A LONGITUDINAL IMPACT STUDY
OF THE CO-NECT DESIGN

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Degree
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DEDICATION

This dissertation is dedicated with love and appreciation to my teacher and mentor, Mrs. Billie Jeffries, who gave me a place to live so I could complete my student teaching. She instilled in me honesty, responsibility, and integrity. It is also dedicated to God for giving me the strength and sense enough to climb through windows when doors slam shut.
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ABSTRACT


The purpose of this study was to investigate the impact of the Co-nect restructuring initiative on student achievement levels and identify the quality of the school reform initiative and whether it achieved intended results. The participants were 207 teachers and 4 administrators servicing 4,115 students from pre-k through fifth grade in the state of Florida. The study compared two restructuring schools with two non-restructuring schools and gathered information from the practitioner’s perspective.

Data were gathered from standardized test scores to determine how the restructuring schools compared in student achievement gains to control schools over a three-year period. The study also used in-depth principal interviews, teacher focus groups, and school documents to identify the processes used in each restructuring school. Barriers and/or facilitators to the restructuring process were also identified.

Two repeated measures ANOVAs were conducted to test for achievement differences between Co-nect and non-Co-nect schools along with one way repeated measures ANOVA follow-up to the interaction. Three t-tests were conducted testing for differences between Co-nect and non-Co-nect schools on scores of achievement test that were completed at one time periods. Data collected from interviews, focus groups, and documents were reported qualitatively. Major findings included:

1. Co-nect schools SAT-8 Math scores significantly increased from 1997 to 1998 and significantly increased from 1998 to 1999.
2. There was a significant difference between the Co-nect schools and non-Co-nect schools on the 1999 Florida Writes and 2000 FCAT Math scores with Co-nect schools scoring higher than the non-Co-nect schools.

3. Co-nect schools scored higher, although not significantly, on the 1999 FCAT reading test than non-Co-nect schools.

Project based learning, integration of technology, and collaboration among all stakeholders increased in Co-nect schools. Identified barriers included difficulty of the change process, the need for more planning time, Co-nect’s constructivist approach, and student and teacher mobility.
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CHAPTER I
INTRODUCTION AND LITERATURE REVIEW

The public school system has been pressured more to change than any other social institution (Sarason, 1996). Since 1989, when President George Bush assembled the Charlottesville Education Summit to identify national education needs later influencing the development of the National Education Goals, schools were strongly influenced to restructure in order to raise student achievement and show mastery of state standards. According to Guskey and Sparks (1991) restructuring meant a multi-faceted approach of school improvement and evaluation. A schools organization, culture, administration, and parent and community involvement impacted student achievement, as well as, a change in teachers’ skills, knowledge, and beliefs (Guskey, 1986). The Rand Change Agent Study (Berman & McLaughlin, 1978; McLaughlin, 1990) found that effective reform occurred over time and by a process of “mutual adaptation”. This meant using initiatives that fit schools’ individual situations.

However, schools attempting restructuring were reform pioneers. As school restructuring became a popular strategy to improve education across the country (Herman et al., 1999), reform model design teams were needed. The National Education Goals and the Charlottesville Education Summit of 1989 gave the incentive to develop the New American Schools (NAS) for the purpose of forming model design teams, supporting the development and implementation of whole-school designs, and tracking the designs as they evolved in diverse/individual school settings.

Out of the NAS initial work, seven school improvement designs emerged; Atlas Communities, Audrey Cohen College, Co-nect Schools, Expeditionary Learning Outward
Bound, Modern Red Schoolhouse, National Alliance for Restructuring Education, and Roots and Wings. The New American Schools (1996) required the seven school improvement designs to be replicable in diverse educational settings and encompass the following characteristics:

- Help all students reach high academic standards;

- Address all core academic subject areas, instruction, and school organization; include all grade levels; and align all resources across grades and subject areas;

- Incorporate research about best practices and be the subjects of ongoing evaluation and continuing improvement;

- Provide a school, faculty and community with a shared vision.

In addition to the New American Schools being formed, other educational events were also taking place in the United States. In 1996, the United States Department of Education released the Goals 2000. The Goals 2000 effectively raised the stakes for all public schools. Standards were set to drive education into the 21st century and those schools not making progress possibly would face state takeover. The prospect of state takeover, along with the desire to improve teaching and learning, pressured school districts in all states to take a closer look at their educational programs. For example, in Kentucky the state legislature mandated total restructuring of all primary classrooms. The Kentucky Educational Reform Act of the Legislative Research Commission mandated public schools to restructure their kindergarten, first, second, and third grade primary programs. Kentucky’s educational reform initiative combined a strong educational vision with an understanding for the need to change (Kentucky Department of Education, 1991).
The phenomenon of educational reform influenced other states to embrace similar restructuring efforts. In 1996 the state of Florida entered the field of reform pioneers. The Co-nect design was implemented in 20 Broward County schools. The Broward County Public Schools released a report documenting the district’s reform initiative called the Whole School Reform Evaluation Report (Varela-Russo et al., 2000). The evaluation recommended future design implementation research being gathered at the individual school site level. This present study grew out of that recommendation and gathered information from the practitioner’s perspective in two Broward County schools implementing the Co-nect design. The research documented the implementation process, barriers, and facilitators of the Co-nect design for two restructuring schools. Information collected was intended to help guide the school community in determining how the initiative was working and what changes were needed for continuous improvement purposes. In addition, this study compared standardized achievement test scores for the two restructuring schools with two non-restructuring schools to add to the existing knowledge base for educators considering school reform initiatives.

Broward County school district in Florida was among the first districts in the country to embrace school reform and to implement the Co-nect design. Much of the recent literature on school reform reports district-wide findings. The following review of literature provides a description of the Co-nect design followed by research findings from several school districts that have also implemented the Co-nect design.

**The Co-nect Design**

The Co-nect design is a research-based educational design founded in 1992 by members of the Educational Technologies Group at BBN Corporation. Co-nect's
home office is in Arlington, Massachusetts and is now a for profit teacher professional development company supported by a private consulting group. As of 2001, the Co-nect design has been implemented in over 130 schools. All schools implementing the Co-nect design focus on achieving results measured by five benchmarks (see Appendix A). The benchmarks describe educational best practices based on research that are critical characteristics of successful schools. The five benchmarks are shared accountability, project based teaching and learning, team-based school organization, comprehensive assessment, and sensible use of technology. Rubrics for each benchmark are identified on a 1 to 5 scale, 5 representing the highest possible attainment of educational excellence. Schools use these benchmarks as a framework for school change. In addition, schools that implement the Co-nect design are provided teacher professional development by educational professionals, called school consultants. The school consultants meet face to face with teachers, administration, and district personnel to help the school identify where they are and envision where they want to be. Also, the implementation period usually last three years, costing $65,000 per 40 teachers each year, and includes on-line Internet resources.

Further, the Co-nect design provides training to K-12 educators in core subject areas including mathematics, reading, writing, science, and the social sciences. There is no “new” curriculum required in the Co-nect design. Instead best practices based on research are shared to enhance major strands in the educational environment. In fact, according to Goldberg and Morrison (1998), the foundation of the Co-nect Design was developed from two proven educational best practices and three research strands. All five components were chosen as foundational to the design and are described by the design team as listed:
Best Practices
Multiple Forms of Assessment
Careful use of Technology

Research Strands
Team work
School Organization
Authentic Pedagogy

Schools working toward Co-nect whole school reform begin by integrating both best practices and all three research strands. The following definition of terms provides a more in-depth explanation of the Co-nect school reform terminology and how the design is conceptualized to incorporate the foundational principals.

Shared Accountability

Shared accountability in the Co-nect design describes a kind of school level accountability, in which the entire educational community becomes responsible for ensuring higher student achievement. The Co-nect design promotes sharing accountability among teachers, parents, district personnel, and community partners to increase performance results. As educational results have become a dominant theme in education reform (Allen, 1994), shared accountability is becoming more important. The Co-nect design recommends accountability systems that share responsibility for increasing student achievement and clearly communicate results to all stakeholders, such as parents, community members, and business partners (Mitchell, 1996). The Co-nect design knows all stakeholders are affected by school reform and therefore should take part in the process (Sarason, 1996).

Project-Based Learning

Project-Based Learning incorporates teaching for understanding and accomplishment in which all students have the opportunity to develop and show mastery
of critical skills and essential knowledge. Bransford and Stein (1993) were among the leading educators who first supported project-based learning to be a comprehensive approach to engage students in sustained, cooperative investigation. In today's society, employers are requiring this and much more. Skills such as higher order thinking, creativity, flexibility, and teamwork are basic expectations of new employees in today's job market. According to Blumenfeld et al. (1991), project-based instruction is a way to focus on real-world relevance, active investigation, articulation among students, teachers, and community members, and use of cognitive teaching tools.

Other instructional aspects widely supported in a project-learning atmosphere include the teacher becoming a facilitator/co-worker rather than the sole provider of information, lecture is limited, divisions of academic disciplines are decreased, hands-on application is extended, and community involvement is increased. When appropriate, merging two or more disciplines, as described by Hayes-Jacobs (1997), is promoted for the purpose of making a more powerful and lasting learning experience.

The Co-nect design sought to incorporate this theory into practice and thus Co-nect classrooms are expected to engage students in project-based learning with real-world value and community relevance that employs curriculum integration. Rather than the Co-nect Design espousing a particular instructional methodology, curriculum-integrated approaches are shared as an educational best practice that is utilized in project-based teaching and learning.

Comprehensive Assessment

Comprehensive assessment for continuous improvement means successful schools draw on a variety of information (not just test scores) to keep careful track of student
achievement. Eighty-five percent of educators who responded to a national survey agreed that performance-based tests helped faculty to focus on performance standards and student outcomes (Mitchell, 1996). Many school districts have thus begun to include both criterion-referenced and norm-referenced assessments to guide their educational programs. To achieve this, the Co-nect design recognizes that no single measure is sufficient, and alternative forms of assessment in combination with standardized tests help to convey student results. Specifically, the Co-nect design calls for using student-generated rubrics, involving community members to evaluate student work, and implementing a school-wide portfolio system to supplement standardized test scores.

