SCHOOL-WIDE BELIEFS, IMPLEMENTATION AND COLLECTIVE EFFICACY OF THE FLORIDA READING INITIATIVE PROFESSIONAL DEVELOPMENT COMPREHENSION MODULE

By

HUGH CHRISTOPHER PRYOR

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2006

Dedicated to Caryn, the most patient wife and partner anyone could ever have. Also to Jen, Kim, and Adam, never stop learning.

ACKNOWLEDGMENTS

Winnie Oden, principals of the two schools where the research took place. Thank you one and

all.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Abstract of Dissertation Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy

SCHOOL-WIDE BELIEFS, IMPLEMENTATION AND COLLECTIVE EFFICACY OF THE
FLORIDA READING INITIATIVE PROFESSIONAL DEVELOPMENT COMPREHENSION
MODULE

Hugh Christopher Pryor

December 2006

Chair: Linda Behar-Horenstein
Major: Educational Leadership

To date, 74 schools have participated in the Florida Reading Initiative (FRI) in northeast

Florida. However, there have been no studies about the level of implementation in those schools.

The purpose of this study was to determine to what extent FRI training has promoted school-

wide change in teachers' instructional practices, attitudes and beliefs about reading

comprehension, and collective teaching efficacy in an elementary and middle school in northeast

Florida.

Immediately after training, post-training surveys were given to elementary teachers (n =

45) and middle school teachers (n = 35) using two instruments, the researcher-created Reading

Strategy Importance and Use Survey, and the Collective Teacher Efficacy Instrument. Follow-

up surveys were given eight months after implementation and results compared with the post-

training survey. Nine quantitative research questions were tested using dependent samples t-test,

2 x 2 split-plot analysis of variance, or correlation coefficients. One qualitative research question

was analyzed using teacher observations.

The results showed that school-wide teachers' beliefs about the importance of FRI

strategies and the use of those strategies were significantly lower in both schools after

implementation. Collective teacher efficacy did not change during implementation but was

significantly higher in the elementary school. There was no relationship between importance beliefs and use of strategies, or importance beliefs and collective teacher efficacy. There was a small relationship between collective teacher efficacy and strategy use and a moderate relationship between collective teacher efficacy and school level.

CHAPTER 1
INTRODUCTION

Ordinarily, individuals must first perceive a need and then be motivated to change behavior

(Fullan, 1985). However, most programs of professional development are ineffective because

they fail to consider ways to engage teachers, or appreciate how teachers go about changing their

beliefs and practices (Guskey, 2002b).

When the U.S. Department of Education (USDOE, 2000) conducted a longitudinal study

of teacher change, researchers found that professional development experiences were not of high

quality and did not bring about changes in teachers' practices. According to Shafer (1995),

traditional staff development does not promote professional growth. To be effective, professional

development programs must (a) involve teachers in goal setting and planning the training (Azin-

Manley, Sachse, and Olson, 1996); and (b) provide teachers with specific, concrete, and practical

ideas that directly relate to the day-to-day operation of their classrooms (Fullan & Miles, 1992).

Public and political demand for increased student achievement requires educators to

change their instructional practices. To meet this demand, school districts provide professional

development programs that may effect change in teachers' instructional practices, attitudes,

beliefs, and learning outcomes (Guskey, 2002a). The extent to which instructional practices

change after completing professional development activities has not been well studied.

For the past six years, in conjunction with P. K. Yonge Developmental Research School at

the University of Florida, The North East Florida Educational Consortium (NEFEC) has

conducted summer training academies in 74 elementary, middle and high schools on a school-

wide reform effort called the Florida Reading Initiative (FRI). Based upon the Alabama Reading

Initiative (ARI), the FRI model is designed to meet the National Staff Development Council

(NSDC, 2001) standards and the Florida master in-service plan. Those standards include: (a) a

12

whole-school professional development approach, (b) continuous assessment of progress, (c)

follow-up support, and (d) evaluation. Materials, personnel and follow-up support for each

participating school have been continuously been provided by NEFEC and the P. K. Yonge

Developmental Research School.

Purpose of the Study

Schools and school districts spend large amounts of resources on professional

development. However, the extent to which changes are actually implemented in the classroom

is relatively unknown. The No Child Left Behind Act (NCBL), a reauthorization of the

Elementary and Secondary Schools Act (ESEA), mandates that reform efforts are assessed using

evidence-based methods. Thus, following professional development, teachers' instructional

practice must be studied to determine if they have improved their practice (USDOE, 2000).

There is some evidence of teacher learning using pre/post-tests of the FRI Summer

Reading Academy. Also, evidence of positive change in student learning among schools that

have participated in FRI training has been reported. For example, from an evaluation of student

reading levels using the Gates-MacGinitie Reading Test during the 2002-2003 school year,

NEFEC reported that there was a 17% overall increase in students reading at or above grade

level (NEFEC, n.d.). There have been no studies regarding how teachers implement strategies

following the FRI Summer Reading Academy.

The purpose of this study was to determine to what extent FRI training has promoted

school-wide change in teachers' instructional practices, attitudes and beliefs about reading

comprehension, and collective teaching efficacy in an elementary and middle school in northeast

Florida. To determine the relationship between school-wide teachers' perceptions, measures of

their beliefs about importance and use of reading strategies learned during the Florida Reading

Initiative (FRI) and collective teacher efficacy within participating schools were obtained to

answer the research questions listed below.

Research Questions

1. To what extent do teachers school-wide believe that FRI reading comprehension strategies
   are important?

2. To what degree have FRI reading comprehension strategies been used school-wide?

3. To what extent does FRI implementation affect collective teacher efficacy?

4. To what extent do teachers school-wide believe that FRI reading comprehension strategies
   are important between school levels?

5. To what degree have FRI reading comprehension strategies been used between school levels?

6. To what extent does FRI affect collective teacher efficacy between school levels?

7. What is the relationship between school-wide teachers' beliefs about the importance of FRI
   reading comprehension strategies and use of those strategies?

8. What is the relationship between collective teacher efficacy and teachers' beliefs about the
   importance of FRI reading comprehension strategies?

9. What is the relationship between collective teaching efficacy and school-wide use of FRI
   reading comprehension strategies?

10. Do classroom observations reveal the use of FRI reading comprehension strategies?

Theoretical Framework

According to Social Cognitive Theory (SCT), achievement is a product of the interactions

between an individual's personal, behavioral, and environmental factors (Bandura, 2002; Pajares,

2002; Schunk, 2003). "Social Cognitive Theory is rooted in a view of human agency in which

individuals . . . are proactively engaged in their own development and can make things happen

by their actions" (Pajares, 2002, ¶ 6). Successful functioning depends upon an interaction among

environmental influences, behavior, and an individual's cognition, affective state and biology

that yield reciprocal causation (Bandura, 2002). These forces affect and determine the choices

we make, the actions we take and the very beliefs we have about ourselves.

Central to SCT is the concept of self-efficacy. This is the belief a person has about his or her capabilities to produce an effect. It is the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainment effects" (Bandura, 1997b, p. 3). These beliefs determine how people feel, think, motivate themselves and behave. Also, self-efficacy promotes accomplishments through individuals' choices, effort, perseverance, resilience, thought patterns and emotional reactions (Henson, Kogan, & Vacha-Haase, 2001).

Assumptions of the Study

The assumptions of the study are that (a) participants' responses are true indicators of their perceptions toward the Florida Reading Initiative comprehension strategies, (b) participants have received training in FRI, and (c) participants are representative of the population of Florida Reading Initiative participants.

Limitations of the Study

The study was limited to the completeness and accuracy of participants' response, and the population of teachers and administrators who have been trained in the Florida Reading Initiative. Also, there were no baseline survey observations to determine what strategies were already known by faculty within the schools.

Significance of the Study

Student achievement is the ultimate goal in every classroom. There are many mechanisms to ensure that all teachers are equipped to provide instruction that results in student achievement, such as professional development. The goal of professional development is to improve teacher practice and therefore improve student achievement (Darling-Hammond, 1998). There have been no studies that measure how the Florida Reading Initiative affects teacher practice. Therefore, examining teachers' beliefs about the importance of newly learned reading strategies

and their use provides an opportunity to see how professional development impacts teachers' beliefs and practice and ultimately student achievement.

Individuals who believe that they can have success in a new behavior are more likely to persist in that behavior (Stajkovic & Luthans, 1998). Collective teacher efficacy (CTE) is a measure of a school's shared beliefs about its capacity to have a positive effect on students (Bandura, 1997b; Goddard, Hoy & Woolfolk, 2000). CTE has also been shown to be a powerful predictor of student achievement (Bandura, 1993; Bandura, 1997b; Cybulski, 2003; Goddard, Hoy, & Woolfolk, 2000; Goddard, LoGerfi, & Hoy, 2004; Hoy, Sweetland, & Smith, 2002). Therefore a measure of a school's collective teacher efficacy beliefs may be predictive of teachers' use of newly learned skills.

CHAPTER 2
REVIEW OF THE LITERATURE

The purpose of this chapter is to present a review of the research related to this study. An overview of the following topics includes (a) teacher beliefs, self-efficacy and collective teacher efficacy; (b) the Florida Reading Initiative; (c) professional development; and (d) professional development in reading instruction.

Teacher Beliefs, Self-Efficacy, and Collective Teacher Efficacy

At a very young age, individuals develop deeply entrenched belief systems which are very resistant to change (Gardner, 1991; Kagan, 1992; Pajares, 1992). This belief system helps the individual define him or herself, and find meaning in the world. Likewise, a teacher's knowledge about his or her profession "…is embedded within the teacher's unique belief system" (Kagan, 1992, p.74). New knowledge is filtered through an individual's belief system and it has been shown to influence the way teachers implement new programs (Pederson and Liu, 2003). Guskey (1988) reported that teachers alter the implementation of new programs so that they were no longer effective. When individuals encounter situations in which they lack knowledge structures and cognitive strategies, they fall back on their beliefs (Pajares, 1992).

Behavior is more influenced by beliefs than knowledge (Nespor, 1987). But, *teacher belief* is a "messy construct" with no common definition (Pajares, 1992). Although a teacher's beliefs are reflected in the instruction he or she provides students, beliefs cannot be interpreted by observing behavior because different teachers may follow the same practices for very different reasons (Kagan, 1992). Uncovering beliefs is difficult because individuals may not be aware of their beliefs systems or may lack the vocabulary to describe those beliefs (Kagan, 1992).

Belief change in adulthood is rare (Pajares, 1992), and though there cannot be a change in behavior without a change in personal beliefs (Kagan, 1992); teachers have been shown to change belief through practice (Guskey, 2002a, 2002b). It has been shown that teachers are more likely to implement programs that are consistent with their beliefs (Pederson & Lui, 2003). Therefore a greater understanding of teachers' beliefs is needed to be able to improve instructional practice (Fang, 1996).

> Few would argue that the beliefs teachers hold influence their perceptions and judgments, which, in turn, affect their behavior in the classroom, or that understanding the belief structures of teachers and teacher candidates is essential to improving their professional preparation and teaching practices. (Pajares, 1992, p. 307)

Other researchers have also expressed the need to study teachers' beliefs about education (Abraham & Belanger, 2001; Fullan & Stiegelbauer, 1991; Kagan, 1992). Several have reported that educators' beliefs impact instructional behavior (Abraham & Belanger, 2001; Olson & Singer, 1994; Pajares, 1992).

