did not work.

.It took up too much time. Took it to my dad's house, then to my mother's house.

APPENDIX J

Follow-Up Letter to Parents

October 18, 1990

Dear Participant in the Computer Program:

A survey was sent to you through the mail asking for your opinion about the computer program. I have not heard from you and am assuming that you did not get it. Enclosed is another copy of the survey which I am asking that you fill out and return to the Chapter I teacher at your school. An envelope addressed to the teacher is also enclosed.

This survey is important as it will provide information as to whether the computer program should be offered to other parents. Your input will let us know if you think this program helped your child in reading. Please take a few minutes and let me know your feelings about the program.

I will be looking at test scores of children who participated in the program to find out if children who had the computers made gains. I will be glad to share this information with you. You can reach me at 704-249-8182.

I appreciate your time.

Sincerely,

Barbara L. Everhart
Chapter I Director