**School Organization**

Team-based school organization emphasizes the importance of self-directed, accountable teams committed to helping a particular group of students achieve at a high level. Alternative scheduling issues, site-based decision making, increased community support, student-grouping configurations, and teaching teams can create a positive learning environment (Goldberg & Morrison, 1998). McDonald (1996) states that schools need to know how to arrange things so that the right people care about doing the right thing. Although school reform initiatives may be district influenced, the need for change must be accepted by all stakeholders for implementation to be successful. The entire school community must change to impact individual students. The Co-nect design looks to all stakeholders to begin “operating in a web of professional relations that influences their daily decisions, rather than as solo practitioners inventing practice out of their own personalities, prior experiences, and assessments of their own strengths and weaknesses” (Elmore, 1996, p.19).
Sensible Use of Technology

Sensible use of technology describes how use of the Internet and other
technologies can become part of the real work of schools (Goldberg & Morrison, 1998). It is theorized that if children are to be successful learners who are prepared for life in a
global, technological society, educators must rethink how children are taught (Grasmick, 1996). As a consequence of this thinking technology has become a major component of
school reform, and as such it allows students to be active participants in the learning
process (Sculley, 1993). Ornstein (1992) suggested six areas of technology application:

1. Computer word-processing used by students to develop language skills.
2. Computer-assisted instruction used to provide tutoring and additional practice.
3. Computer aids used to design and create pictures, graphs, and models.
4. Computer authoring systems used to create customized computer lessons.
5. Computer data systems used to research information via the Internet.
6. Computer data storage used to input large volumes of information. (p. 27-33)

The Co-nect design integrates technology in many of these same ways. Although there
are numerous ways to integrate technology into the classroom, the Co-nect design
supports having a purpose and sensible reason for using it.

In a school implementing the Co-nect design instruction looks different than in the
traditional classroom. Teachers become the facilitators of instruction rather than the
constant bearer of information. Students are self-directed and become investigators in the
learning process instead of constant listeners and followers. Instruction becomes a
process for standards to be mastered and lesson activities connected to meaning.
Administration supports time for teacher collaboration and welcomes community
involvement. Technology is not only used as a teaching tool but as a window to the world. Schools integrating the Co-nect design implement best practices and research to support school change and restructuring efforts.

As the Co-nect design team works collaboratively with educators and school districts to address the key components of best instructional practices, all five benchmarks are addressed: shared accountability, project based learning, comprehensive assessment, school organization, and sensible use of technology. The Co-nect design uses the five benchmarks as a framework for restructuring and encourages integration of instructional strategies that are proven to enhance teaching and learning.

Review of Literature

Although this study dealt with schools in Florida, it is important to review other state restructuring initiatives to gain insight of Co-nect’s implementation and progress.

Cincinnati Public Schools implemented three New American School designs in 1994, Co-nect, Expeditionary Learning, and Success For All. The Cincinnati Public School District’s office of Research and Evaluation reported findings in November, 1999 on the effectiveness of the school reform designs from previous implementation years. Overall, the research showed that student performance on the Ohio Proficiency Tests did not significantly improve beyond the district average for all three implemented NAS designs. However, on the Ohio Proficiency Test for grades 4 and 6, “Co-nect schools individually and as a group showed an improvement in student performance for 1995-1999 implementation period. This improvement exceeded district-wide average changes” (Lewis & Bartz, 1999, p. i). Some Success for All schools showed an improvement in
reading, although they did not exceed the district average. Expeditionary Learning schools, averaged as a group, remained lower than the district average.

Another study conducted in 1998 by researchers at the University of California, Irvine and the University of Minnesota surveyed 4,000 teachers from 1,100 schools on computer use and pedagogy. There were 21 teachers representing six Co-nect schools in the study whose data differed from the larger survey group in several ways. First, “Co-nect teachers were more likely to have computers available for home borrowing and to have home access to the school’s computer network” (Becker, Wong, & Ravitz, 1999, p. 5). Also, “the particular ways that Co-nect teachers used computers suggested a more sophisticated pattern than other groups of teachers” (Becker, et al., 1999, p. 8). For example, the Co-nect teachers consistently communicated with parents, shared work with teachers, and posted student work through technology. Just as the teachers showed a higher use of technology “more than any other comparison group, including high-end technology schools and other reform programs,” (Becker, et al., 1999, p. 7), the Co-nect teachers also demonstrated “a strong professional culture, by far stronger than any other comparison group of schools. This suggested that the Co-nect program was laying a strong foundation for sustaining school wide professional change over the long term” (Becker, et al., 1999, p. 18).

In addition, The Center for Research in Educational Policy at the University of Memphis conducted a study that included Memphis City schools going through restructuring initiatives from 1995-1999 and several non-restructuring schools identified as controls (Ross, Wang, Sanders, Wright, & Stringfield, 1999). The designs included in the study of Memphis City Schools were Co-nect, Accelerated Schools, ATLAS, Roots
and Wings or Success for All, Expeditionary Learning, Modern Red School House, Paideia, and Audrey Cohen College. Data were collected from the original 25 schools (R95 cohort), 12 schools beginning restructuring in 1996 (R96 cohort) and comparison schools to assess achievement outcomes for the time period being studied. Overall, the restructuring schools performed better than the non-restructuring schools and revealed “the restructuring initiative raised achievement in Memphis” (Ross, et al., 1999, p. 4). Although findings indicated that the lower socio-economic schools showed the most benefits from the restructuring efforts, the Co-nect-95 cohort in 1998 showed the strongest and only significant effect of all subjects averaged during implementation (Ross et al., 1999). Also, the Roots and Wings-95 cohort showed more improvement in Math than the non-restructuring schools and Accelerated Schools-95 and ATLAS-95 demonstrated moderate to strong changes in one or more subject areas.

As in Memphis, Broward County Public Schools in Florida implemented several of the New American School restructuring models including Atlas, Audrey Cohen College, Co-nect, Expeditionary Learning-Outward Bound, Modern Red School House, and Roots and Wings. Two independent designs were also included in the study: Accelerated Schools (Levin, 1987) and Paideia (Adler, 1982). A report analyzing the effectiveness of all restructuring models was released in February 2000. Evaluation was based on surveys, student test scores, attendance records, and school visits. Even though the implementation of all models was described as “uneven and spotty,” (Varela-Russo et al., 2000, p. ii) an “increase in communication and cooperation among the faculty” (p. ii) was identified as a consistently positive outcome of the Co-nect restructuring initiative. One conclusion specifically regarding the Co-nect design was an increase in attendance of both
students and teachers compared to the district average as a whole. The authors of the study concluded that this possibly represented "a positive impact on student desire to attend school" and "a greater teacher desire to be at school every day" in schools implementing the Co-nect design (Varela-Russo et al., 2000, p. 17). Standardized test scores in both reading and math improved during design implementation for Modern Red School House and Roots and Wings. However, test scores for the Paideia model declined compared to the district average. In 1997 Accelerated Schools, Expeditionary Learning-Outward Bound, and Roots and Wings showed the strongest benefits compared to the non-restructuring schools. Although in 1998 the Co-nect design showed the strongest effect, Roots and Wings excelled in Math over the non-restructuring schools.

**Research Questions and Problem Statement**

Although the Co-nect design is a research-based reform model that is well grounded in current educational theory, to date there has been little research of the Co-nect design's application where there are similar schools (controls) for making valid comparisons and assumptions about the design's merit as a model for reforming and improving schools. Other studies have focused on comparison of several designs across multiple types of schools and have looked primarily at achievement rather than factors that have enabled schools to bring about some of the fundamental changes required for implementing a particular school reform design. Thus, questions have arisen about which design pieces work most effectively in schools and/or which are problematic for quality implementation to occur.

In order for educators to make valid comparisons and assumptions about the Co-nect design, this study focused on two Co-nect schools by gathering data at the teacher
level to inform how reform was being achieved and teachers’ perceptions of what about
this design was working well and what was not. Also, the study focused on student-level
achievement to determine the potential and sustainability of changes being promoted by
the design. Specifically, this study compared student achievement gains in two Co-nect
schools, as measured by standardized tests, with two non-restructuring schools over the
restructuring implementation period. In addition, to understand fully the restructuring
effort of the Co-nect initiative in these two schools, principal interviews and teacher focus
groups were conducted to collect school level data that would document attitudes of those
directly involved with implementation of Co-nect.

This study includes both student and school level data. A combination of
quantitative and qualitative methods were used to address the following research
questions:

1. How do the restructuring schools compare in student achievement gains, as
measured by standardized tests, to the control schools over a three-year period?

2. What methodology is used in each restructuring school to implement the Co-
nect Design?

3. What are the barriers and/or facilitators of implementation of the Co-nect
   Design?
CHAPTER II

METHODOLOGY

Participants

The participants included 207 teachers and 4 administrators in four urban elementary schools in the state of Florida. The schools service 4,115 students from pre-K through the fifth grade.

School A is a neighborhood school implementing the Co-nect Design since 1996. Approximately 69.5% of the School A students qualify for free or reduced lunch. There are 744 pre-K through fifth grade students and 45 full time teachers. The student body is made up of 16.1% special need students and 12.1% with Limited English Proficiency. The school is organized into four clusters. Each cluster includes classroom teachers, special area teachers, and support personnel.

School B is a non-restructuring school that served as the control for School A. Approximately 57.8% of the students qualify for free or reduced lunch. There are 853 pre-K through fifth grade students and 45 full time teachers. The student body is made up of 11.4% special need students and 16.3% with Limited English Proficiency. School B incorporates principles such as intellectual focus, tone of decency, and diversity known as Coalition for essential schools.

School C is a restructuring school that has also been implementing the Co-nect Design since 1996. Approximately 23.9% of its students qualify for free or reduced lunch. There are 1,116 pre-K through fifth grade students and 46 full time teachers. The student body is made up of 7.3% special need students and 9.1% with Limited English
Proficiency. The school is organized in grade level teams and has cross-grade meetings monthly.

School D is a non-restructuring school that served as the control for School C. Approximately 32.5% of its students qualify for free or reduced lunch. There are 1,402 pre-K through fifth grade students and 71 full time teachers. The student body is made up of 13.1% special need students and 7.5% with Limited English Proficiency. Although this school is not implementing a restructuring model, it focuses on academic leadership, community involvement, and safety.

**Design**

This study was designed to investigate the impact of the Co-nect restructuring initiative on student achievement levels, identify the quality of the school reform initiative, and determining whether it is achieving intended results. Policy Studies Associates (1998) explains that no single data collection tool meets all investigation needs. Therefore, multiple methods of data collection and analysis were integrated to address each research question. The design was both quantitative and qualitative, involving interviews, focus groups, analysis of standardized achievement test data, and document analysis.

**Instrumentation**

Three types of achievement test data were analyzed in order to assess the impact of the Co-nect design on achievement. These included the Stanford Achievement Test, Florida Comprehensive Assessment Test, and Florida Writes Assessment.
Stanford Achievement Test

The Stanford Achievement Test (SAT) is a standardized, norm-referenced test that allows for comparison of student achievement to national averages. The test consists of multiple-choice items and is given at grades 3-5 for Math and Reading.