Kagan (1992) defines teacher beliefs as ". . . tacit, often unconsciously held assumptions about students, classrooms, and academic material to be taught" (p. 65). Pajares (1992) stated that *teacher beliefs* refer to not a teacher's general belief system, but to the teacher's *educational beliefs about* [____]. These include beliefs about specific subject areas, epistemology, student motivation, self-concept, self-esteem, teacher efficacy, and self-efficacy.

According to Bandura (2002), self-efficacy beliefs (SEB) are central among the mechanisms of human agency. Other researchers have reported that self-efficacy beliefs facilitate (a) establishment of goals, (b) motivation to achieve those goals, (c) perseverance in the face of failure, and (d) well-being and feelings of accomplishment (Bandura, 1997a; Henson, Kogan, & Vacha-Haase, 2001; Pajares, 2002).

Self-efficacy beliefs impact cognitive, motivational, affective and selective processes (Bandura, 1997b). For example, individuals with high self-efficacy set higher goals for themselves and are more highly committed to goal achievement. The impact of SEB on motivation may be seen in that individuals motivate themselves by planning what they can accomplish. The influence of SEB on affective processes for example can be seen when it helps individuals cope with stressful situations, and take on more taxing, emotionally threatening tasks. Self efficacy beliefs have also been shown to shape the activities and environments people select (Bandura, 2002).

Bandura (1997a) points out that in complex situations, or in those that require a great deal of self-direction, efficacy beliefs are extremely important. When individuals are put in situations requiring social change, adaptation to technological advances, or tasks that require persistence without quick results, those with a high sense of efficacy are more successful. For example, creativity and innovation require the ability to synthesize and process information into new forms. Also, persons with high efficacy beliefs are better able to persist in creative endeavors that require long investments of time with uncertain results.

Behavior is better predicted by self-efficacy beliefs than by actual capability (Bandura, 1997b). Teachers who have doubts about their abilities are less likely to implement innovations, and to be able to determine whether to select all, part, or none of the innovation (Evers, Brouwers, & Tomic, 2002). Even when innovations are effective, teachers with low self-efficacy may find it difficult to change their practice (Gersten, Vaughn, Deshler, & Schiller, 1997).

Self-efficacy beliefs help shape student cognitive development and academic achievement. They impact students' beliefs in their ability to perform academically as well as teachers' beliefs

about their ability to motivate students and promote learning. Ashton and Webb (1986) found a significant relationship between teachers' sense of efficacy and student achievement in math and language.

Schunk (2003) reported that self-efficacy beliefs affect student academic behavior (e.g., time on and choice of tasks, persistence, and effort), and that student behaviors affect their self-efficacy beliefs. For example, as a student persists in a task and finds success, her self-efficacy may improve. High self-efficacy beliefs have been positively correlated to student performance on sustained academic tasks (Bouffard-Bouchard, 2000); reading comprehension (Cole, 2002); writing outcomes (Pajares, 2003); computer skills (Ross, Hogaboam-Gray, & Hannay, 2001); and science comprehension (Pederson & Liu, 2003). Students with low self-efficacy beliefs have been shown to perform poorly on academic tasks (Cole, 2002). When students encounter failure, those individuals with low self-efficacy quit while those with high self-efficacy will persist (Guskey, 1988).

Teacher Efficacy and Instructional Practice

Ashton and Webb (1986) define teacher efficacy as "teachers' situation specific expectations that they can help a student learn" (p. 3). Bandura (1994) identifies teacher efficacy as a type of self-efficacy, an educator's "belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated" (p.72). Tschannen-Moran, Woolfolk-Hoy, and Hoy (1998) define it as "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). Teachers' efficacy beliefs play a major role in classroom learning by influencing teacher outcomes such as persistence, enthusiasm, and commitment (Bandura, 1997b; Cowley & Meegan, 2001; Fang, 1996; Freidman & Kass, 2002; Ghaith &

Shaaban, 1999; Ghaith & Yaghi, 1997; Gibson & Dembo, 1984; Pederson & Liu, 2003; Tschannen-Moran & Woolfolk-Hoy, 2001).

Teachers with high efficacy beliefs trust that difficult students are teachable (Ashton & Webb, 1986; Gibson & Dembo, 1984), devote more time to academic activities, provide more help to struggling students, offer more praise, and present better lesson plans than teachers who have low efficacy beliefs (Allinder, 1995; Gordon, 2001). Teachers who have low self-efficacy beliefs show a pessimistic view of students' motivation, have strict rules, use extrinsic rewards, and employ negative sanctions (Woolfolk & Hoy, 1990). Teachers with high self-efficacy believe that even the most difficult students are reachable while teachers with low self-efficacy believe that difficult students cannot be taught (Ghaith & Shaaban, 1999; Tschannen-Moran, Woolfolk-Hoy, and Hoy, 1998). High teaching efficacy has also been associated with increased end-of-year goals and student growth (Allinder, 1995). Teachers with low self-efficacy are more withdrawn, plan less, and show less interest in teaching and helping students (Fritz, Miller-Heyl, Kreutzer & MacPhee, 1995); they are also less able to cope with stressors (Duffy, 1993), and more susceptible to burnout (Evers et al., 2002).

Teacher Efficacy, Attitude, and Implementation

Implementing instructional innovations requires a positive attitude. Evers et al. (2002) observed that teachers' fear of losing control over students during instructional innovations is one reason they tend to avoid using new strategies. The challenge of changing teacher instructional practice is further compounded because innovations require investments of effort over long periods with uncertain results. The uncertainty of success and criteria exacerbate teachers' investment in change. Most individuals want to know exactly what skills and practice are required for success beforehand (Fullan, 1985). Individuals need clearly defined criteria for judging how well a new task is accomplished. Pajares (2002) claims that if the criteria are

21

ambiguous, then the individual's sense of efficacy is of little use. Other researchers disagree. Highly efficacious teachers are more willing to persist in the change effort (Pederson & Liu, 2003), do not fear school improvement efforts and educational challenges and show strong determination to complete actions successfully (Bandura, 1997b; Gibson & Dembo, 1984).

In the 1980's, measuring teacher efficacy became important to researchers. First, it gave teachers an assessment of their beliefs. Secondly, it provided administrators with an index of how likely teachers school-wide might be able to implement new change. In response to the need for a measurement tool, Gibson and Dembo (1984) created a teacher efficacy scale with two dimensions: (a) personal teaching efficacy (PTE), the teacher's belief that he or she has the skills and abilities to influence student learning and behavior, and (b) general teaching efficacy (GTE), the belief that any teacher's ability to bring about change is limited by external factors such as the environment, family background, and parental influences. Teachers who scored highly on both subscales were predicted to display positive attitudes toward their students, not give up easily, and devote more time to academic activities than teachers who scored low on the subscales (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998; Wertheim & Leyser, 2002).

In a study of the efficacy beliefs and use of differentiated instructional strategies in inclusive classrooms, Wertheim and Leyser (2002) reported that high PTE scores were highly correlated with teachers' use of innovative teaching strategies. Smylie (1988) reported that PTE was the most important predictor of teacher change and use of newly learned strategies. Ghaith and Yaghi (1997) investigated the relationships among teacher experience, efficacy, and attitudes toward the implementation of a model of cooperative learning. They discovered that PTE was positively correlated to using cooperative learning, and GTE did not correlate with teachers' attitude toward the use of cooperative instructional practices.

22

Efficacy beliefs may vary with grade level assignment. Using Gibson and Dembo's (1984) Teacher Efficacy Scale TES and a 59-item instructional strategies scale, Wertheim and Leyser (2002) found that secondary teachers had higher PTE scores than primary teachers, but primary teachers had higher GTE scores than secondary teachers.

Cowley and Meegan (2001) studied characteristics and interrelationships between teacher efficacy and professional learning community in schools participating in the QUEST project, an applied research project, that assisted schools with educational reform efforts in Kentucky, Tennessee, Virginia, and West Virginia. They found that elementary school teachers had a higher level of internal efficacy and higher sense of professional learning than high school teachers. On the other hand, high school teachers showed higher levels of external efficacy than elementary school teachers. They also found that years of experience were not related to internal or external efficacy.

Sometimes innovations clash with existing preferences, practices, and belief systems. This can cause the innovations to be met with negative reactions. Bandura (2002) states, "People avoid activities and situations they believe exceed their capabilities" (p. 75). People fall back on their prior knowledge and experiences when confronted with novel situations where they do not have well-established knowledge structures and cognitive strategies (Pajares, 1992).

Teachers who are extremely accomplished in one way of teaching may be unable to cope with innovations because they do not believe that they can accomplish the task for one reason or another. Bandura (2002) concluded that peoples' beliefs about their capacity to accomplish a task sometimes influence them more than their actual ability to perform. Abraham & Belanger (2001) studied British Columbian English teachers' beliefs and values as factors in their willingness to implement a senior-secondary English course focusing on technical and

professional communication. They found that teachers who were willing to implement the new

course were more likely to feel there was a need for the course, understood its intent, practicality

and quality; and saw implementation less complex than those unwilling to implement the course.

Collective Teacher Efficacy (CTE)

Motivation and performance are affected by one's beliefs about the ability to succeed

(Bandura, 1993). However, one does not live in isolation and behavior is influenced by social

interaction. Bandura (1997b) proposed a study of collective efficacy as a way to examine the

efficacy beliefs of a group. He defines collective efficacy as "a group's shared belief in its

conjoint capacities to organize and execute the courses of action required to produce given levels

of attainments" (p. 477). Goddard, Hoy and Woolfolk (2000) define CTE as "the perception of

teachers in a school that the efforts of the faculty as a whole will have a positive effect on

students" (p. 480).

Collective teacher efficacy is a powerful predictor of student achievement, stronger than

social economic status or student body stability (Bandura, 1993; Cybulski, 2003). Studies have

shown that CTE beliefs are related to improvement in scores in elementary mathematics and

reading (Goddard, Hoy, & Woolfolk, 2000) and secondary schools (Hoy, Sweetland, & Smith,

2002). Goddard, LoGerfo, and Hoy (2004) found a positive relationship between CTE and

achievement in math, science, writing, and reading.

Collective teacher efficacy, like teacher efficacy, is based on social cognitive theory which

is concerned with human agency or with the ways in which people control their own lives.

Bandura, (1997b) states that social cognitive theory should be applied at the organizational level

because it "provides explicit guidelines for how to structure interventions to change social

systems" (p. 247). Collective teacher efficacy is a product of the synergistic interplay between

group members; it is more than the sum of all of the group's teacher efficacy beliefs (Goddard,

1998). Collective efficacy helps to define cultural beliefs among a group (Kurz, 2001), and influences the culture of the school (Hoy & Miskel, 1996).

Like self-efficacy, collective efficacy is concerned with tasks, level of effort, persistence, shared values and thoughts, levels of stress, and achievement of groups (Goddard, Hoy, & Woolfolk, 2000). Goddard (1998) identifies two key elements of collective teacher efficacy: (a) analysis of teaching task and (b) assessment of teacher competency. Analysis of teaching task is the process by which teachers assess what will be required as they teach (i.e., criteria for success, barriers that must be overcome, and resources available). Assessment of teacher competency constitutes the individual's judgment of the competency of their colleagues in their school (i.e. the faculty's teaching skill, pedagogical methods, training, and expertise).

Goddard (1998) concluded that along with the interaction of the two elements listed above, other influences on collective teacher efficacy include Bandura's (1997b) components, mastery experiences, vicarious experiences, social persuasion, and affective state. Mastery experiences build self-efficacy, as teachers within schools share their collective experiences with success or failure. When teachers have success with a certain task, they will feel that they will be successful in the future. Therefore the success or failure experienced by teachers can build on or subtract from the school's collective efficacy.

Teachers do not work in isolation, so through conversation with and observation of their colleagues, they encounter success through vicarious experiences. This in turn builds efficacious beliefs about their own abilities and those of their colleagues.

Social persuasion in the form of professional development, verbal discussion, feedback and models of success can also build collective efficacy beliefs. Finally the affective state of the school can affect collective efficacy. Schools, like individuals, encounter stress. Schools with

high collective efficacy deal with stressors much better than those with lower efficacious beliefs (Bandura, 1997b).

Bandura (2002) asserted that CTE enhances school effectiveness. Goddard, LoGerfo, and Hoy (2004) concluded that CTE facilitates instruction by fostering a culture in which teachers collaborate to improve instruction, work together to make decisions, choose challenging tasks, remain committed to teaching, and persist when facing difficulties.

Efficacy and Professional Development

Successful professional development efforts rely on participants' beliefs. Researchers who study school improvement initiatives have focused on teacher efficacy beliefs because these beliefs "consistently predict willingness to try new ideas" (Ross & Gray, 2004).   Participants must believe that there will be evidence that the initiative will result in success, that an appropriate amount of time will be allotted for change and practice, and that the professional development model being used is appropriate.

Guskey's (2002) model of teacher change (see figure 2-1) shows that changes in teacher beliefs and attitudes come after they see evidence that the instructional innovation produce changes in student learning outcomes. When teachers find that elements of a change initiative work and that they help students, they will use them again. Fullan (1985) states that changes in attitudes and beliefs, usually occur after teachers have altered their instructional practice.

Time spent in professional development training can influence teachers' perception of their preparedness to implement new teaching strategies (Parsad, Lewis, & Farris, 2001). The type of professional development offered to teachers also has an effect on teacher efficacy and student outcomes (Ross et al. 2001). For example, the effect of teacher efficacy on student outcomes was stronger when district in-service was designed to meet individual teachers needs, was distributed throughout the implementation period, and was established in school networks.

Bandura (1997b) urged professional developers to keep in mind that schools are social structures built upon common interests and beliefs. Thus collective teaching efficacy can be positively influenced by a shared vision within a school and a belief that teachers are part of a community of learners (Marks & Louis, 1999).

The Florida Reading Initiative

Since June 2001, summer training academies on a school-wide reform effort called the Florida Reading Initiative (FRI) have been conducted in 74 elementary, middle and high schools in Northern and Central Florida. P. K. Yonge D. R. S. at The University of Florida and the North East Florida Educational Consortium (NEFEC) have provided all materials, training of trainers, and follow-up instructional support, and organized funding for each selected school. Modeled after the Alabama Reading Initiative (ARI), FRI is a consortium-sponsored, research-based reform effort designed to meet many of the National Staff Development Council (NSDC) standards for staff development and to help schools meet the Florida master in-service plan. These standards include professional development in research-based learning strategies, establishing learning communities and teacher collaboration, involving the school leadership in all aspects of training, providing appropriate resources, follow-up and support, assessing teacher and student progress, and making decisions based on data.

Research studies in reading comprehension revealed that the direct instruction of reaching comprehension strategies was beneficial to student learning (Harvey & Goudvis, 2000; Kent, 2003; Torgeson, 1998). The goal of FRI is to introduce teachers to a variety of effective pre-reading, during reading, and post-reading comprehension strategies and show participants how to effectively teach these strategies to students.

The FRI professional development model consists of four key elements: (a) whole school approach, (b) professional development, (c) continuous assessment, and (d) follow-up support.

27

The whole school approach criteria is met when 85% of the faculty attend (85% of all teachers in primary, and 85% of math, science, social studies, language arts, and ESE teachers in secondary) the FRI Summer Reading Academy. Professional development is provided during a two-week academy and consists of understanding phonemic awareness, reading and writing connections, language development, content area reading, assessment and intervention. During the academy each school establishes goals and plans to implement the initiative. Continuous assessment techniques are taught so that participants learn how to use both formal and informal means to monitor student progress. Teachers learn how to diagnose reading problems and apply interventions. Follow-up support is during monthly meetings for principals in which they study, share, and develop ways to support teachers. Reading coaches also meet monthly to support each other and discuss ways to assist students and teachers. Meetings are focused upon reviewing case studies of struggling readers and developing plans for intervention. Consortium and university staff makes periodic visitations to assist with diagnosis, demonstrate strategies, discuss problems and provide on-going professional development to meet the specific needs of each school. (NEFEC, n.d.).

Professional Development

Professional development is a systematic effort that is designed to bring about change in teachers' instructional practices, attitudes and beliefs, and student outcomes (Guskey, 2002a). Boyer (as cited in Sparks, 1984) refers to professional development as "people improvement" and that it is "the only way to improve schools…" (p. 9).

In 2001, the National Staff Development Council (NSDC, 2001) established standards for professional development. They recommended that continuous professional development become the mechanism to help educators raise student achievement and standards for quality professional development be established. Suggested standards included: teacher involvement;

use of data in decision making; time for learning and collaboration; opportunities for on-going,

job-embedded development activities; integration of innovations into existing practices;

leadership/advocacy; and follow-up, support, and evaluation. In recognition the importance of

planning for the development of human potential, the Florida legislature mandated through the

School Community Professional Development Act (F.S.S.1012.98) that each district develop a

comprehensive master in-service (professional development) plan. According to the statute,

each district must:

> (a) increase the success of educators in guiding student learning and development so as to implement state and local educational standards, goals, and initiatives; (b) assist the school community in providing stimulating, scientifically research-based educational activities that encourage and motivate students to achieve at the highest levels and to become active learners, and (c) provide continuous support for all education professionals as well as temporary intervention for education professionals who need improvement in knowledge, skills, and performance (F.S.S. 1012.98).

At the national level, the goals of professional development programs include changing

teachers' practices, attitudes and beliefs, and increasing student outcomes (Darling-Hammond &

McLaughlin, 1995).   Schools and school systems use different professional development models

to improve schools, improve teaching and therefore improve student performance. Effective

professional development is considered to be an ongoing and continuous process, not a single

event (Lieberman, 1995; Loucks-Horsley, Hewson, Love, & Stiles, 1998).

In the National Commission on Teaching and America's Future (NCTAF, 1996) report,

What Matters Most: Teaching for America's Future, the authors asserted that the quality of the

teaching force needs to be improved to ensure that students meet high academic standards.

"What teachers know and do is the most important influence on what students learn" (p. 6). For

schools to change, they must change teacher practice. Dutro, Fisk, Koch, Roop, & Wixson

(2003) found that effective staff development increases teachers' ability to cause change in their

classrooms and schools, increases teachers capacity to become learners, and results in more reflective practice.

What teachers do in the classroom is of the utmost importance. Teachers must understand content "subject matter deeply and flexibly, so that they can help students create useful cognitive maps, relate ideas to one another, and address misconceptions" (Darling-Hammond, 1998, p. 6). "If teachers are to successfully teach all students to high standards, virtually everyone who affects student learning must be learning virtually all the time" (Sparks, 2000, p. ix). "Like doctors, engineers, and other professionals, teachers must have access to high quality education and career-long opportunities to update their skills if they are to do their job well" (NCTAF, 1996, p. 8). Teacher effectiveness, subject knowledge, and professional development are strongly linked. The kind and quality of professional development provided teachers has been shown to make up the difference in the lack of subject area knowledge (Darling-Hammond, 2000).

Professional development activities help teachers feel better about their practice and help bring about learning gains (Darling-Hammond, 1998). Student achievement is higher when teachers have high verbal skills and a strong knowledge of the discipline they teach (Darling-Hammond, 2000; Wenglinsky, 2000). Students whose teachers have received professional development in content-specific strategies, and higher-order thinking consistently outperform their peers by as much as 40% on the National Assessment of Educational Progress (NAEP). Using Multilevel Structural Equation Modeling (MSEM) and data taken from NEAP, Wenglinsky (2000) found that professional development in specific math and science strategies was slightly more important to student achievement than majoring in the subject area.

Professional Developments Formats

Although there are many different models of professional development, Guskey (2000) concludes that no single model meets every individual's needs. However, models of

professional development that are effective in changing teacher behavior, share certain characteristics. Parsad, et al. (2001) identified six characteristics that are important to improving teacher learning: form, duration, collective participation, content, active learning, and coherence. Wildman and Niles (1987) also identified conditions essential for professional growth. These include: autonomy, collaboration, and time. Autonomy is important for complex learning because learners must have freedom to direct their own growth. The learning organization must foster a culture for learning that leaves open the opportunity for individual experimentation and problem solving, rather than top-down edicts and solutions. Collaborative work provides opportunities for individuals to share their learning experiences and new ideas, and breaks down the barriers that keep teachers in isolation. Time must be set-aside for teachers to have the learning and collaborative experiences needed for professional growth.

Darling-Hammond & McLaughlin (1995) wrote, "Effective professional development involves teachers both as learners and as teachers and allows them to struggle with the uncertainties that accompany each role" (p. 598). They also insist that professional development must, (a) engage teachers in concrete tasks of teaching, assessment, observation, and reflection, (b) be grounded in inquiry, (c) be collaborative, (d) be derived from teachers' work with their students, (e) be sustained, ongoing, intensive, and supported by modeling, coaching, and the collective solving of specific problems of practice, and (f) be connected to other aspects of school change.

Traditional professional development initiatives lack these characteristics. Guskey (2002) points out that most programs of professional development are ineffective "because they do not take into account two crucial factors: teacher motivation for professional development and the change process. In order to be effective, professional development programs must provide

teachers specific, concrete, and practical ideas that directly relate to the day-to-day operation of their classrooms (Fullan & Miles, 1992).

Teachers are attracted to staff development when they see it as an opportunity to expand their knowledge, enhance their ability to help students succeed, find specific, concrete, and practical ideas to help their everyday operation of their classrooms. (Fullan & Miles, 1992; Guskey & Huberman, 1995). Thus, teachers must have input about needed professional development. When teachers are involved in all stages of the planning and implementation of professional development, they display more satisfaction and support for the initiative (Azin-Manley, Sachse, & Olson, 1996). "Those schools whose staff members knowingly combat the inertia of their profession and environment are most successful" (Glickman, Gordon, & Ross-Gordon, 1998, p. 29)

Leaders must also look at the cultural and structural parts of organizations to effect change (Sparks, 2000). Darling-Hammond & McLaughin, (1995) concluded that "Sustained change in teachers' learning opportunities and practices will require investment in the infrastructure of reform" (p. 599). Structural change is important for professional growth of teachers. "Ongoing, applied professional growth requires a school-wide commitment and includes all teachers. . . . [It] ensures adequate time for teachers to meet, reflect, and grow professionally." (Wenglinsky, 2000, p.6)

Other characteristics that foster effective change include a clear focus on learning and learners, emphasis on individual and organizational change; creating a plan for incremental change that is focused by a shared vision, and ongoing professional development that is part of and related to the every day work (DuFour, 1997; Guskey, 2000; Guskey & Huberman, 1995; Lieberman, 1995; Little & Houston, 2003).

Teachers will change their practice when they see the relevance and need to do so (Guskey, 1988). Teachers want to know if the professional development innovation that they are being shown will be more effective and efficient than what they are already doing before they will consider a change (Sparks, 2000). They want evidence that what they are being asked to do works. The best learning comes from learning in context. "Learning in context has the greatest potential payoff because it is more specific, situational, and social. . . . [It] also establishes conditions conducive to continual development, including opportunities to learn from others on the job." (Fullan, 2002, pp. 18 -19).