Florida Comprehensive Assessment Test

The Florida Comprehensive Assessment Test, FCAT, uses test questions and performance tasks to measure specific Sunshine State Standards in areas of reading for grades 4, 8, and 10 and math for grades 5, 8, and 10.

Florida Writes Assessment

The Florida Writes Assessment is a timed test that measures student’s proficiency in writing responses and is implemented in grades 4, 8, and 10.

Principal Interview Questionnaire

Principals of the two Co-nect schools were interviewed using the Comprehensive School Reform Design (CSRD) Principal Interview Guide developed by the Center of Research in Educational Policy, The University of Memphis (see Appendix B). The interview consisted of 25 open-ended questions pertaining to general information, classroom level changes, results, professional development, and community support.

Individual in-depth interviews lasted a maximum of one-hour. Principals were given an informed consent agreement (see Appendix D) and allowed interviews to be recorded for transcription.

Teacher Focus Group Questionnaire

Requests were made to hold a teacher focus group interview at both Co-nect schools. This was a semi-structured interview guided by the Comprehensive School
Reform (CSR) Teacher Focus Group Questions developed by the Center of Research in
Educational Policy, The University of Memphis (see Appendix C). The focus group
questionnaire consisted of 19 open-ended questions covering general information,
classroom-level change, results, professional development, and community support. The
focus groups had a maximum time limit of one hour. Volunteer participants signed an
informed consent agreement (see Appendix D) and allowed the focus group to be
recorded.

Critical Friends Reports (CFR)

During year 2 of implementation, every Co-nect school receives a visit from a
team of Co-nect educators, also implementing the design, from around the country. This
team includes teachers, administrators, and district personnel that volunteer to evaluate
progress and identify strengths and challenges for the visited peer Co-nect School. The
Co-nect Benchmarks (see appendix A) are used as a framework as the team examines
projects, conducts interviews, and recommends next steps. A written report is given to
the visited school and shared in an abbreviated format with the district.

Cumulative Implementation Reports (CIR)

Co-nect school consultants, employed and trained by Co-nect, give feedback each
year for the Co-nect school that they services. An average benchmark score is given
along with a narrative that describes the school’s progress. The Co-nect school consultant
observes the restructuring process by visiting each school approximately 20 times a year
and serves as the professional development specialist of the reform implementation. The
implementation report also serves as a running record of the schools’ benchmark scores
and standardized tests taken during the three-year implementation process.
Analyses

First, a comparison of the student achievement data, gathered from the district-mandated Stanford Achievement Test, Florida Comprehensive Assessment Test, and Florida Writes, was made of two restructuring Co-nect schools to demographically matched non-restructuring control schools using a mixed design ANOVA and several \( t \)-tests. Control Schools used for comparison were selected based solely on demographic information provided by the district and state-level reports. To make the selection, the following demographic variables were considered:

1. Grades served by the school
2. Total enrollment
3. Percent of students receiving free or reduced lunch
4. Percent of students classified as Limited English Proficient
5. Percent of students with special needs

To examine the effects of the program, the test scores for students at Co-nect schools were compared against students attending comparison schools. Two sets of analyses were conducted. Test scores were examined longitudinally and cross-sectionally. To examine the data longitudinally, a 2 (school type) x 3 (school year) mixed design ANOVA with school type (Co-nect vs. non-Co-nect) as a between subject variable and school year (1996-97 through 1998-99) as a within-subject variable were implemented. The dependent variable was the SAT-8 for grades 3-5. For those test scores that were collected for a given grade level (Florida Comprehensive Assessment Test for Reading grade 4, Florida Comprehensive Assessment Test for Mathematics grade 5, and Florida Writes grade 4), \( t \)-tests using school type as the
In addition to the achievement data, a case study approach was used to document the issues and outcomes of the restructuring process. The case study method is a qualitative approach that helps one to understand “the meaning of experience” (Merriam, 1988, p. 16). For the purpose of triangulation, this assessment included a one-hour in-depth interview of both Co-nect principals, a one-hour focus group interview of voluntary Co-nect teachers from both restructuring schools, and document analysis of Critical Friends Reports and Cumulative Implementation Reports.

Since School A and School C began restructuring efforts with Co-nect in 1996, documents were available to give additional insight into the methodology and processes in which change had occurred. Among these were 1997 Critical Friends Reports and 2000 Cumulative Implementation Reports. For the Critical Friends Reports and Cumulative Implementation Reports, themes were identified and categories developed by the researcher. For the interviews and focus groups tapes were transcribed to identify themes and develop categories. A number and percentage of responses based on themes in each category was tabulated. Another researcher was enlisted to independently code responses and cross check analysis. This enhanced the reliability and trustworthiness of the study and controlled for bias in interpretation as suggested by Lincoln and Guba (1985).

**Limitations**

The study used a small sample consisting of four schools in a single district. Included were two restructuring schools and two non-restructuring schools for a comparison analyses. For an in-depth analysis of the Co-nect design implementation each school had only one restructuring principal to be interviewed and only gave permission to
hold only one teacher focus group. Participation in the teacher focus group was voluntary. Therefore, teachers' experiences and attitudes cannot be assumed to represent the entire school. Further, the researcher worked as an education advisor for Co-nect during the data collection time period.
CHAPTER III

RESULTS

This chapter presents a description of each restructuring school as related to the Co-nect Benchmarks (see Appendix A) and includes discussion of results related to each research question. Data were collected from school documents, standardized test scores, in-depth principal interviews, and teacher focus groups. Following a description of each restructuring school, comparison analyses, along with patterns and themes are reported by research question.

School A

Analysis of the data gathered from the Implementation Reports and Critical Friends Reports revealed changes in benchmark scores, school information and restructuring strengths and challenges. Table 1 shows benchmarks scores obtained during each year of implementation. School A in 1996 began the restructuring process with an average Co-nect benchmark rating of 2.7 on a scale 1 to 5. The Cumulative Implementation Report revealed that in 2000 the school had increased the average rubric score to a 4.1. The following is a more in depth description of School A’s restructuring strengths and challenges as documented in the year 2 Critical Friends report (CFR) and Cumulative Implementation reports (CIR).

School A showed evidence of teamwork focused on results (benchmark 1) by establishing strategies to improve standardized test scores, such as cross-grade pathways, school-wide initiatives, communication dissemination, community involvement, higher expectations, and self-directed learning. Challenges documented included the need to establish a school-wide use of standards, enhance teaching and learning through tutoring
and mentoring, provide teacher training on standards-based portfolio systems, and find additional funding to sustain restructuring efforts.

Table 1

<table>
<thead>
<tr>
<th>Date</th>
<th>School</th>
<th>BM1</th>
<th>BM2</th>
<th>BM3</th>
<th>BM4</th>
<th>BM5</th>
<th>Average</th>
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<td>*</td>
<td>4.00</td>
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<td>4.00</td>
<td>4.00</td>
<td>4.25</td>
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</tr>
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</table>

*Score not given

Benchmark 2 (integration of project based teaching and learning) was evident by School A’s development of two way partnerships with parents and businesses, use of driving questions and cooperative learning groups, projects produced with higher order thinking skills, transferring learning to real life situations, and sharing student work through project display nights. Some challenges included more time needed for project

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1 Benchmarks are critical characteristics that serve as a framework for school restructuring.
work and cross-grade collaboration, integration of district standards, increasing rigorous academicians, and difficulty merging direct instruction and project based learning.

School A's strengths relating to Benchmark 3 (comprehensive assessment) included active administrative monitoring, use of progress charts and rubrics, portfolio integration, and various pilot tracking programs such as Accelerated Math and Reading. The need for continued development of a school-wide portfolio system was reflected as a challenge, along with the need for rubrics to be aligned with district standards.

For benchmark 4 (school organization), School A displayed evidence of strong administrative support, design team monthly meetings, common planning time for teachers, multiage and looping practices, and low teacher turn over. Identified challenges included the need for cross-grade common planning time, increased cooperative learning activities, and strategies to improve horizontal and vertical interactions. Having a change in the principal after the first year of implementation was also reported as a challenge.

Strengths listed for sensible use of technology (Benchmark 5) included available computer labs, school technology specialist, school-wide utilization, dissemination of technology expertise, and integration of technology in project work. Challenges addressed were the need to increase the amount of teacher professional development and opportunity for student use, integration into all subject areas, and development of a school wide technology plan and website.

School C

As was the case for School A, School C also had a 1997 Critical Friends Report and 2000 Cumulative Implementation Report created by the Co-nect design team. In 1996, the first year of implementation, the school's average benchmark rating was 3.4 out
of 5 (compared to 2.7 for School A for the same time period). As of 2000, the school increased their educational best practices based on the Co-nect benchmark rubric to a 4.1 average rating (compared to School A’s 4.1 benchmark rating). Table 1 shows all benchmark scores during the Co-nect implementation. The following gives a detailed description of School C’s strengths and challenges according to the Co-nect benchmarks.

School C showed evidence of teamwork focus on results (benchmark 1) through a unified vision articulated by their mission statement. The principal also provided an environment that fostered mutual accountability by communicating higher expectations for students, teachers, and parents. Challenges identified were the need to build parent and teacher relationships by capitalizing on parent experts and connections within the community. Also, the reports (CFR, 1997; CIR, 2000) indicated the school needed to use school and student level data to guide the development of future plans and instruction.

There was evidence of project-based teaching and learning integration (benchmark 2). Strengths included student centered classrooms, opportunity for constructive communication for all stakeholders, and projects supported by curriculum. Challenges included the need to incorporate strategies that would help teachers to plan interdisciplinary projects, align state standards, and create meaningful real world products.

School C’s strengths related to benchmark 3, comprehensive assessment, were evidenced by a variety of assessment used that included rubrics, standardized tests, and running records. There was evidence that the school implemented a standards-based portfolio system and offered professional development to teachers monthly. Some challenges revealed the need for parents to have a better understanding of the different
assessments, additional staff development using data, and adding a student-reflection component to the assessment process.

Strengths listed for school organization (benchmark 4) included administrative support for teacher involvement, design team decision-making, and sharing of professional expertise. "In addition, older students served as role models for younger students." (CFR, 1997, p. 4) Challenges identified that teachers needed to find ways to regularly coordinate multi-grade standard-based projects and continue to explore strategies to have more planning time. Documentation revealed high teacher turnover also as a challenge.

There was evidence of sensible use of technology (benchmark 5) in School C. Strengths included use of computers, presentation devices, and Internet access. "Beyond simple informational communication, email is beginning to be used effectively as a team-building mechanism within the entire school community" (CFR, 1997, p. 5). Challenges consisted of creating additional opportunities for faculty and students to use technology for learning, the need to explore creative solutions for providing more technology access for both teachers and students, and taking advantage of the on-line Co-nect website called The Exchange.

School A and C SAT-8 Analysis

It is important to show interaction among the Co-nect schools for the SAT-8 scores because they can be measured overtime. Two repeated measures ANOVAs were conducted to test for differences between the two Co-nect schools on SAT scores in Math and Reading for students who were in the 3rd grade during the 96-97 school year. The analyses were limited to these groups because they were the only groups of students with
test data who were in the same school for three consecutive years. The first repeated measures 2 (school) X 3 (year) ANOVA indicated a significant main effect for year (F (2, 650) = 14.78, p < .001) and a main effect for school (F (1, 325) = 27.08, p < .001). These main effects were qualified by a school X year interaction (F (2, 650) = 6.52, p < .002), for SAT-8 Math percentile scores. As a follow-up to the interaction, one-way repeated measures ANOVAs were conducted. For both School A (F (2, 236) = 7.63, p < .001) and School C (F (2, 414 = 15.15, p < .001) there were significant changes in test scores over the three years.

School A and C SAT-8 Math

For School A, there was no significant difference on SAT-8 Math scores (t (118) = 0.43, p ns) from 1997 (M = 47.24, SD = 29.1) to 1998 (M = 48.10, SD = 27.8), but there were significant increases (t (118) = 3.48, p < .001) from 1998 to 1999 (M = 54.00, SD = 26.6). For School C, SAT-8 Math scores significantly increased (t (205) = 4.76, p < .001) from 1997 (M = 61.03, SD = 28.6) to 1998 (M = 67.68, SD = 27.8), but there was no significant differences (t (205) = 1.57, p = ns) from 1998 to 1999 (M = 66.01, SD = 25.7).

School A and C SAT-8 Reading

The second repeated measures ANOVA 2 (school) X 3 (year) found a significant main effect for the year (F (2, 654) = 10.97, p < .001) a main effect for school (F (1, 327) = 7.80, p < .007). These main effects were qualified by a school X year interaction (F (2, 654) = 7.46, p < .001), for SAT-8 Reading percentile scores. As a follow-up to the interaction, one-way repeated measures ANOVAs were conducted. For both School A (F (2, 238) = 23.14, p < .001) and School C(F (2, 416) = 5.32) p < .005) there were
significant changes in test scores over the three years. For the School A, there was no significant difference for SAT-8 Reading scores ($t (118) = 0.13$, $p = ns$) from 1997 ($M = 42.84$, $SD = 28.1$) to 1998 ($M = 43.20$, $SD = 26.7$), but there were significant increases ($t (118) = 7.01$, $p < .001$) from 1998 to 1999 ($M = 52.25$, $SD = 25.4$). For School C, SAT-8 Reading scores significantly increased ($t (205) = 2.58$, $p < .01$) from 1997 ($M = 51.56$, $SD = 29.8$) to 1998 ($M = 55.28$, $SD = 27.5$), but there was no significant differences ($t (205) = .25$, $p = ns$) from 1998 to 1999 ($M = 55.82$, $SD = 27.4$).

**Research Questions**

How do the restructuring schools compare in student achievement gains, as measured by standardized tests, to the control school over a three-year period?

Analysis of the data gathered from the SAT-8 for Math and Reading revealed differences between non-Co-nect schools and Co-nect schools on achievement scores. The Stanford Achievement Test is a norm-referenced test that allows for comparison of student achievement to national averages and was given in 1997 and 1998. Scores used for analysis, 1997-1998 test data, represented students who were in grades 3-5 and in the Co-nect program for one year. The 1998-1999 test data used for analysis represent students that remained in the Co-nect program for two consecutive years.

Two repeated measures ANOVAs were conducted testing for differences between non-Co-nect, the control, and Co-nect schools on SAT scores in Math and Reading for students who were in the 3rd grade during the 96-97 school year. The analyses were limited to these groups because they were the only groups of students with test data who were in the same school for three consecutive years.
SAT-8 Math and Reading Analysis

The first repeated measures ANOVA 2 (school type) X 3 (year) found a main effect for year ($F(2, 830) = 23.73, p < .001$) but no main effect for school ($F(1, 415) = .01, p = ns$). The main effects were qualified by a significant school X year interaction ($F(2, 830) = 11.83, p < .001$, See Figure 1) for SAT-8 Math percentile scores. As a follow-up to the interaction, one-way repeated measures ANOVAs were conducted. For both the non-Connect ($F(2, 486) = 27.75, p < .001$) and Connect ($F(2, 344) = 10.73, p < .001$) schools there were significant changes in test scores over the three years. For the non-Connect schools, SAT-8 Math scores

Figure 1. SAT-8 Math Percentile Scores from 1997 to 1999 for Connect and Non-Connect Schools
significantly decreased ($t \ (243) = 5.10, \ p < .001$) from 1997 ($M = 64.14, \ SD = 28.2$) to 1998 ($M = 58.59, \ SD = 25.8$), but significantly increased ($t \ (243) = 8.17, \ p < .001$) from 1998 to 1999 ($M = 66.95, \ SD = 28.5$, See Table 2). For the Co-nect schools, SAT-8 Math scores significantly increased ($t \ (172) = 2.05, \ p < .05$) from 1997 ($M = 60.26, \ SD = 28.1$) to 1998 ($M = 63.31, \ SD = 28.0$), and significantly increased ($t \ (172) = 2.62, \ p < .01$) from 1998 to 1999 ($M = 66.60, \ SD = 24.8$, See Table 2). Another set of follow-ups to the interaction were conducted. In contrast to the previous set of repeated measures ANOVAs that tested for significant change in math scores over the three years, follow-up t-tests found no significant differences between the Co-nect and non-Co-nect schools during the 1997 school year ($t \ (415) = 1.38, \ p = \text{ns}$), the 1998 school year ($t \ (415) = 1.77, \ p = \text{ns}$), and the 1999 school year ($t \ (415) = .13, \ p = \text{ns}$). Because the t-test follow-ups do not take into account change over time nor the initial levels, they should be interpreted with caution.

The second repeated measures 2 (school type) X 3 (year) ANOVA found no significant main effect or interaction ($F \ (2, \ 830) = 1.69$) for SAT-8 Reading percentile scores.

**FCAT and Florida Writes Analysis**

Three t-tests were conducted testing for differences between Co-nect and non-Co-nect schools on scores for achievement tests that were completed at only one time period. The Florida Comprehensive Assessment Test (FCAT) uses test questions and performance tasks to measure specific Sunshine State Standards in areas of reading for grades 4, 8, and
Table 2

Means and Standard Deviations for school type by school year

<table>
<thead>
<tr>
<th>Year</th>
<th>Test</th>
<th>N</th>
<th>Co-nect (C) M (SD)</th>
<th>Non-Co-nect (NC) M (SD)</th>
</tr>
</thead>
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<td>60.26 (28.1)</td>
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<td></td>
<td>SAT-8 Reading</td>
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<td>47.88 (29.9)</td>
<td>50.91 (29.3)</td>
</tr>
<tr>
<td>1998</td>
<td>SAT-8 Math</td>
<td>417</td>
<td>63.31 (28.0)</td>
<td>58.59 (25.8)</td>
</tr>
<tr>
<td></td>
<td>SAT-8 Reading</td>
<td>417</td>
<td>55.29 (27.1)</td>
<td>54.95 (26.1)</td>
</tr>
<tr>
<td>1999</td>
<td>SAT-8 Math</td>
<td>417</td>
<td>66.60 (24.8)</td>
<td>66.95 (28.5)</td>
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<tr>
<td></td>
<td>SAT-8 Reading</td>
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<td>FCAT Reading*</td>
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<td>295.84 (49.6)</td>
<td>287.53 (53.9)</td>
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<tr>
<td>2000</td>
<td>FCAT Math**</td>
<td>339</td>
<td>329.57 (42.9)</td>
<td>318.45 (52.4)</td>
</tr>
</tbody>
</table>

* Test given only to 4th grade

** Test given only to 5th grade

10 and math for grades 5, 8, and 10. The Florida Writes Assessment measures students' proficiency in writing responses at grades 4, 8, and 10. Scores used for analysis, 1999 Florida Writes, represented students that had remained in the Co-nect program for two years and were in 4th grade at the time of testing. The 2000 FCAT scores used for analysis, represented students that had remained in the Co-nect program for 3 consecutive years. Two t-tests found significant differences between the school types for the Florida
Wrote 1999 scores and the FCAT Math 2000 scores (respectively, ts (406 & 337) = 2.35 & 2.05, ps < .01). In both cases Co-nect schools (respectively, Ms = 3.17 & 329.57, SDs = 0.8 & 42.9) scored higher than non-Co-nect schools (respectively, Ms = 2.97 & 318.45, SDs = 0.9 & 52.5, See Table 2). The third t-test found marginal differences between the schools (t (408) = 1.66, p < .10) for FCAT reading 1999 scores. Again, Co-nect schools (M = 295.84, SD = 49.6) scored higher than non-Co-nect schools (M = 287.53, SD = 53.9, See Table 2).

What methodology was used in each restructuring school to implement the Co-nect Design?

Data were gathered from school documents, in-depth interviews, and teacher focus groups to document the methodology of implementation and factors that have been most critical in the restructuring process. Analysis revealed four major themes contributing to effective implementation in the Co-nect restructuring process: commitment, training, collaboration, and enhancement of instructional strategies.

Commitment

Both School A and School C agreed that the district initiated choosing a restructuring design and provided the financial commitment. Each principal said they attended a superintendent presentation on the different reform initiatives. Information was reviewed and shared with the schools’ leadership team. Principals requested several teachers and parents to visit other Co-nect schools and to later disseminate observational findings to their entire faculty. A school vote was taken at both schools and each was to have a 75% teacher buy-in for Co-nect implementation to occur. However, School A’s original principal did not document the initial buy-in percentage. The present principal felt
that each year more buy-in was evident, however. One teacher said, “The selling point at that time was that Co-nect had benchmarks and the technology that adhered to standards. Co-nect’s vision seemed to match the school’s vision.” School C documented 100% support in the beginning implementation year. However, teacher buy-in reportedly had decreased from year to year as the percentage of teacher turn-over increased for School C.

Although teachers voted for the restructuring effort in both schools, School A’s principal stated that more buy-in was needed because there seemed to be a struggle to get commitment until after the standardized testing time and felt the school could not hold back restructuring even though “we will never get everybody to change from the past.”