Learning is an active, not a passive process. Learners must measure new information against old, comparing and contrasting, exchanging, assimilating and/or rejecting old and new ideas. "There is no *tabula rasa* on which knowledge is etched. Rather, learners come to learning situations with knowledge gained from previous experience, and that prior knowledge influences what new or modified knowledge they will construct from the new experience" (Hoover, 1996, ¶3).

Experienced teachers are more equipped to understand and implement curricular and instructional innovations when they are given the opportunity to link them to prior teaching experiences (Glickman et al., 1998). Elmore (2002) urges both individualized professional development of teachers and having teachers of all stages work and learn together. Likewise, Darling-Hammond (1998) observes that, "Teachers learn best by studying, doing, and reflecting; by collaborating with other teachers; by looking closely at students and their work; and by sharing what they see" (p. 6).

Glickman et al (1998) suggested that teachers need time to observe, learn and practice new methods and strategies. Forcing teachers to immediately adopt new strategies, which are in

conflict with their current style, is inconsistent with adult learning theory. New strategies should be introduced over time. Putting experienced teachers in a novel situation can cause them to be unsuccessful. It is important to point out that, "experience is a relative term–a teacher (or supervisor) with 30 years of teaching (or supervising) can still be inexperienced in many ways" (p. 74).

Problems with Professional Development

Traditionally, professional development has been through school-based "in-service" workshops. Usually an outside "professional" expert provides a one-shot, hour-long training. This model of professional development has been criticized for its lack of effectiveness (Sparks, 2000). Traditional staff development has failed to promote professional growth (Shafer, 1995). Even though there is a large body of evidence that shows that contemporary professional development models are more effective than more traditional models, school systems continue to perpetuate traditional models through incentives and rewards (Monahan, 1996).

Often, educators believe that professional development has little impact on their daily responsibilities, or is a waste of their time (Guskey, 2000). Also, there has been little effort to offer content specific training (Cohen & Ball, 1999). Teachers are denied the opportunity to learn in the very ways they are being demanded to teach their students (Lieberman, 1995).

Professional Development Efforts in Reading Instruction

In the past few years, professional development initiatives that aim to increase student literacy have relied on the teaching "scientifically-researched" strategies and pedagogy. One professional development approach is supported by the belief that if reading instruction is grounded in the scientific evidence of how reading develops the majority of students can learn to read. However most teachers do not have the training, background or access to information about what strategies and instruction work best (Lyon, 2004).

Characteristics of Effective Reading Programs

Using a random survey of principals, reading coaches, teachers, and curriculum directors across the United States, Barry (1997) found that 67% of the 737 respondents had a reading program in their regular education program for students with reading difficulties. Activities and accommodations to improve reading included creative lesson planning, hands-on experiences, individualized instruction, alternative means of assessment, team learning, reading to students before and after school, tape-recording for students, use of guided questioning, smaller classes, peer tutors, after school tutoring, cooperative learning, extra study time, and extensive staff development to help teachers teach reading in the content area.

Barry (2002) studied literacy strategies used by content area teachers after they had learned them in professional development. Teachers' activities include visual aids, analogies, graphic organizers, note taking, and writing to learn. The most frequent reasons that strategies were not implemented were lack of time and the pressure that teachers felt to "cover" curriculum. Similarly, Jacobucci, Richert, Ronan, & Tanis, (2002) found that reading scores have a positive correlation with instructional practices such as graphic organizers, clarifying questioning techniques and direct instruction of reading comprehension strategies.

Pressley, Wharton-McDonald, Allington, Block, Morrow, Tracey, et al (2001) studied teachers in first-grade literacy programs in five U.S. locales. They found large effects for teachers classified as exemplary on the achievement of the lowest-achieving children. The lowest achieving students in these classrooms outperformed their peers in more typical classrooms. The National Reading Panel (NRP, 2000) examined over 100,000 studies of how children learn to read. They found that the most important characteristics of reading instruction included phonemic awareness and phonics instruction, fluency, comprehension, teacher development and education, and computer technology. The Learning First Alliance (2000), an organization of 12

leading national education associations, gathered research from many experts in the fields of

reading and professional development. For literacy instruction to succeed with all students, they

concluded that teachers must use what is known about effective professional development.

Single-shot workshops unconnected to the work of students do not promote "sustained and

continuous professional growth toward effective literacy instruction" (p. 2).

The focus of the Learning First Alliance (2000) report was to identify the context, process

and content components of an effective professional development program in reading instruction

of primary students. Among the recommended context components were: (a) involvement of all

stakeholders, (b) careful curricular alignment, (c) adequate time for professional development

during the school day, (d) shared expertise, (e) strong instructional leadership, (f) commitment to

long-range planning, and (g) adequate funding. The process components included: (a) varied

opportunities, (b) self-evaluation and reflection, (c) follow-up, and (d) sufficient time. Content

characteristics were: (a) phonemic awareness, (b) decoding, (c) fluency, (d) vocabulary, (e) text

comprehension, (f) written expression, (g) screening and continuous assessment, and (h)

motivating children to read.

Reading First

The National Reading Panel (2000) report helped design Reading First, the literacy

component of NCLB. In the 2002–2003 fiscal year, Reading First granted $900 million to states

and over $1 billion in fiscal year 2003–2004. The grant program was designed to improve

reading instruction for K-3 students and to ensure that all children learn to read well by the end

of third grade. Funds were provided for programs that would promote growth in phonemic

awareness, phonics, fluency, vocabulary, and comprehension.

Denton (2003) provides several lessons learned from examining states that have been

successful recipients of Reading First grants. Characteristics of successful programs include: (a)

whole-school professional development training, (b) training teachers in the use of peer coaching, (c) involving universities and teacher education programs, (d) not expecting too much from initial trainings, (e) provide follow-up, and (f) not doing too much too fast.

State Reading Initiatives

The Texas Reading Initiative (TRI, n.d.), now in its sixth year, is coordinated through Texas A & M University and the Texas Education Agency. This program is designed to increase children's literacy using a diverse approach. The program consists of six major components: (a) leadership development, (b) diagnostic assessment, (c) comprehensive research-based programs, (d) intermediate intervention, (e) progress monitoring, and (f) end-of-year performance analysis.

The Alabama Reading Initiative (ARI) began offering Summer Academies in 1997 and targeted three goals: (1) strengthening reading instruction in the early grades, (2) expanding all students' reading power and comprehension levels, and (3) intervening effectively with struggling readers. The ARI teacher training modules consist of language development and vocabulary, phonemic awareness and phonics, concepts of print, comprehension strategies, reading/writing connection, formal assessment, informal writing assessment, and effective intervention (Vaughan, 2000). Denton (2003) claimed that the Alabama Reading Initiative is a good example of an effective reading program.

A comparison of reading achievement ARI schools and non-participating schools results indicated improved reading scores, a decrease in struggling readers, an increase in student reading of 43% as evidenced by library circulation, a decrease in special education referrals (Kent, 2003; Moscovitch, 2001; Vaughan, 2000), and a decrease in discipline problems (Barber, 2002). Teachers reported that they used 76% of the strategies they were taught during the professional development (Vaughan, 2000).

Summary

In this chapter an overview of selected literature concerning teacher beliefs and self-efficacy, reading program initiatives and professional development was presented. An analysis of these studies provided support for the present study. The implementation of instructional strategies, instructional practice and ultimately, student achievement is affected by self-efficacy beliefs. If teachers are expected to implement changes in their instructional practice, they must believe that they have a chance to succeed and the new strategies will positively influence student learning. Teachers who have strong self-efficacy beliefs persist in the change efforts; teachers who have weak efficacious beliefs will not.

The Florida Reading initiative is consortium-based, school-wide effort that is aimed at changing instructional practice in reading. The components of this program match many of those advocated and reported as best practice. There has been little study of the success of FRI and the use of the reading comprehension strategies in which participants are trained. Therefore, there is a need to study the extent to which FRI participants have changed their instructional practice by examining their beliefs about the importance and use of reading strategies, and collective teacher efficacy.

Professional development is one way to improve teacher performance. Traditional professional development has not been successful in improving teaching. Researchers now suggest that effective professional development includes *using* effective teaching methods to *teach* effective teaching methods, teacher participation in planning, training, and implementation, differentiated training to meet individual needs, and on-going, school based support.

There are many other models of professional development for teaching reading. These models range from national initiatives (Reading First), state-wide initiatives (TRI and ARI) to school-wide initiatives (FRI). All share common characteristics such as instruction in phonics

and phonemic awareness, fluency, comprehension, vocabulary development, professional

development, and assessment of students.

For students to improve their reading skills, teachers must receive effective professional

development. However, teachers must have multiple opportunities to observe, try out, talk

about, and reflect on new practice before they see changes in their habits and beliefs. The

Florida Reading Initiative may be a model that provides these opportunities.
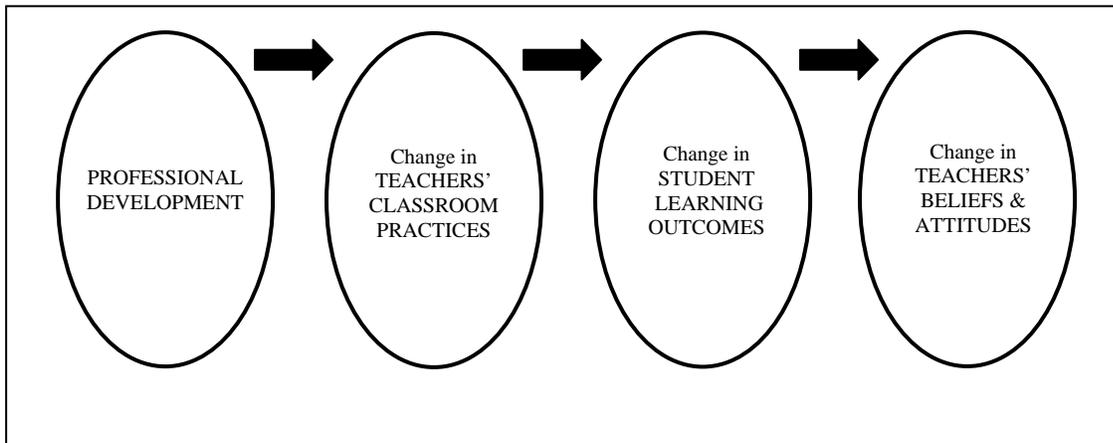
Figure 2-1.   Guskey's (2002) Model of Teacher Change

CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

In this chapter the research design and methodology used in this study is described. A discussion of the (a) purpose of the study; (b) participants; (c) access and entry; (d) variables of the study; (e) research methodology; (f) instrumentation; (g) data collection; (h) pilot study; (i) and data analysis; and (j) threats to validity and reliability precede a summary of the chapter.

Purpose of the Study

The purpose of this study was to determine to what extent FRI training has promoted school-wide change in teachers' instructional practices, attitudes and beliefs about reading comprehension, and collective teaching efficacy in an elementary and middle school in northeast Florida. To determine the relationship between school-wide teachers' perceptions, measures of their beliefs about importance and use of reading strategies learned during the Florida Reading Initiative (FRI) and collective teacher efficacy within participating schools were obtained to answer the research questions listed below.

1. To what extent do teachers school-wide believe that FRI reading comprehension strategies are important? It was expected that there would be no difference between the mean scores on the importance measure on the RSIUS before and after implementation.

2. To what degree have FRI reading comprehension strategies been used school-wide? It was expected that there would be no difference between the mean scores on the strategy use measure on the RSIUS before and after implementation.

3. To what extent does FRI implementation affect Collective Teacher Efficacy? It was expected that there would be no difference between CTE scores before and after implementation of FRI.