Both principals felt that although the Co-nect organization was committed to the school in year one, because it was relatively a new organization, there was stronger support being offered to new schools presently and they wished they could be in their first year of implementation again. The principal of School A stated, “The services we are receiving are far superior to what we received several years ago because the package Co-nect offers now has come a long way.” School C’s principal felt if they were beginning now the way that Co-nect has reorganized and redirected its energies, there would have been less bumps and bruises. In her words, “Co-nect is offering more now than ever before.”

Training

Teachers and principals at both schools reported professional development as an important factor in the restructuring process. A teacher from School A commented, “Co-nect meets our needs and allows us to take a look at who we are.” A School C teacher said, “Overall Co-nect training has been positive. It has opened my eyes to a new outlook
on teaching and prioritizing the things I need to teach.” The School C principal commented, “Training has assisted me to empower my staff.”

Training was delivered in several ways according to teachers and principals. A teacher from School A stated, “Co-nect delivers training in small groups or whole faculty, depending on how the school feels is best.” Another teacher from the same school said, “Teachers can sign up for one-on-one support from Co-nect staff or attend morning trainings.” Also, some teachers from both School A and C liked having the opportunity to choose from training being given during the school day and offered after school.

The types of training received at both schools included project based learning, alternative assessment, data analysis, and technology. Teachers at both schools reflected positive attitudes toward the training they had received. A teacher from school C stated, “Co-nect has helped us to see what project based learning can be. Curriculum mapping has helped to connect standards to what is going on in the classroom.” Another teacher from the same school replied, “With the layering of the state mandates it has made us have a very serious awareness that our tools must be sharpened for accountability and assessment. Co-nect has helped us to do this.” School A’s principal commented, “Co-nect has helped us to analyze the data. We are learning more of how to take and use the data to formulate an instructional focus.” A teacher from School A said, “This year has been more specific to matching to the district standards.” In addition, one teacher said, “Co-nect provided training to use digital cameras and other forms of technology. Now, we are going to have a teacher workshop hosted by Co-nect on Web Quest.” Both school principals liked the on-line Co-nect training that is available to teachers at anytime. “The Exchange is a wonderful piece. The on-line learning models, rubrics and assessments give
teachers opportunity to study on their own.” One teacher from School C said, “Co-nect has made a definite stride with their new updated site. The Exchange is much easier to use.”

Most of the teachers felt that the training being offered was now more consistent and beneficial to their teaching and learning than year one of implementation. One teacher at school C said that there was more consistency in the training delivery schedule and that there were several consultants who service the school as experts in different areas. Although there was one identified Site Consultant, other Co-nect consultants with expertise in different areas did provide training for a given concept. “There seems to be more sharing of responsibilities” as School C’s principal stated. School A’s principal said, “In the past there has just been one liaison, facilitator, for each school. Now, when the facilitator comes, he brings experts.”

As one teacher from School C stated, “It has been a difficult process, but now after three years, the rubric and back-planning training has been beneficial to teachers.” Although one School C teacher stated there should be more modeling and videos showing integration of project based teaching and learning, she offered, “Overall, Co-nect training has been positive.” All teachers and both principals interviewed agreed that this training was one of the greatest advantages to their adoption of the design.

Collaboration

Teachers and principals in both schools reported collaboration among all stakeholders necessary for the implementation of the Co-nect design. This included teachers, parents, students, community, and district involvement. The principal from School C said, “We are no longer separate entities. We are building a community. Co-
nect is part of our staff.” A teacher from School A commented, “Relationships are starting to build between faculty. Teacher collaboration has become stronger. Teachers are helping each other.” Another teacher from the same school said, “Teachers are opening their classrooms to others, so they can see what is going on. We are sharing our strengths more internally.” School C’s principal felt that articulation conversations were taking place and expertise was being shared among teachers. The other principal agreed that this was also occurring at her school and made the following statement:

Co-nect has fostered relationships between students because they are working collaboratively and in groups. Children work together on projects and are proud of their work and develop skills that are necessary for team building. Students and teachers are communicating more.

Further, teachers and principals at both schools stated that the district provided school-level support by attending implementation meetings and evaluating the program. Teachers at school A felt most support was given through assessing the Co-nect design and implementation process. School C teachers agreed that the district supports the principal and evaluates the implementation of their restructuring program. Both School A and School C principals stated they received financial support from the district and felt they could call on the district for additional support.

Enhancement of Instructional Strategies

Teachers and principals from both schools agreed that the restructuring process had created a major change in their instructional strategies. All teachers agreed that project based learning had increased. A teacher from School A said, “More teachers are implementing project based learning more often. We are teaching skills then having
students apply them through project based learning.” The principal from School C shared an example of the increased use of project based learning.

Perhaps an example would be the studying of a restaurant by using math and job skills. It brings real life further into the classroom focusing on work ethics and future goals. The community involvement before was a typical career day. Now, we have partnerships that address needs of students and teachers.

Another major change or enhancement to instruction about which faculty at both schools agreed was the increased knowledge and use of alternative forms of assessment. Teachers reported that alternative forms of assessment were being implemented into the instructional process as a consequence of the Co-nect model and training. School A’s principal said, “Different assessments are being used. We are now in line with where the district is going and it has helped us to achieve the national standards of mastery.” A teacher from the same school stated, “Assessment has changed in that everyone is using rubrics. The writing team is looking for a school-wide rubric for quality work. Also, a management system through portfolios is helping to log student data and analyze it.” A teacher from School C said that implementation of Co-nect made a difference because she is now assessing her students along the way. She stated, “Other schools do something and there is no accountability of the activity or assessment of how it went.” This coincided with what her principal said, “Co-nect has helped teachers to integrate standards into projects and assess along the way.” A teacher from School A stated, “Expectations are much higher. The standards are addressed. The centered activities are much more academically enriched than the other schools I have taught at.” As her principal stated, “I wanted to try and integrate more project based learning, more real learning, more minds on, hands on learning throughout the entire school because I think it is authentic learning.”

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What are the barriers and or facilitators of the implementation of the Co-nect Design?

The data analysis from documents, in-depth principal interviews, and teacher focus groups identified barriers and facilitators of the restructuring process.

**Barriers to the Implementation Process**

Barriers identified were the difficulty of the change process, the need for more planning time, Co-nect not being a “cookie cutter model,” no “specific segment for subgroups,” and student and teacher mobility. Both principals and teachers described implementing change to be difficult. A teacher from school C stated, “It has been a very stressful process.” A more veteran teacher from school C said, “As an older staff we were more reluctant to change. Even new teachers are eager, yet it is difficult when they are new to the school.” School A’s principal replied, “The program has created some frustration because of change and has created a zone of discomfort.” Another teacher from School A said, “support was available, but teacher change is hard.” The principal from School A stated, “I have been here long enough to know that the teachers had a hard time making the transition to project based learning because it was new and difficult for teachers to implement and make the change. Just getting them to implement strategies is difficult.” Both principals agreed that the first two years were rocky and there was more willingness to try new instructional changes after the standardized testing was completed for the year.

In addition to teachers and principals agreeing that change was difficult, all agreed more planning time was needed to integrate strategies effectively. As School A’s principal stated, “Time is difficult to have for meaningful staff development.” School C’s principal said, “We need more time to do staff development with teachers. The more success they
see with using new strategies and implementing new ideas, the more they are involved with change efforts in their classrooms." Also, a teacher from School C proclaimed, "We need more time for planning. It is very difficult to find it during the school's daily schedule."

Because Co-nect "is not a cookie cutter model," as stated by School C's principal, "one of the hardest things was to take a real look to find out what needed to change. We started asking hard questions. What was the focus? What did students learn? We realized they could have learned a lot more." The other principal felt the school should have spent more time upfront understanding the restructuring process. In fact the principal from School C stated, "Often we took one step forward and two backward. We needed more support in the beginning from Co-nect to help us understand reform." A teacher from School C said, "In the beginning, okay, we decided to do Co-nect, but we didn't realize what school reform was. We are just now beginning to understand what it means to do more connected learning."

Another barrier to implementation of Co-nect from some teachers' perspective is that there is no "specific segment for subgroups." As one School C teacher replied, "I don't see special help for those special needs children." However, both principals agreed that Co-nect helps teachers to make accommodations for different learning styles through the use of project based teaching and learning. The principal from School C said, "More authentic learning has been brought to them (special needs children). All children need this, but projects help this happen and help them to succeed at their individual levels."

The other principal from School A commented:
I told the Superintendent that Co-nect fits so well with our philosophy of authentic learning. Direct instruction meets remedial children, but will never take them to a higher level, which is the goal. You’ve got to balance.

In addition, School C’s principal also said, “We need basics, but we also must move our children to become critical thinkers and problem solvers. They must have more authentic learning, which I see is the goal of Co-nect.”

Teacher turnover and a change in leadership was also identified as a barrier to the implementation of the Co-nect design. The principal from School C stated, “Our school is constantly growing and staff is coming and going.” Several teachers mentioned that trying to bring new faculty on board slowed the restructuring process. In addition, both restructuring schools reported a high transient population and increase of students in distress as a concern. “We help more students that are at risk and are in the state program that are looking for foster homes.” A School A teacher replied, “Students are changing. Mobility is high.” This along with student change has caused a decrease in parental support. School A’s principal commented, “We are in a working class neighborhood. Almost all parents work. They love their children and are committed, but are not involved in the school day. We have a strong volunteer program, but mostly from our community partners, not parents.”

Facilitators to the Implementation Process

Teachers and principals agreed that implementing Co-nect required much internal as well as external support, including support from administration, parents, district, and the Co-nect consultants. “Co-nect, especially has supported change,” replied a School A teacher. Another teacher from the same school said, “The support has helped teachers do more. We see more community involvement and administrators in the classrooms.”
teacher from School C replied, “Parents are actually working with students and there are many business partners visiting our school.”

In addition to support being the primary facilitator for effective implementation, teachers and principals agreed that Co-nect provided a framework that facilitated restructuring efforts. For example, “The benchmarks. They gave us a clear path and vision.” A teacher from School C felt that there is more support as in demonstration lessons and modeling of best practices from the Co-nect on-site facilitators. Her principal replied, “Now, Co-nect is listening and delivering what is needed. They are giving more of what we need.” The other principal stated, “We feel that there is strong support in the delivery model from Co-nect.” This includes the resources now available, as one teacher commented, “Trying to write projects from scratch when we began was difficult, but now there is an on-line project library on the website for teachers to use.”

Both teachers and principals said they appreciated what was being brought to them because it seemed to be more relative to what they are doing. “There seems to be from Co-nect more sharing of responsibilities.” A School A teacher said, “There are experts that help our school. One person comes for curriculum and one for technology. Resources are being brought to our school and shared more than ever before.”
CHAPTER IV
DISCUSSION

This study investigated the impact of the Co-nect restructuring design on student achievement levels, documented the implementation process of the school reform initiative, and identified the barriers and the facilitators for design implementation. Data were obtained through documents analyses, comparison of standardized test scores, in-depth principal interviews, and teacher focus groups. The two restructuring schools began implementation of the Co-nect design in 1996. Standardized test scores were collected over a three-year period and compared with two district-identified non-restructuring schools. Principal interviews and teacher focus groups were held to document practitioners' perspectives. The following conclusions, implications, and recommendations are based on analysis of these data.

Conclusions

Schools are being encouraged to rethink the education process to prepare children for a life in a global, technological society (Grasmick, 1996). Both of these elementary Florida schools recognized the need for rethinking the educational process and voted to implement change. Principals and teachers in both schools were willing to implement the Co-nect design hoping it would support their individual school situation.

Although training, support, and collaboration increased during each implementation year, principals indicated the difficulty of the change process and the "newness" of the design. As in The Rand Change Agent Study (Berman & McLaughlin, 1978; McLaughlin, 1990) schools needed time to change and a design to adapt to their individual situations. Co-nect did not have a proven track record, much experience, or
substantial research documenting implementation efforts when the schools began implementing the design. Some suggested the desire to start again as a first year school after the three years of implementation because of Co-nect's new offered methodology. Because Co-nect was not at "full capacity" or had numerous offerings for training and support in their early days, both schools opportunity to show greater progress and increase in student achievement was stifled. Further, the difficulty of change was echoed among principals and teachers in their interview comments. Teachers experienced stress, frustration, and discomfort. Principals reported the need to establish and provide a risk free environment for both teachers and students that encouraged the experimentation with instructional strategies to support whole school reform. This is congruent with Guskey's and Sparks' findings (1991) that a trusting environment influences reform efforts.

Even though teachers mentioned feeling supported by administration to take risks, there was continued pressure from the district to improve standardized test scores during each implementation year. Both teachers and principals commented that the stressed importance of standardized testing prohibited full implementation of the design and somewhat impeded full restructuring. Achievement test analyses revealed that Co-nect schools' SAT-8 Math scores significantly increased from 1997 to 1998 and 1998 to 1999. Also, there was a significant difference between the Co-nect schools and non-Co-nect schools on the 1999 Florida Writes and 2000 FCAT Math scores, with Co-nect schools scoring higher than the non-restructuring schools. There were marginal differences between Co-nect schools and non-Co-nect schools for 1999 FCAT reading scores, although Co-nect schools scored higher than non-Co-nect schools. These findings are congruent with the 1999 Lewis and Bartz Cincinnati study in that restructuring efforts
were making a positive impact on student achievement. Although teachers expressed that they did not fully trust that the Co-nect model would positively impact achievement, they were able, in fact, to achieve progress in standardized test scores. This may help in giving them more confidence in the Co-nect design as time passes and lessen their stress levels as schools continue to implement the design.

Before implementation of the Co-nect design, both restructuring schools reflected difficulty in assessing their current status and formulating a long-term plan for increasing student achievement. The Co-nect benchmarks seemed to be the mechanism that provided a framework upon which schools could implement restructuring efforts and focus on educational best practices. Principals and teachers used the benchmarks as an accountability tool to ensure all components of the Co-nect design were present in the school improvement plan. Visitors, called Critical Friends, observed the restructuring process and identified strengths and challenges of the school’s restructuring process. This report served as a checkpoint for success and crosscheck analysis for the school’s self-evaluation of design implementation. As a result, both Co-nect schools’ benchmark scores increased during each implementation year indicating successful restructuring efforts.

Commitment, training, collaboration, and enhancement of instructional strategies were benefits identified in implementing the Co-nect design. All stakeholders had begun to share in the responsibility of the restructuring success. Professional development opportunities increased for teachers, providing consistent and meaningful training, and schools explored ways to involve the community in learning. Through professional development training, teachers learned how to integrate project-based learning that gave real world relevance to instruction and how to use alternative forms of assessment. The
Co-nect restructuring design, as indicated by principals and teachers, provided an opportunity for quality and needed professional growth. Most teachers felt the partnership with Co-nect was beneficial and enhanced teaching and learning.

Implications and Recommendations

Recent literature states the public school system has been pressured more to change than any other social institution (Sarason, 1996). Faculties implementing the Co-nect Design in this study were committed to change and enhancing instructional strategies. However, teachers began this process without sufficient knowledge and understanding of school reform and the change process. District training in this area would benefit all teachers, not only those in Co-nect schools.

Whole school reform requires risk-taking, enhanced instructional strategies, collaboration among all stakeholders, and continual professional development to be successful. The Co-nect Design provided on-site consultants, on-line learning modules, and off site trainings to support the schools restructuring process. The Co-nect consultant served as the primary change agent. Having a full time facilitator in each school would give the necessary leadership and motivation needed for continued improvement.

As Cuban (1984) expressed, reform efforts enter through classroom doors by development of new theory, broadened curriculum and enhanced resources, but have little chance for success because teaching methods stay the same. To ensure methods do not stay the same the district should share in the responsibility to set a stronger foundation for success and clearly identify expectations for implementing change. Although the district provided initial financial support for the Co-nect schools, future commitment would increase chances for reform sustainability.
Schools described in this study chose the Co-nect Design as a whole school reform initiative because they felt it was the best match for what their schools needed for professional development to enhance instructional strategies. Although the training was not as strong in the beginning as Co-nect currently offers now, it included project-based teaching and learning, alternative forms of assessment, and integration of technology. Teachers in this study reported the training they received was a major factor in encouraging instructional change. However, time is needed for teachers, principals, and school districts to reflect, evaluate, and revise reform initiatives. This would not only enhance the Co-nect Design, but would benefit all educators and reform efforts.

Recommendations for Future Research

Results of this study suggested the following recommendations for future research.

1. Future research should investigate the process of implementing Co-nect at the high school level.

2. Teachers’ perceptions of the restructuring process in Co-nect schools in this district should be compared to other districts and states restructuring processes.

4. Additional research should investigate the importance of the principal’s role in the Co-nect restructuring process.

5. Longitudinal studies of the Co-nect design should be conducted to evaluate effects over time.

6. Future research should examine literacy practices in Co-nect schools.

7. Student’s perceptions of change in the learning environment should be examined in Co-nect schools.
Education remains on the forefront of the political agenda and concern with society. President Bush's educational plan to increase accountability in reading and math through achievement test scoring continues to influence school reform. The need to provide continued professional development and follow-up to teachers remains extremely important. The future of school reform cannot be predicted.

However, school reform designs remain as one mechanism of support to educators in helping them identify needs of improvement and to bring about change. Comprehensive school reform initiatives can provide support to teachers to do their jobs more effectively and efficiently. This study provided findings that acknowledge school restructuring is difficult, yet is needed to continue toward educational improvement and change.
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APPENDIX A

Co-nect Implementation Benchmarks and Rubrics
Co-nect Schools

Implementation Benchmarks and Rubrics

Schools that work with Co-nect pursue a broad range of results—deep academic understanding and broad practical accomplishment for all students, strong ties with parents and other community members, and the capacity to sustain educational excellence over time.

The following "benchmarks" are the critical characteristics of schools that successfully achieve these results. The rubrics on the back side of the page will help a school judge its progress in respect to these benchmarks.

**BENCHMARK 1: SHARED ACCOUNTABILITY**
What is being done to ensure that all students perform at a high level? How does accountability work? What about the planning process? What are the results?

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<thead>
<tr>
<th>The entire school community holds itself accountable for ensuring that all students perform at the highest possible level.</th>
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RUBRIC FOR BENCHMARK 1: SHARED ACCOUNTABILITY

5 Benchmark
- A well-established series of events promotes continuous, school-wide improvement and shared accountability for results among all allies and stakeholders—including school faculty and staff, district staff, parents, other community members, and external assistance providers. The sense of shared accountability reflects and permeates the internal school culture and climate and has led to demonstrable and significant gains in student achievement, as reflected in local tests and other indicators. There may be a written contract outlining mutual expectations among the various partners.
- The school has many effective strategies for removing barriers to learning, creating high expectations for all students, identifying and assisting students in need of special help, and promoting an atmosphere and culture that is conducive to excellence in teaching and learning.
- The school has a coherent plan for school-wide improvement based on a careful analysis of needs and a solid foundation of research and best practice. The school periodically revisits this plan, reflects on progress, revises as necessary, and uses the plan to drive day-to-day activities.

4 Advanced
- A process for shared accountability is in place, but may not be as important as top-down accountability. Some key stakeholders may not be fully involved in the process.
- The school has many effective strategies for removing barriers to learning. However, there is some clear room for improvement. For example, certain groups of students may be under-served, or there may be unresolved issues of discipline or safety.
- The school has a coherent plan for improvement. However, the plan may fail to address some key issues, may lack full faculty support and understanding, or may not be tied to concrete, measurable objectives.

3 Transitional
- The school has begun to implement a process for sharing accountability, but implementation is not complete. Accountability is still primarily top-down. Important groups of stakeholders (e.g., parents) may be only marginally involved. Important parts of the process (e.g., reporting, shared responsibility, leadership, etc.) may be underdeveloped.
- Although there is a general belief that all students can achieve at a high level, this belief has only begun to translate into concrete action. Various attempts have been made to remove barriers to learning, but these may be only partially successful.
- The school has a plan for school improvement, but it may not be comprehensive, may not address root causes, or may not be tied to a clear commitment to action. Relatively few members of the school community demonstrate understanding and support for the plan.

2 Beginning
- The school may have begun to plan a process for sharing accountability, but the process has not yet been implemented. Accountability is still primarily top-down.
- There may be a general belief that relatively few students can achieve at a high level. There may be several serious obstacles to learning, with some unsuccessful attempts to remove these barriers.
- The school has a school improvement plan, but it may not be comprehensive, may not address root causes, or may not be understood or supported by anyone outside the instructional leadership team.