4. To what extent school-wide do teachers believe that FRI reading comprehension strategies are important between school levels? It was expected that the mean difference between the importance measure on the RSIUS before and after implementation of FRI reading strategies would not differ across school levels. More specifically, the level of importance beliefs would be the same for the elementary school and middle school.

5. To what degree have FRI reading comprehension strategies been used between school levels? It was expected that the mean difference between the strategy use measure on the RSIUS before and after implementation of FRI reading strategies would not differ across school levels. More specifically, the level of strategy use would be the same for the elementary school and middle school.

6. To what extent does FRI affect Collective Teacher Efficacy between school levels? It was expected that the mean difference between the CTE measures before and after implementation of FRI reading strategies would not differ across school levels. More specifically, the level of CTE would be the same at the elementary school and middle school.

7. What is the relationship between school-wide teachers' beliefs about the importance of FRI reading comprehension strategies and use of those strategies? It was expected that there would be no relationship between teachers' beliefs about the importance of FRI strategies and the use of those strategies (i.e., there is no correlation between importance scores and strategy use scores).

8. What is the relationship between CTE and teachers' beliefs about the importance of FRI reading comprehension strategies? It was expected that there would be no relationship between CTE and school-wide beliefs about the importance of FRI strategies (i.e., there is no correlation between CTE and importance scores).

9. What is the relationship between collective teaching efficacy and school-wide use of FRI reading comprehension strategies? It was expected that there would be no relationship between CTE and the use of FRI strategies (i.e., there is no correlation between CTE scores and implementation scores).

10. Do classroom observations reveal the use of FRI reading comprehension strategies?

Participants

There were a total of 80 participants in the study; 45 were teachers at an elementary school and 35 were teachers at a middle school. Both schools are located in the same northeast Florida school district. All participants completed the FRI Summer Reading Academy in 2005.

Access and Entry

After receiving approval from the University of Florida Institutional Review Board, and verbal approval from each building principal, the researcher distributed a letter describing the purpose of the study during the last day of the FRI Summer Reading Academy (see Appendix A). Participants indicated by signature their willingness to participate. Participants also indicated on the instrument their willingness to be observed during the 2005-2006 school year. The participants were assured in writing of the confidentiality of their responses and that neither individual names nor personal information would be used. The survey did not ask for the name of the participant nor any other demographic information other than the variables listed below. Data was secured in a locked cabinet. Only the researcher had access to the data.

Variables of the Study

Data collected during the study included demographic, perceptual, and attitudinal variables. Demographic variables were age, gender, years of teaching experience, date of any previous FRI training, highest degree earned, grade/subject area of teaching assignment and name of school. Descriptions of the perceptual variables were the participants' self report about

the importance of specific reading comprehension strategies, and extent to which participants have implemented specific reading comprehension strategies. Descriptions of attitudinal variables included the extent to which teachers believed in the collective capacity of the school to influence student reading achievement, and that FRI strategies would help students improve reading comprehension.

Research Method

Two survey instruments were administered on the last day of the FRI training and eight months after implementation. Observations were conducted of two middle school and two elementary school teachers who were participants in the FRI Summer Reading Academy. The observations served to corroborate or refute the findings regarding teachers' use of FRI reading strategies. Each teacher was observed during various class times for a minimum of 45 minutes or the equivalent of one class period. All four teachers were observed five times during the school year. Running notes were utilized to record teachers' instructional practices. Figure 3-1 illustrates the design of this study.

Survey Research Methodology

Although survey research is an efficient way to collect data, the methodology presents certain problems: (a) participants must be willing to complete the survey, and (b) they must be truthful in their responses (Tuckman, 1999). Several types of error can limit surveys: coverage, sample, measurement and non-response (Schuman & Presser, 1991). In an effort to reduce the threat of coverage error, the entire population of FRI participants was surveyed at both schools. The measurement error threat was reduced when the survey instruments were pilot tested to ensure that the items were unambiguous and that each item offered each participant the same response options. To reduce non-response error, the surveys were conducted during faculty

meetings at the end of the FRI training and near the end of the school year. Two attempts were

made to reach participants who were not present at the last faculty meeting.

Agreeing-response bias, or acquiescence, the tendency for respondents to agree with

attitude statements, represents a potential threat to conducting survey research. Participants may

mark a single choice for all questions because of disinterest, boredom or hostility (Tucker, 1999).

To reduce this threat, data analysis was conducted both including and excluding outliers in the

frequency distribution of the responses. Analysis showed that the differences between the results

were insignificant. It is believed that that response bias was not a threat to the findings.

Likert scales are common in attitudinal surveys. This type of scale was appropriate

because it is easy to administer, required a relatively short amount of time for the participants to

complete and it is an efficient method of collecting data.

Reading Strategy Importance and Use Survey (RSIUS)

A researcher-constructed instrument was used to assess participants' self-reported ratings

of the importance and use of strategies learned during the Florida Reading Initiative (See

Appendix B).

The instrument measured importance and use of specific reading comprehension strategies

and activities relevant to the Comprehension Module of Florida Reading Initiative. The scale

included items related to the following scientifically researched reading strategies:

- **Anticipation Guides** – Students respond to a series of statements before reading the text and then revisit and discuss after reading.

- **Class-wide Peer Tutoring** – Students provide academic support for their classmates by alternating turns as "tutor" and "tutee," each tutoring the other in turn.

- **GIST** – (*Generating Interaction with Schema and Text*) Students create summaries of 15 or fewer words. Students begin by summarizing single sentences, then paragraphs, then longer pieces of text.

- **Graphic Organizers** – Organizing concepts into a visual representation.

- **KWL** - Students share what they **K**now, and what they **W**ant to know about a topic before reading, then after reading share what they have **L**earned.

- **Multi-Column Notes**– Taking and organizing notes in column form during and after reading.

- **Paired Reading** - Paired students read out loud together, each helping to correct mistakes.

- **PreP** – (*Pre-reading Plan*) Before reading, the teacher prompts the students to "Tell me anything that comes to mind when…" Then ask them to discuss their reasoning.

- **Preview and Predict** – Students preview the text and make predictions before reading, then compare predictions with actual content after reading.

- **QAR's**- (*Question Answer Relationships*) - Teaches students to recognize types and levels questions and how to locate the information to answer them.

- **Questioning the Author** – Students respond to a series of questions about the text in order to consider the author's intent and his or her success at communicating it.

- **Reciprocal Teaching** – Students participate in a dialogue about segments of the text by summarizing, creating questions, clarifying, and predicting.

- **Selective Underlining** – Students underline or highlight key words, phrases, vocabulary, and ideas that are central to understanding the text.

- **Semantic Mapping** - Using a graphic organizer to subordinate information from the text into main ideas, characters, events, or other central ideas.

- **Sticky notes** – Students use sticky notes to record their construction of meaning as they read then share with the group to clarify confusions.

- **Story Map** - Students identify characteristics and/or relationships of selected characters using a graphic organizer.

- **Think Aloud** – Modeling and verbalizing thought processes used during reading.

- **Think-Pair-Share** - Students think about a topic individually, share their thoughts with a partner and then the class.

The RSIUS also measured the importance and use of other comprehension module objectives including teaching students about both internal and external text structures, providing motivation for students to read, incorporating reading strategies in specific content areas, teaching students to be aware of their thinking processes, reading to students; explaining the

structure of informational and narrative text, and teaching students to find meaning in context. The measure used a Likert-type scale for the importance measure by asking participants to respond to the statement "It would be ___ to use this strategy." The choices ranged from (1) very unimportant, to (5) very important. The strategy use scale asked teachers to predict their use of the strategy in the post-training survey and declare their actual use in the post test by responding to the statement, "I will use/used this strategy ___ minutes per week." The choices ranged from (1) 0 minutes to (5) more than 90 minutes.

To help increase validity, the questions asked in the survey were developed based on existing teacher efficacy instruments and were examined for clarity and meaning by a panel of experts in teacher efficacy, instrument design and areas of the FRI professional development model. Changes were made based on the panel's comments. The panel consisted of Dr. Linda Behar-Horenstein, Dr. James Doud, Dr. David Miller, and Dr. Fran Vandiver. The instrument was pilot-tested with a local elementary school in its fourth year of FRI implementation. Teachers who had implemented FRI reading comprehension strategies were asked to examine each item for clarity and meaning and rate their response to each item. The alpha for the overall instrument was .96.

Collective Teacher Efficacy Instrument (CTEI)

To measure collective teacher efficacy, permission was obtained to use the Collective Teacher Efficacy Instrument (CTEI; Goddard, 1998). The CTEI consists of 21 items designed to measure educators' beliefs about their schools' collective capability to affect student achievement. Participants respond using a six-point Likert scale ranging from (1) strongly disagree to (6) strongly agree. A sample item is "Teachers here are confident they will be able to motivate their students." Items 6, 7, 8, 9, 10, 13, 14, 18, 19, 20, and 21 in this scale were reverse scored. The CTEI was an adaptation of the Gibson and Dembo (1984) Teacher Efficacy Scale.

Individual-oriented statements were rewritten to reflect group-oriented items. Goddard (1998) found that collective teacher efficacy consisted of two key factors that shape the collective efficacy of the school: group competency (GC) and task analysis (TA). Group competency constitutes beliefs about the school's overall teaching skills, methods, training and expertise. Task analysis refers to beliefs about successful teaching, barriers to success, and available resources. Items are worded so that teachers will consider both group competence and task analysis. Both positively worded (+) and negatively worded (-) items were used in the scale giving four types of items: (a) group competence/positive (GC+), (b) group competence/negative (GC-), (c) task analysis/positive (TA+), and (d) task analysis/negative (TA-). The factors were found to fold into one dimension whose value derives from the mean of the item scores. The high reliability of the scale (alpha = .96) supports its use (Goddard, 1998).

Teacher Observations

Two teachers each were randomly selected for observation from the elementary school and the middle school. Observations were made as they carried out their normal teaching activities. Running notes were kept of the teachers' and students' interactions and activities. The methodology was piloted with a middle school teacher several weeks before the beginning of the study. Changes in note-taking were made based on suggestions by the researcher's committee chair. After another pilot observation, the chair approved the methodology. During the observation, the researcher was careful to list only observations, not judgments. The teachers were observed a minimum of one class period (approximately 45 minutes) five times during the school year. Hand-written, running notes were word processed within one day of the observation. FRI reading comprehension strategies were coded and noted in the proceeding chapter.

Researcher Bias

In qualitative fieldwork all data collected through observation is filtered through the researcher and is subject to bias (Creswell, 2004). The observations are limited by the researcher's mindset, skill level in collecting data (Fielden, 2003; Mays & Pope, 1995), and the possibility that the presence of the observer may influence behavior (Mays & Pope, 1995). The researcher must therefore self-monitor for bias in order to objectively report the findings (Creswell, 2004; Tuckman, 1999).

The researcher is a veteran educator of 13 years, is a National Board certified and is an administrator with three years experience observing and evaluating educators. He is an experienced facilitator of FRI reading comprehension strategies and is a nationally certified reading strategies trainer. As such, he is qualified to recognize the use of reading strategies in a classroom setting. The researcher's skill in collecting data through the use of running notes was improved through pilot observations and subsequent coaching from his doctoral committee chair. Multiple visits to the participants' classrooms and the extended time spent there may have helped the participants to become accustomed to the presence of the researcher so that more natural behavior might be observed.

To increase validity of the findings, a peer debriefer (Creswell, 2004) was used. The peer debriefer was a doctoral candidate at the University of Florida who was trained in qualitative techniques and had 15 years experience in teacher observation. The peer debriefer read the running notes and coded examples of reading comprehension strategies. A comparison between the peer debriefer and the researcher revealed agreement in identification of reading strategies.