1 Baseline
- A traditional, top-down accountability system, based on standardized test scores and other top-down measures, permeates the school culture and impacts teaching and learning in a negative way.
- Quality standards are generally low. Large numbers of students appear unchallenged and unexcited. When interviewed, students may not show much pride in their work, or not seem to know what is expected of them. There may be numerous barriers to learning, including serious behavior problems among some groups of students.
- Several distinct programs or initiatives may compete for resources and attention—without an effective unifying framework or focus. There may not be a school improvement plan at all, or it may exist on paper only.
Benchmark 2: Project-Based Learning—Teaching for Understanding and accomplishment

*How does the curriculum work? What goes on in classrooms? What kind of partnerships does the school have?*

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<th>All students are regularly involved in projects and other activities that ask hard questions, involve the application of academic knowledge to real problems, produce deep understanding, and lead to authentic, high-quality work. Many activities generate and depend on multiple, two-way partnerships with parents, businesses, and other outside organizations.</th>
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5 Benchmark
O Guided by a flexible, standards-based curriculum, teachers help students explore topics in depth while ensuring that every student has command of essential skills in reading, writing, mathematics, and other subjects. The entire faculty has a shared understanding of what is important to teach and learn and what is currently being taught and learned in different subjects at different grade levels. (Curriculum Mapping and Backward Design of Projects)
O A walk around the school shows plentiful evidence of projects and other classroom-based activities and interactions that result in deep understanding of subject matter, higher-order thinking, application of academic knowledge to real problems, and authentic, high-quality work. Classroom visits reveal high levels of student engagement, thoughtful discourse (which may be teacher-directed), and classroom activities that demonstrate shared student and teacher understanding of their purpose, performance target, and importance. (Cooperative Learning, Guiding Questions)
O Projects and other activities result in many mutually-beneficial partnerships with outside individuals and organizations, leading to stronger school-community ties and added value for both school and community. (Community Connections)

4 Advanced
O A school wide, standards-based curriculum framework is in place. There may be some significant difficulties, such as a lack of flexibility or poor articulation across certain grade levels or subject areas, but these difficulties are on the way toward being effectively resolved.
O Project work has become established as a central and effective part of the curriculum in many classrooms, leading to deep understanding and practical accomplishment. However, there may be some lapses into traditional thematic units, i.e., collections of activities that have a common theme but no real unifying focus on key concepts or essential understanding. Most classrooms appear to be student-centered. However, in a significant number of classrooms (e.g., 15%), teacher talk may dominate and students may appear unengaged.
O There are several examples of short-term community involvement, plus at least two examples of outside organizations getting involved with teaching and learning in the school on an ongoing, sustainable basis.

3 Transitional
O A school wide, standards-based curriculum may be in place school wide, but it is not yet having a positive impact on teaching and learning. Local frameworks may have some negative impact (e.g., a need to “cover” large amounts of material makes it hard to explore topics in depth.) The curriculum may be split in two, e.g., a couple of hours of project work in the morning, traditional coursework in the afternoon, and not much connection between the two.
O Several teachers engage students in a variety of student-centered conversations and activities, but this is still not the norm. Most projects are the “thematic unit” type (above), involving representation of academic knowledge, rather than creative application of knowledge to real problems.
O There may be several projects involving outside individuals and agencies. However, most are on a temporary basis, and do not lead to sustainable, mutually-enriching relationships.

2 Beginning
O Some teachers may be beginning to use a standards-based curriculum to advantage, such as to plan projects and other activities, but this is not the norm. For the most part, the emphasis is more on curriculum “coverage” than on understanding of key ideas and mastery of critical skills.
O Most classrooms are teacher-centered, dominated by teacher talk. Several teachers may be doing interesting project work, some of a high quality. However, this is still relatively rare within the school. There is only some evidence of students being challenged to think critically or being helped to understand content to a deep level.
O Although there may be occasional outside speakers, most student projects are just “school-work” with little if any community involvement or authentic purpose.

1 Baseline
O A standards-based curriculum is absent, ignored, or requires so much “coverage” that it seems impossible to explore individual topics in depth. As a result, topics may be introduced in a haphazard fashion, without any school wide, cross-grade strategy. Sometimes teachers may unintentionally cover the same content as other teachers, or teach the same content to students more than once.
O Some individual teachers may be working with projects as short term enrichment activities, but most classrooms are teacher-centered, dominated by teacher talk. As a result, many students may be unengaged and disinterested. They have few opportunities to develop problem solving, decision making, or other critical workplace skills.
O Schoolwork is almost entirely traditional (worksheets, book reports, etc.). Few, if any, student projects exhibit much community involvement.
**BENCHMARK 3: COMPREHENSIVE ASSESSMENT**

How does the school keep track of what students are learning? How are results reported? How is information about student learning used?

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Assessment is standards-based and employs multiple measures of student achievement. Reporting of results is informative, timely, and interactive. Results are used to guide continuous improvement in teaching and learning.

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RUBRIC FOR BENCHMARK 3: COMPREHENSIVE ASSESSMENT

5 Benchmark
- An effective standards-based assessment system measures each student's knowledge and skills in multiple ways. There is a consistent and reliable system for scoring student portfolios and/or exhibitions, giving information that is used in combination with test data to track progress toward standards for individuals and the school as a whole.
- Data on student performance is used to: (a) identify and address school wide weaknesses; (b) identify and assist individual students in need of special help or challenge; (c) identify and assist teachers or groups of teachers who need additional support; and (d) track progress toward concrete, challenging goals.
- The school has a truly informative reporting system and process that goes well beyond simple reporting of letter grades and test scores. The system may include a student report card that shows progress relative to high standards, parent conferences, annual exhibitions of student work, a school report card (reporting school progress), etc.
- Students, parents, and faculty understand and support the assessment system. All students can explain how and why they are being assessed, and set personal goals based on the assessments.

4 Advanced
- The school has begun to use multiple measures of student progress (e.g., combining information from a school wide portfolio system with information from district testing program). However, there is still clear room for improvement. For example, there may be a reliability issue in teacher scoring of student portfolios. Full information from local tests may not be available.
- The school is making good use of longitudinal student performance data for some purposes (This is too vague and sounds flip, can't we state a purpose such as; the enhancement of the teaching and learning process?). However, the data may be underutilized in one or two respects. For example, data is not used to identify and assist individual students in need of special help or challenge. Emphasis may be on identifying "problem students," neglecting to identify and challenge those at the mid and upper end.
- The school is well on its way to instituting a standards-based, criterion-referenced reporting system that gives all stakeholders a clear sense of how well students are doing relative to high standards. However, problems persist. For example, parent conferences may be poorly attended, or a new report card may not be clearly understood or accepted.

3 Transitional
- The school is in transition to an assessment system that measures student achievement against absolute standards. Many teachers may have students keep work in portfolios, and this practice may be school wide at some grade levels, or in some content areas (e.g., English). Also, the district may have begun to implement performance assessments (e.g., writing test), and this information may be used by the school to improve instruction.
- The school is clearly beginning to use student performance data to drive continuous improvement with some real faculty support. However, the school does not yet have the capacity to make effective use of the data. Also, there may be serious problems in obtaining useful data (e.g., data is not sufficiently separated into important categories).
- Some progress has been made toward developing a more informative reporting system. For example, there may be regular parent-student conferences, a portfolio system as a means of documenting student work, etc. However many parts of the reporting system are still inconsistent. For example, the report card may still report progress in terms of letter grades based entirely on performance relative to other students.

2 Beginning
- The school may have begun to look at alternative means of assessing students and determining the quality of work. For example, some teachers may have students keep portfolios as a record of work they have done. However, this practice is far from school wide, and assessment results do not inform teaching strategies, nor are portfolios used as an objective measure of progress.
- The principal and others may have begun to look at student performance data as a means of improving teaching and learning. However, this analysis does not lead to fully-implemented school wide strategies.
- The school has a traditional reporting system, which may be supplemented by a narrative account that gives some picture of individual accomplishment. The school may have begun other efforts to improve reporting, but these have not taken effect.

1 Baseline
- The school relies almost exclusively on norm-referenced, multiple-choice formats for its major accountability assessments. Assessment practices may have a negative impact on teaching and learning, such as by encouraging teachers to cover material superficially, or to emphasize factual knowledge or test-taking skills over deep understanding of content.
- Data on student performance may be reviewed periodically, but tend not to be used in concrete ways to improve teaching and learning.
- The school has a reporting system based on traditional report cards, letter grades, and standardized test scores that give stakeholders (e.g., parents, school board) little information about actual student accomplishment.
**BENCHMARK 4: TEAM-BASED SCHOOL ORGANIZATION**

How are teachers and students organized? Is there an effective school design team or similar group? How does the faculty function as a professional community?

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<td>Teachers are organized in self-managed cross-grade or cross-disciplinary cluster teams and have ample time for planning and reflection. Student grouping is flexible and purposeful, designed to keep students and teachers together for more than one year. The school design team (with leadership from the principal and support from community allies) provides overall guidance and support for cluster teams and task-oriented study groups.</td>
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5 Benchmark
○ With full support from the faculty, a "school design team" or similar group develops and supports school wide policies and strategies aimed at ensuring that all students achieve high levels of understanding and accomplishment. This team also actively promotes community involvement and shared accountability for results (see Benchmark 1).
○ Teachers are organized in cross-disciplinary or cross-grade teams responsible for small groups of students over a relatively long period of time. Teachers in these groups meet frequently to plan projects, review student work, visit each other's classrooms, and reflect on their individual practices.
○ Grouping practices are effective and equitable, giving every student an equal opportunity to achieve high standards.
○ The school schedule fully supports flexible grouping practices, blocks of extended time for project work, and shared time for teachers to work together to improve instruction.
○ The principal is informed about instructional issues in the school, and takes a hands-on approach to helping the faculty improve practice. “Research lessons” (demonstration lessons taught by teachers and observed by colleagues) and/or other such mechanisms are used to improve the quality of teaching throughout the school. Successful practices and resources developed by individual teachers and teams are shared and used widely.

4 Advanced
○ A school design team has begun to develop a track record of success, guiding whole-school improvement focused on student achievement. However, the team could be functioning even more effectively—such as through expanded community partnerships, or improved support from school leadership or faculty.
○ Teachers are organized in cross-disciplinary clusters or similar teams, with responsibility for success of small learning communities. A majority of the teams are working effectively for student achievement. However, some teams may not yet be working effectively
○ For the most part, grouping practices are effective and equitable. The school may be ironing out wrinkles in initiatives such as looping or multiage grouping.
○ The schedule is reasonably supportive of interdisciplinary teaming, professional activities, and other such initiatives. However, one or two aspects of the schedule may impose significant constraints, with a negative impact on teaching and learning.
○ Faculty and leadership are far along the way toward establishing a strong professional learning community. There may be a need for more rigorous peer review mechanisms or better access to relevant educational research.