Data Collection

The RSIUS and CTEI instruments were administered the last day of the FRI summer institute in June of 2005 and again to the same teachers at a faculty meeting in March of 2006.

Only data from teachers who participated in the 2005 FRI Summer Reading Academy were included in the study.

Data Analysis

Descriptive statistics were calculated for all variables. Questions 1 – 9 were analyzed using three different quantitative methods, a dependent samples t-test, 2 x 2 split-plot ANOVA, and Pearson Product Moment correlation coefficients. Because all participants completed the pre and follow-up surveys, dependent samples t-tests were used to compare the post-training survey and follow-up survey mean scores for research questions 1 – 3. Questions 4 – 6 examined both a within-participants factor (Post-training survey vs. follow-up survey scores) and a between-participants factor (elementary school vs. middle school) therefore; a 2 x 2 split-plot analysis of variance was used. Pearson Product Moment Correlation coefficients were calculated for variables found in questions 7 – 9.

The following guidelines for the strength of the relationship between the variables using the r values came from Cohen (1977) (as cited in Penfield, 2003):

- Small effect (weak relationship):   r = .10
- Medium effect (moderate relationship):   r = .30
- Large effect (strong relationship):   r = .50

```
                    ┌─────────────────────────────────┐
                    │           Treatment             │
                    │  Two-week Florida Reading Initiative │
                    │   Training June 6 - June 16, 2005   │
                    └─────────────────────────────────┘
                                    │
                                    ▼
                ┌───────────────────────────────────────────┐
                │         Post-Training Survey              │
                │  Collective Teacher Efficacy, Teachers' beliefs │
                │           about importance and use         │
                │               June 17, 2005               │
                └───────────────────────────────────────────┘
                       ╱                          ╲
                      ▼                            ▼
          ┌──────────────────┐          ┌──────────────────┐
          │    Elementary    │          │      Middle      │
          │      School      │          │      School      │
          └──────────────────┘          └──────────────────┘

        ◇─────────────────◇
       ╱ Observation of 4   ╲
      ◇  teachers 5 times    ◇
       ╲   during year      ╱
        ◇─────────────────◇
                          ┌───────────────────────────────────┐
                          │          Follow-up Survey         │
                          │                                   │
                          │     Collective Teacher Efficacy,  │
                          │  Teachers' beliefs about importance│
                          │              and use              │
                          │           March 31, 2006          │
                          └───────────────────────────────────┘
```

Figure 3-1.   Graphic of Study Research Methodology

CHAPTER 4
RESULTS

Data collected in this study were analyzed using both qualitative and quantitative methods. The results for research quantitative questions (1 – 9) are presented in the first part of this chapter. The results for qualitative research question (10) conclude the chapter.

Demographic Data

Demographic information is presented in the next section. Table 4-1 presents a summary of demographic information about the students. Table 4-2 shows information about the students. Both the elementary and middle schools were similar in the race/ethnicity of their students. Whites comprised the majority of the students. Black, Hispanic, and Multiracial students comprised 27.7% of the elementary school and 25.8% of the middle school.

The demographics of the teachers were similar to those of the students. Whites comprised the majority in both schools; 66.7% in the elementary school and 68.6% in the middle school. Blacks, Hispanics, and Multiracial made up 31.1% of the elementary and 28.6% of the middle school.

Teachers at the elementary school were typically female (88.9%), while slightly more than two-thirds of the teachers were female at the middle school. While the majority of teachers held Bachelor's degrees at both schools (62.2% and 68.6% respectively), a greater percentage of teachers in the elementary school held graduate degrees, including two doctoral degrees.

Just under half of the elementary teachers (44.4%) and middle school teachers (45.7%) had 1-10 years of experience. Almost one-fourth of the elementary teachers (24.5%) had 11-20 years experience and 31.1% had over 20 years experience. At the middle school, 28.5% of the teachers had 11-20 years experience and 25.8% had over 20 years experience.

The teachers groups were very similar also in the number of years at the present school. Nearly two-thirds of the participants had been at their respective schools 1-10 years; 66.6% in the elementary school and 68.6% in the middle school.

Quantitative Analysis

Research Question 1: To What Extent do Teachers School-wide Believe That FRI Reading Comprehension Strategies are Important?

A dependent samples t-test with a specified alpha level of .05 was performed on the mean scores of the importance measure of the RSIUS before and after implementation of the FRI reading comprehension strategies. The mean scores for the importance measures can be seen in Table 4-3. It was expected that there would be no difference between the mean scores on the importance measure on the RSIUS before and after implementation. However, the difference in the mean scores was statistically significant, $t(79) = 2.62$, $p = .02$. That is, teachers' school-wide beliefs about the importance of the strategies after implementation of FRI during the school year.

Research Question 2: To What Degree have FRI Reading Comprehension Strategies Been Used?

A dependent samples t-test with a specified alpha level of .05 was performed on the mean scores obtained from the RSIUS for strategy use before and after implementation of FRI reading comprehension strategies during the 2005-2006 school year. The mean scores can be seen in Table 4-4. It was expected that there would be no difference between the mean scores on the strategy use measure of the RSIUS before and after implementation. However, the difference in the mean scores was statistically significant, $t(79) = 2.46$, $p = .02$. Therefore, there was a difference between teachers' prediction of strategy use at the beginning of the year and their reported use during the school year. On average, teachers reported using the strategies less than they predicted during the school year.

Research Question 3: To What Extent does FRI Implementation Affect Collective Teacher
    Efficacy?

A related samples t-test with a specified alpha level of .05 was performed to measure the

mean collective teacher efficacy scores from the Collective Teacher Efficacy Instrument

(Goddard, 1998) before and after implementation of FRI reading comprehension strategies

during the 2005-2006 school year. The mean CTE scores can be seen in Table 4-5. It was

expected that there would be no difference between CTE scores before and after implementation.

As expected, the difference in the mean scores was not statistically significant, $t(79) = 0.70$, $p = $

.48, indicating there was no difference between teachers' collective teacher efficacy before and

after implementation of FRI during the school year.

Research Question 4: To What Extent School-wide do Teachers Believe that FRI Reading
    Comprehension Strategies are Important Between School Levels (Elementary vs.
    Middle)?

It was expected that the mean difference between the importance measure on the RSIUS

before and after implementation would not differ across school levels. Specifically it was

hypothesized that the importance measure would not be higher for the elementary school than for

the middle school.

As hypothesized, the results of the 2 x 2 split-plot ANOVA (Tables 4-6 & 4-7) indicated

that there was no importance by school interaction, $F(1, 78) = 0.34$, $p = .56$. There was a

significant main effect within-subjects for the importance scores; that is the overall scores

demonstrate a statistical difference within groups between the post-training survey and follow-up

survey, $F(1, 78) = 7.071$, $p = .01$. However, there was no significant difference between the

school levels; $F(1, 78) = 1.15$, $p = .29$. Teachers' school-wide beliefs about the importance of

the FRI strategies decreased at both the elementary and middle school

Research Question 5: To What Degree have FRI Reading Comprehension Strategies been Used Between School Levels (Elementary vs. Middle)?

It was expected that the mean difference between the strategy use measures on the RSIUS before and after implementation of FRI reading strategies will not differ across school level. More specifically, it was hypothesized that the strategy use score would not be higher for the elementary school than for the middle school.

As hypothesized, the results of the 2 x 2 split-plot ANOVA (Tables 4-8 & 4-9) indicated that there was no strategy use by school interaction; $F (1, 78) = 1.34$, $p = .25$. However, there was a significant main effect within-subjects for the strategy use scores; that is the overall scores demonstrate statistical difference within-group for pre and pot-test scores; $F (1, 78) = 6.71$, $p = .01$. The follow-up survey scores for both the elementary and middle schools showed a significant decrease. There was no significant difference between schools; $F (1, 78) = 1.60$, $p = .21$.

Research Question 6: To What Extent does FRI Affect Collective Teacher Efficacy Between School Levels (Elementary vs. Middle)?

It was expected that the mean difference between the CTE measures before and after implementation of FRI reading strategies would not differ across school levels. More specifically, the CTE would not be greater for the elementary school than for the middle school.

The results of the 2 x 2 split-plot ANOVA (Tables 4-10 and 4-11) indicated that there was no CTE and school interaction; $F (1, 78) = 0.63$, $p = .43$. The main within-subjects effect for CTE was also not significant; $F (1, 78) = 0.63$, $p = .43$. However, there was a significant difference between the school levels; $F (1, 78) = 9.21$, $p < .01$. Collective teacher efficacy for the elementary school was unchanged between the post-training survey and follow-up survey, and it was higher on both the post-training survey and follow-up survey when compared to the middle

school. The CTE scores for the middle school were higher for the follow-up survey when compared to the post-training survey scores, but these results were not significant.

Research Question 7: What is the Relationship Between School-wide Teachers' Beliefs About the Importance of FRI Reading Comprehension Strategies and Their Use?

It was expected that there would be no relationship between school-wide teachers' beliefs about the importance of FRI strategies and their use, thus no correlation between importance scores and strategy use scores.

To examine the relationship between teachers' beliefs about the importance of FRI reading strategies and their use, Pearson Product Moment Correlation coefficients were calculated between teachers' follow-up survey strategy use scores, post-training survey strategy use scores, follow-up survey importance scores and school level. A summary is shown in Table 4-12. The correlation coefficient ($r = .07$, $p < .05$) between follow-up survey strategy use and follow-up survey importance of strategies was not significant. There was a moderate relationship found between follow-up survey strategy use and post-training strategy use ($\underline{r} = .35$, $\underline{p} < .05$), and a small to moderate relationship between post strategy use and school level ($\underline{r} = .20$, $\underline{p} < .05$) showing that the middle school implemented strategies less than the elementary school.

Research Question 8: What is the Relationship Between Collective Teacher Efficacy and Teachers' Beliefs About the Importance of FRI Reading Comprehension Strategies?

It is expected that there will be no relationship between CTE and school-wide beliefs about the importance of FRI strategies (i.e., there is a no correlation between CTE and importance scores).

To examine the relationship between teachers' beliefs about the importance of FRI reading strategies and CTE, Pearson Product Moment Correlation coefficients were calculated between teachers' follow-up survey CTE, post-training CTE, follow-up survey importance scores and school level. A summary is shown in Table 4-13. The correlation coefficient ($r = .06$, $p < .05$)

between follow-up survey CTE and follow-up survey importance of strategies was not significant. That is, there was no relationship between CTE and beliefs about strategy importance. There was a moderate to large relationship between post-training and follow-up survey CTE ($r = .43$). There was a moderate, negative relationship between and follow-up survey CTE and school level ($r = .35$), indicating that follow-up survey CTE scores decreased when compared to the post-training survey.

Research Question 9: What is the Relationship Between Collective Teaching Efficacy and School-wide Use of FRI Reading Comprehension Strategies?

It was expected that there would be no relationship between CTE and the use of FRI strategies (i.e., there would be no correlation between CTE scores and strategy use scores.

To examine the relationship between teachers' use of FRI reading strategies and CTE, a Pearson Product Moment Correlation coefficient was calculated between teachers' follow-up survey CTE and follow-up survey strategy use scores and is shown in Table 4-13. The correlation coefficient ($r = .15$) and between follow-up survey CTE and follow-up survey strategy use of strategies shows a small relationship.

<div align="center">

Qualitative Analysis

</div>

Research Question 10: Do Classroom Observations Reveal the Use of FRI Reading Comprehension Strategies?

Two teachers were randomly selected from both the elementary school and the middle school. For anonymity, all names are pseudonyms. At the time of the observations, Ms. Porter was in her second year of teaching second grade. Ms. Coppersmith was a fifth grade teacher in her sixth year. Both teachers hold a bachelor of arts in elementary education. Mr. Tracy, a 16-year veteran teacher of seventh grade science, holds a master's degree in science education. Mr. Careem, a first-year, seventh grade social studies teacher, holds a bachelor's of science in social science.

The observations focused on whether or not teachers utilized specific scientifically-based reading comprehension strategies during the daily lesson. Observations focused on the ways that teachers activated students' background knowledge, helped them interact actively with text, taught metacognition, and motivated them to read. Table 4-14 summarizes the strategies observed at each level across the teacher observations.

Teachers in the elementary school were observed using more reading comprehension strategies than teachers in the middle school. Strategies used by elementary students and teachers included, **Pre**-Reading **P**lan (PreP), Preview and Predict, Reciprocal Teaching, Sticky Notes, and Story Map. The strategies observed only at the middle school were Anticipation Guides, **G**enerating **I**nteraction between **S**chema and **T**ext (GIST) and What do you **K**now, what do you **W**ant to know, and what have you **L**earned (KWL). GIST and KWL were mentioned by students during observations of Mr. Careem's and Mr. Tracy's classes, but not directly observed. It is included here because students discussed its use in other classes. All four teachers were observed using different types of graphic organizers to help students map their knowledge and expose their thinking processes. Also, all four teachers demonstrated some form of Think Aloud which allows students see how a skilled reader constructs meaning from text.

The FRI Reading Comprehension module is organized into before-reading, during-reading, and after-reading strategies. During the before-reading phase the reader must establish a plan and purpose for reading and think about what they already know about the topic. During reading, the student must think about the new information in light of their background knowledge and established purpose for reading. After reading the text the reader must process the new information to build new knowledge. The following sections are organized into observed examples of teachers using before-reading, during-reading, and after-reading strategies.

Before-reading strategies

The following excerpts illustrate examples of the before-reading strategies that teachers used including PreP and an Anticipation guide. The teachers used these strategies to activate the students' prior knowledge of the topics and to help establish a purpose for reading.

October 25, 2005: [Ms. Porter] There are 16 low-level reading students in Ms. Porter's 2nd grade class. Three of the students are speakers of other languages and speak very limited English. Students are seated in clusters of four to five. Each student has a dry-erase white board and markers.

Ms. Porter asks the class, "When I say the word 'TEAMWORK' what do you think of?" Several students raise their hands and Ms. Porter calls on them by name. Sean replies, "Sometimes you can help each other in math." "Oh, that's a great idea," Ms. Porter replies, "What else?" Nick says, "You want to sound out words." Ms. Porter asks, "How does teamwork do that?" He says, "When I have trouble they can help me."

Tina says, "Basketball." Ms. Porter asks, "How does teamwork help you play basketball?" Ahab says, "It helps you make a touchdown in football." Ms. Porter asks, "How?" Ahab answers, "Well, a person can't make a touchdown all by themselves."

While the students are speaking, Ms. Porter adds the students' comments to a word map she has drawn on newsprint. Elisabeth raises her hand and says, "Teamwork is when a lot of people help each other make points in basketball and football." Ms. Porter points what the students have said by indicating the word map, "I notice that everyone has talked about helping each other. Everyone on a team has a job." Today we are going to read a story about teamwork called, How I Beat the Giants."

Ms. Porter uses PreP (Pre-Reading Plan) and asks students to tell her what comes to mind when she gives them a topic. This activates prior knowledge and provides them with contextual background before they begin reading.

February 1, 2006: [Ms. Porter] Five groups of students are working at different stations. At each station a piece of paper is taped to the wall listing the title of the station and instructions. The stations are labeled: Phonics, Listening, Comprehension, and Spelling. Ms. Porter is at the fifth station where she is working with four students using a leveled reader. The students rotate to the next station when a timed buzzer goes off.

Ms. Porter claps a rhythm, which is repeated by the students. She looks around the room and states, "I like how the Phonics work station has cleaned up. After you clean up you may move to the next work station." Students move to their next station and another group moves over to the table with Ms. Porter. She hands each of them a copy of a book titled *What Roosters Do*. After they have settled down she asks students, "What do you already know about roosters?" A student replies, "They say cock-a-doodle do." The other students laugh and Ms. Porter asks them all to say "cock-a-doodle-do." They laugh and repeat the word several times. They continue talking about the things they know about roosters. One student tells Ms. Porter that roosters lay eggs. She tells them, "Well, roosters are the males and I don't think they lay eggs." After more discussion she says, "Why don't we all read the title together?" They read the title in unison.

The above excerpt shows students moving from station to station in an orderly manner. All of the students appear to be on task as they work together in their small groups. In the group that she is leading, Ms. Porter attempts to activate the students' background knowledge about the topic. She encouraged them to feel comfortable with each other through the use of humor.

November 28, 2005 [Mr. Tracy] Mr. Tracy has just completed handing out and explaining their biweekly progress reports. He passes out a paper and says, "Take one of these and pass it back. Put your name at the top of the paper." He waits for most of the students to receive their papers and then says, "There is a text under your desks, get it out." As they retrieve the texts he states, "This is an Anticipation Guide. How many of you have ever done a KWL?" Most of the students raise their hands. "This is like that." He holds up a copy and points to it saying, "We are going to do the left side only. Read each statement and answer yes or no. Then open up to pages 190 – 191 and look at the diagram. As you fill out your anticipation guide you may refer to the diagrams in the book. If you don't understand a word what should you do?" A student replies, "Raise your hand." "Raise your hand. That's right" responds Mr. Tracy. The students work quietly. "…When you are done, you can pack it up and get ready to go."

In the above excerpt, the teacher uses the anticipation guide to activate the students' background knowledge about the content before starting the lesson. The students also preview the text by using the diagrams and pictures to answer some of the questions in the anticipation guide. Evidence of the use of KWL was also observed.

During reading strategies

The following excerpts show examples of how teachers incorporated several during-reading strategies including preview and predict, story mapping, and reciprocal teaching. These strategies are designed to have students interact with text while they are reading.

January 20, 2006, 1:56 p.m. [Ms. Coppersmith] This 5th grade class is comprised of 26 students. As students enter class, Ms. Coppersmith tells them to, "Look on the side board and find the group you are in. Then sit at that table please." As the students take their seats, Ms. Coppersmith says to them, "Eyes on me." After she has their attention she asks, "Who can tell me a cause of the Revolutionary War?" Several students reply. "The Battle of Concord;" "Paul

Revere;" "People dying;" "Bunker Hill." She asks, "What were they fighting for?" A student replies, "They didn't want to pay taxes." "Who didn't want to pay taxes?" asks Ms. Coppersmith. The student replies, "The colonists."

There is a stack of Houghton Mifflin Level Readers in the center of each table. Each table has a different title but all students within the group have the same book. Ms. Coppersmith passes out a worksheet titled *Story Map*. She asks the students to put their names on the paper and complete the map before reading the text. "Look at the book and see what it might be about." A student asks, "What is the setting?" Ms. Coppersmith replies, "Who can tell us what the setting means?" A student offers, "It is when and where the story takes place."

Ms. Coppersmith circulates as the students complete their story maps. She says, "Talk to your group about your predictions. You have a couple of minutes." The students talk to each other. Ms. Coppersmith travels to each group and asks, "Did your group share? What were your predictions?"

She asks each student to take a card. Written on the front of the card are the student's role; Predictor, Questioner, Clarifier, or Summarizer. Written on the back of the card are written prompts for the students to ask their team members. The prompts on the cards read: **Predicting**: What do you think the next part will be about? **Questioning**: Who or what is this lesson about? What do we know about _____? What are the clues that tell us _____? **Clarifying**: What does _____ mean? What is a _____? **Summarizing**: What is the main idea of this passage? What is it mostly about? What information in this passage tells you that?

Before the students begin to read a section of text the Predictor asks the students what they think the passage will be about. After reading the section each student in turn reads the prompts on the back of his or her card and the group discusses the section.

While the students read and discuss the books, Ms. Coppersmith continuously circulates and tries to keep students on task. As students continue to work through the text, Ms. Coppersmith begins handing out markers and poster board.

Two groups are finished reading and two other groups are about halfway through the book. As the students finish, Ms. Coppersmith explains the next step to their project. "When you are finished, draw two lines on your poster so that you have four boxes. Write the title of your role in each box and then write the things you discussed as you read the book." Students begin to talk and write on the poster.

In the above excerpt, the teacher asks students to lists causes of the American Revolution. This activates their background knowledge and gives her an idea of the students' level of knowledge on the topic before reading the text. She has students use a graphic organizer to preview the text and has them make predictions about what they will be reading. She then uses the Reciprocal Teaching model where students read together and process information from four different viewpoints.

February 2, 2006 [Ms. Porter] Students are in small groups of three to five working at various stations. Four students work with the ESOL aide while reading a story and using the Reciprocal Teaching model. There is a card in front of each student. Each card has the title of the student's role: Questioner, Predictor, Summarizer, or Clarifier. Each card also has prompts printed on the back to help the student ask questions for discussion with their group members after they read a section of the text.

The above excerpt is another example of the use of the Reciprocal Teaching model in the elementary school.

October 25, 2005: [Ms. Porter] Ms. Porter addresses the class, **"**Today we are going to read a story about teamwork called, *How I Beat the Giants*." She writes the page number where the story begins on the board and then asks the students to turn to the correct page. She states, "When you get to the story, I want you to look at the pictures and predict what you think the story is all about." Students begin to look at the pictures and talk about the story. While students discuss the story, Ms. Porter circulates around the room, makes comments and asks questions, "Group B and group C are doing a good job discussing what is going to happen in the story. You have to have a reason for making that prediction! Why do you think that those 'Peewees' are going to win?"

Ms. Porter tells students that they will be placed into reading groups. "I'm going to put you in the groups you had last week and have you read and discuss the story. I want you to stop every two pages and make a connection." She reads the first paragraph for the students. As she reads, she holds up the book for them to see how she uses her finger to follow along. She asked the students, "What do you see that I am doing with my finger?" Many students replied in unison, "Moving to the words." Ms. Porter said, "That's right. It's called our magic finger."

". . . Think of a personal connection I have with the story. When I was in third grade we played dodge ball with the fifth graders. They sure were big." A student shared a similar story about playing "keep away with my brothers."

Ms. Porter said, "Ok let's get with our groups." Students move to different areas of the room and sit in groups of three to four on the floor. Ms. Porter quiets the students and asks them to move into different areas. She continues, "I'm going to be looking for magic fingers and connections. Remember what jobs each of you are doing."

Three students are sitting on the floor next to a tape player, which will play the story as they follow along in the book with their fingers. Ms. Porter asks, "What do you think will happen in the story?" He replies, "I think the giants will lose." She asks, "Why do you think that?" The student replies, "Because of the score on the scoreboard." "Look at that!" exclaims Ms. Porter, "I never even saw that! Very good observations!"

The teacher uses several strategies to have the students focus on the text and process the information as they read. She has them using their "magic fingers" to track the words as they learn to read. She also has the students stop and make predictions about what will happen in the story using what they have read and clues in the story. Then after reading the passage, she asks them to discuss if their predictions were right.

October 25, 2005 [Ms. Coppersmith] Ms. Coppersmith tells her students to "take out your books and turn to page 219." Students get out their books. Ms. Coppersmith says, "Ok. Today we are going to look at this story. What are some ways that we can predict what will happen in the story?" Several students reply, "Words, pictures, the title."