3 Transitional
○ A school design team or similar group has been formed, but this group may not have full faculty/community support or a clear sense of purpose.
○ Teachers are beginning to work together in teams, taking on increasing decision-making responsibility for academic issues. However, there may also be serious blocking factors. For example, it may be that the teams are exclusively departmentalized (preventing interdisciplinary sharing) or strictly divided by grade level.
○ The school has re-examined grouping practices, and has begun to take concrete steps to improve these practices.
○ Scheduling constraints may seriously limit attempts to improve teaching and learning.
○ Faculty and leadership are growing together as a professional community. However, while the principal may have begun to exert effective instructional leadership, administrative functions may still take up most of his/her time. The faculty may still not have good access to relevant research. Peer review mechanisms, if any, are in a fledgling stage.

2 Beginning
○ A school design team has been formed. However, it may not meet regularly, may not yet have strong faculty or leadership support, or may not have begun to develop effective strategies or policies aimed at improving teaching and learning.
○ Some or all teachers may have been divided in teams. However, the teams have not yet had a chance to become effective. For example, there may be little or no time for common planning or collaborative professional activities, teams haven't had time to develop a culture of shared accountability, etc.
○ There may be plans to group students and/or change the schedule in ways that better support the teaching and learning, but these plans may not have been implemented or may not enjoy school-wide support.
○ The principal and some individual teachers may have begun to reflect together on issues of teaching and learning, but, for any number of reasons, these beginning efforts have not yet had much impact on the overall quality of classroom instruction.

1 Baseline
○ The school does not yet have a functioning team concerned with issues of instruction and student results.
○ Teachers teach independently of each other, with no cluster or team organization. The faculty is divided by grade levels or department.
○ Grouping practices are traditional and receive little critical attention. Tracking or other such practices may clearly limit opportunities and expectations for some students. The schedule may seriously constrain attempts to improve teaching and learning.
○ Teachers have few opportunities to work together on improving instructional practices or in other ways collaborating as members of a professional community.
### BENCHMARK 5: SENSIBLE USE OF TECHNOLOGY

How are computers used in support of learning? How much do people know about how to use technology? What about access and support?

All members of the school community have good access to modern technologies, with adequate technical support and training. Technology is fully integrated into the curriculum, enriching and extending teaching and learning in ways that would not otherwise be possible. Technology expertise is distributed throughout the school community, and has become a community resource.

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**RUBRIC FOR BENCHMARK 5: SENSIBLE USE OF TECHNOLOGY**

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5 Benchmark
- Technology extends and enriches teaching and learning throughout the school in a way that "asks hard questions, involves the application of academic knowledge to real problems, produces deep understanding, and leads to authentic, high-quality work" (See Benchmark 2). There are numerous examples of high-quality teaching and learning that would not be possible without the technology—such as using the Internet to access real-time data, or using computer tools to analyze data and visualize relationships. Teachers demonstrate reflective understanding of the role of technology in various learning contexts, and are able to distinguish appropriate and inappropriate uses of different technologies in attaining particular teaching and learning goals.
- The school has a fully-functioning modern technology infrastructure including a school-wide local area network with a shared file-server, e-mail, and desktop access to the Internet, a full set of integrated tool software, and a well-stocked educational software library. Technology is available when and where it is needed.
- Technology expertise is widely distributed—the school has become a technology resource for parents, other schools, and other organizations. Most teachers and students use a range of software tools for authentic purposes, communicate regularly with communication software, and use the Internet on a regular basis to access resources and engage in online professional activities, such as "telecollaborative projects" with teachers in other schools.
- The school has effective mechanisms for training and support. A full-time technology coordinator and/or technology support team helps maintain equipment, manage the network, and direct staff development for the teachers. Students may be involved in managing the infrastructure and training others.

4 Advanced
- Large numbers of teachers are using technology to teach in ways that would not otherwise be possible (see above). However, technology may be under-utilized in a content area such as science, or there may be a significant number of classrooms in which technology is being used for less-than-effective purposes, e.g., the computers are used mainly to access and "repackage" information.
- Most teachers and students can use basic tools including word processing, e-mail, Web browsers, spreadsheets, and drawing tools. However, expertise is still limited or unequally distributed.
- The school is well on its way to building and sustaining a modern technology infrastructure with access for everyone, with reasonably good technical support. However, there may be one or two significant areas for improvement. For example, Internet connectivity may be slow, there may not be adequate file sharing capabilities, etc.
- Technology support and training opportunities may be available, but not used effectively. Or, adequate technology support may be provided by the "heroic" efforts of a classroom teacher who volunteers time. (I think this should be an item for level three)

3 Transitional
- Several teachers are beginning to use technology in a variety of ways to support real improvements in the quality of teaching and learning. However, school-wide impact on teaching and learning is still limited. There may be several examples of computers available in classrooms, but not being used.
- Technology expertise is becoming more widely distributed. Most teachers and students have basic keyboarding skills and at least word processing expertise.
- There is an increasing amount of technology in the school, but it is still not adequate to needs. Computers may be confined largely to labs, with the result that several classrooms are without computers. (I feel that this item is a level two)
- There may be district-level support, but technology support and training opportunities in the building are limited.

2 Beginning
- A small number of teachers and students use technology in ways that effectively address curricular goals.
- Some teachers and students have specialized knowledge of certain programs.
- There may be some Internet access (via modem), and several computers around the school, many of which may be technically obsolete. Few teachers have access to classroom computers.
- Support and training opportunities may be incidental and infrequent, based on the goodwill of other teachers.

1 Baseline
- Technology does not yet lead to improvements in teaching and learning. Computers, if available at all, may be used primarily for games and/or word processing. There is little integration, if any, with curriculum.
- Little technology expertise is required or expected of teachers and students.
- Access to technology is strictly limited in terms of either availability or quality.
- Support and training opportunities are strictly limited.
Principal Interview Guide

I. General Information

Describe the process your school used for selecting model(s) and designing your comprehensive plan.

How is the implementation going?

What elements of the school program do you feel are most effective?

Which elements are least effective or least desirable?

Describe your role in program implementation. Has your school program changed the way you do your job?

How would you describe teacher support for the school's program?

What additional resources have been needed to support the school's program?

II. Classroom Level Changes

What changes have been made at the classroom level?

Specifically, what contributions has the program made in terms of:

- Teaching to standards
- Technology?
- Interdisciplinary and project-based learning?
- Cooperative and team-based approaches?
- Authentic, alternative assessments?

How does your program address special needs children?

III. Results?

How has your school program impacted students?

How has your school program fostered relationships between students? Between students and teachers?

Are there differences in achievement (grades or test scores)?

Can you describe any differences in student motivation or enthusiasm?

How has your school program impacted teachers?

How has your school’s program impacted relationships between teachers?
IV. Professional Development

What specific training or support have you received as an administrator in a restructuring school?

How would you describe faculty-training sessions for your school's program?

Describe your school's interaction with the model design team.

Tell me about training and support from the district.

V. Community Support

How would you describe community support for your school's program?

What is the level of parent and community involvement in classrooms? How does this compare with past years?

VI. Closure

What would you identify as the school's greatest successes so far with implementation?

Are there any elements of your school's program that are particularly challenging?

Any additional comments you would like to make?
Teacher Focus Group Questions

I. General Information

Describe the process your school used for program selection.

How is the implementation of your school program going?

How would you describe teacher support for the school's program?

What additional resources have been needed to support the school's program?

II. Classroom Level Changes

If I were to visit classrooms, what would I see that would represent your school's program?

How is this different from the way classrooms used to be?

Specifically, what contributions has the program made in terms of:

- Teaching to standards

- Technology?

- Interdisciplinary and project-based learning?

- Cooperative and team-based approaches?
• Authentic, alternative assessments?

How does your program address special needs children?

III. Results?

How has your school program impacted students?

How has your school program fostered relationships between students?
Between students and teachers?

Are there differences in achievement (grades or test scores)?

Can you describe any differences in student motivation or enthusiasm? What about student attendance or conduct?

How has your school program impacted teachers? What about relationships between teachers?

IV. Professional Development

How would you describe faculty-training sessions for your school's program?

Describe your school's interaction with the program's consultants.

Tell me about training and support from the district.
V. Community Support

What is the level of parent and community involvement in classrooms? How does this compare with past years?

VI. Closure

What would you identify as the school’s greatest successes so far with implementation?

Are there any additional comments or aspects of your school’s program that you would like to mention?
Informed Consent Agreement

I ______________ agree to participate in the discussion concerning our school's restructuring program.

I understand that my name will not be used in conjunction with reporting of results. Any statements used in reporting information will be confidential.

I fully understand that my participation is strictly voluntary. At anytime I do not feel prepared to answer a question, I may remain silent and/or even leave.

Further more, I understand that the discussion will be recorded and last approximately 1 hour. The audiotapes will be transcribed and then destroyed.

I understand that if I have any questions or concerns regarding my participation I may contact Dannett Babb 954-336-3338 and/or the Chair of the Committee for the Protection of Human Research Participants at The University of Memphis 901-678-2533.
THE UNIVERSITY OF MEMPHIS

Institutional Review Board

To: Darnett Babb
Instruction & Curriculum Leadership

From: Chair, Institutional Review Board
for the Protection of Human Subjects

Subject: A Longitudinal Impact Study on the Co-nect Design (H01-122)

Approval Date: January 17, 2001

This is to notify you of the board approval of the above referenced protocol. This project was given expedited review in accordance with all applicable statutes and regulations as well as ethical principles.

Approval of this project is given with the following obligations:
1. At the end of one year from the approval date an approved renewal must be in effect to continue the project. If approval is not obtained, the human consent form is no longer valid and accrual of new subjects must stop.
2. When the project is finished or terminated, the attached form must be completed and sent to the board.
3. No change may be made in the approved protocol without board approval, except where necessary to eliminate apparent immediate hazards or threats to subjects. Such changes must be reported promptly to the board to obtain approval.
4. The stamped, approved human subjects consent form must be used. Photocopies of the form may be made.

This approval expires one year from the date above, and must be renewed prior to that date if the study is ongoing.

[Signature] 1/23/01

Approved
Date

Dr. L. Smith
VITA

Dannett Geolen Babb was born in Memphis, Tennessee on December 20, 1968. She attended schools k-6 in Memphis and later completed her high school education at Southaven High School in Southaven, Mississippi in May, 1986. She received her Bachelor of Science degree in Teacher Education and Bible from Crichton College in Memphis, Tennessee on May 31, 1991. She entered the University of Memphis and received her Master of Science degree in August, 1995.

She is presently living in Miami, Florida where she is working as an Education Advisor in the Southeast United States.