Ms. Coppersmith tells the students, "Everyone has a sticky note. I want you to write on your sticky note what you predict the story is about. Let's see if we can get some good predictions today." The students work on the assignment.

Ms. Coppersmith asks, "Who would like to discuss their prediction today?" She calls on a student who has raised his hand. He says, "Someone is going to steal jewelry." The teacher asks, "What made you, caused you, to predict that Manny?" Manny says, "The broken glass, looking for clues." The teacher asks, "Can anyone else provide support for that prediction?" Several students raise their hands and share other observations with the class.

This is an example of the teacher asking students to make predictions about the text and to provide justification of their predictions using context clues.

November 2, 2005 [Ms. Porter] Ms. Porter is teaching her science class. The day before students began reading a story about pollution, *The Wartville Wizard*, by Don Madden.

She calls for their attention by using a pattern of shhhs. Students repeat the pattern and then she says, "You've been reading the story about the wizard and I'm very proud of Ronnie, because even after all of these distractions that we've had, Ronnie still remembers the question. Ronnie can you tell us what the question was?" Ronnie replies, "Why didn't we finish the book?" "Right Ronnie. So class, why didn't we finish the book?" A student raises her hand and says, "Because we wanted to predict what was going to happen." "Right!" continues Ms. Porter, "We needed to stop and make predictions about what was going to happen in the story. And I'm noticing something missing from your groups. Does anyone remember?" Devon, replies, "The prediction card?" "Yes, the Prediction Cue cards." She passes out cards and says, "You use the cue cards when we stop and I ask you to make predictions… you can use the pictures and the words… to make your predictions… you need to tell me why you made that prediction."

"Let's read our predictions we made yesterday . . ." The students' predictions are written on the board. She and the students read them in unison. "Ok. Here we go… An old man liked garbage. Ready, go… The Wartville Wizard had millions of dollars." Were these two predictions right?" "No!" replies the class.   "No? Is that ok?" asks Ms. Porter. "Yes!" they respond.   "Yeah, that's ok," continues Ms. Porter. "We don't have to be right all the time. So let's put two red x's here because we found out that we weren't right and we started making new predictions." She draws an X next to the predictions and continues through the chart while students place checks by the correct predictions and x's by incorrect ones. "The wizard will

make the outside clean with his wand…Was that correct?" "He didn't have a wand," one of the students exclaims. "That's true, but was part of it right?" asks Ms. Porter. "Yes," several students cry out. Ms. Porter asks, "Could we change this a bit? Why don't we rewrite it to say 'The wizard made the outside clean with his hand'?" One student said, "He used his finger." "Ok, let me add finger" says Ms. Porter as she writes the word on the board.

As they work through the predictions, there are disagreements. Ms. Porter asks students to refer to the story to support their opinions. "Does anyone want to make another prediction about what is going to happen in the story?" A student holds up her hand and makes a prediction. Ms. Porter replies, "Remember that you have to make your prediction by saying, 'I think (blank) will happen because (blank) and then tell my why. Refer to the story and tell me what makes you think that."

In the above excerpt the teacher has incorporated several strategies: reading to students, making predictions, helping students with metacognition, using graphic organizers, and making personal connections to the text. She also activates the students' background knowledge by asking them to recall the story that they were reading the day before and the predictions they made about the story. Finally, she asks them to support or refute their opinions and predictions by going back to the text and talking about their own thinking processes.

After reading strategies

The following excerpts illustrate examples of how teachers use strategies after reading takes place to process the information. These include summarizing and use of various graphic organizers.

December 8, 2005 [Mr. Careem] Mr. Careem addresses the class; "You guys have seen bumper stickers, right?" Several students shake their heads or say yes. "I want you to create a

bumper sticker about an article you will pick and read. It should have a catch phrase that describes the article." He passes out paper strips that are the size of a bumper sticker.

He continues, "For example I did one last summer on an article about sharks and it was 'Got Feet.' Make the sticker and explain on the back about the article."

A student asks, "Can I do one about a magazine article I just read?" Mr. Careem replies, "Sure. What was the article about?" The student says, "It was about a kid who got a ticket for not having a helmet and he was riding his bike." Students get newspapers from the stack and look through the articles.

As Mr. Careem circulates, a student raises his hand and asks for help. Mr. Careem explains the bumper sticker to a student. "Read an article, then think of a catch phrase that kind of says what the article is about." The student asks, "Is it like a GIST?" (GIST is a summarizing strategy that stands for *Generating Interactions between Schema and Text.)* Mr. Careem replies, "No, not that detailed, just a phrase that draws attention. Then draw a picture about the article and color it. On the back write a summary of what the article is about in a paragraph."

The end of class is near. Mr. Careem says, "We only have about two minutes, so we are going to continue this tomorrow. All right clean up and turn in your maps!"

This excerpt illustrates a reading comprehension strategy that was not taught during the comprehension module of FRI. However, this method helps students by asking them to summarize the reading material. The excerpt also provides evidence that students were aware of GIST.

February 3, 2006 [Ms. Porter] After the students arrive, Ms. Porter says, "Ok, please open up to D-4 in your science book." As she writes D – 4 on the board she says, "I like how

Alicia opened up her book. I will always put the instructions on the board if you don't hear me say it."

The students have their books open and Ms. Porter says, "Put your magic fingers on the top left page and we are going to read the title together. Get ready." The class reads the title together "What causes Day and Night."

"Ok. What do you think we are going to learn today?" Several students reply, "What changes night and day;" "What happens in the day and night and how it changes?" "What causes it?"

The class continues, "Put your magic fingers on D – 4. Get ready." The students and teacher read the text loudly. Ms. Porter claps a rhythm, which is repeated by the students. She asks them to read in a whisper so that they can hear her read. They reread the section very quietly. Afterward, Ms. Porter asks for students to explain what they have just read. A student says, "The sun doesn't move, the earth does. If it did then all the seasons would be alike." Another student says, "The sun stays in place and the earth moves around it and we can't feel it."

Ms. Porter asks the students to turn to page D – 5 and look at the pictures. There are three pictures of the same scene at sunrise, at mid-day and at sunset. She says, "Look at the pictures on D – 5. We are going to make a Venn diagram. Tell me what is the same and what is different about the sunrise and the sunset." She draws a Venn diagram on the board and labels one side sunrise and the other sunset. Students begin raising their hands. One student says, "The sunrise is lighter and the sunset is darker." Another student disagrees and says "I think that the sunrise is darker." Ms. Porter stops the class as the noise level grows and students voice their opinions about the disagreement. "Ok. If you agree with Janice give me a thumbs up." Many students raise their thumbs in the air. "Ok, if you agree with Jon, raise your thumbs." The rest of the class

raises their thumbs. "Ok, let's look at this. Why do you say that the sunrise is lighter?" "Because it shows the sun and the other doesn't." "Ok, why doesn't the sunset show the sun? Isn't the sun in the sky?" There is some discussion. Ms. Porter asks, "Where is the sun in the picture?" A student says "Behind you." Ms. Porter says, "Yes." She asks the student to come up and demonstrate where he would be in relation to Ms. Porter as sunrise and sunset in the picture. Afterward they complete the Venn diagram.

"Ok. Magic fingers at the top of D–6. Get ready." They read together about how large the sun is even though it looks very small. Ms. Porter says, "Ok, this is how I get my students to ask questions that refer to the text. Raise your hand if you have a brother or sister." Many students raise their hands. "This is what I used to do to my brother when he picked on me. I would hold out my hand and look through my fingers at his head and then pretend to squish his head." She demonstrates and asks the class to pretend to squish other student's heads. They laugh and pretend to squish each other's heads. "Now, see their head is much bigger than your fingers but it looks very small." They discuss how far away the sun is and why it looks so small.

"I want to read a couple of more pages." They read two more pages together. Then Ms. Porter asks, "Who can tell me what solar energy is? The definition is right after the word in the text." A student answers, "It's energy that we get from the sun."

This except shows several reading comprehension strategies: preview and predict, KWL, and use of a graphic organizer, Venn diagram. It shows an example of the teacher checking student comprehension, metacognition and use of a strategy similar to Think Aloud. It is also an example of how the teacher helps students understand the meaning of words by using context clues to promote their understanding of the structure of informational text.

October 25, 2005 [Ms. Coppersmith] There is a great deal of talking and laughter. Ms. Coppersmith states, "Everyone take a seat! Give me five!" The room becomes quiet. She continues, "We are going to start out with vocabulary webs. Remember we take the word; find a synonym and an antonym. Then we write a sentence and draw a picture. Who can tell me what a synonym is?"

Several students raise their hands. Ms. Coppersmith calls on one. The student says, "A word like it." Ms. Coppersmith replies, "Great! Who can tell me what an antonym is?" Several students call out, "opposite." "Very good," replies Ms. Coppersmith

She asks the students to get into the same groups they had on Friday. As they move to their respective groups she places a card on which a vocabulary word is written and one piece of blank paper on each shared table. There are two groups of four, one group of three and one group of five. She gives those instructions, "I want you to talk quietly about the word and your card. I want each person in your group to choose one of the four parts of the map and complete the map on the paper."

Ms. Coppersmith circulates around the room and works with each group in turn asking questions and prompting students to participate. "What is your word? Think about the antonym and synonym."

A student says, "I call it cinnamon!" Students laugh. Ms. Coppersmith says, "Synonym." The student smiles and says, "Ok!"

There are many different conversations in the room. One student asks his teammate, "What is a synonym?" She replies, "It's like a word that means the same thing."

In another group, several students converse, "What is a synonym for sapphire?" "A sapphire is blue." "Yeah, I know." "Roses are red, violets are blue."

A boy in another group says loudly, "Come on! I got to get some answers!"

Ms. Coppersmith continues to circulate the classroom and says to the class, "Ok, a couple of more minutes. You need to be thinking now!" She tells a student, "Read me your sentence." She reads, "Some people have wooden counters, and some have metal counters, and some have marble." "Very good." Ms. Coppersmith replies and then says to the class, "Two more minutes!"

Conversation continues in the groups. "Is a sapphire like a diamond?" "Yeah." "Well what is the opposite of a diamond?" "A ruby."

Ms. Coppersmith asks for a "five." And the students become quiet and focus their attention on her as she stands in the front of the room. She calls on each group to send one person forward and bring their group's map up to share with the class.

The above example shows students using vocabulary webs. The students worked in groups of four to five to create the five parts of the web; synonym, antonym, sentence, definition, and illustration.

February 1, 2006 [Ms. Porter] The students are in small groups of 3 – 5 working at various stations. Four students are working with the ESOL aide reading a story and using the Reciprocal Teaching model. There are five other groups working at the different stations. Each station has a piece of paper taped to the wall at the station with the title of the station and a list of instructions. The stations are: Phonics, Listening, Comprehension, and Spelling. Ms. Porter monitors the fifth station where she works with two ESOL students on voiced sounds.

The Phonics station has the following instructions: "(1) Get a worksheet, (2) Read words, (3) Make a Word Wallet (there is an example taped next to the instructions with the following AL   AU   -mb   Kn-), (4) Cut words, (5) Sort words and put in the wallet."

The Listening station consists of a tape player, earphones, several copies of a book, and a tape of the book. The instructions read "(1) Listen; (2) Draw a picture of the beginning, middle and end of the story."

The comprehension station has several copies of a book and has the following instructions: "(1) Read the story with the group, (2) Talk about the beginning, the middle, and the end of the story, (3) write about the beginning, the middle, and the end, (4) Draw pictures of the beginning, the middle, and the end."

The spelling station has two parts. Spelling 1: (a) Get a worksheet, (b) Read the spelling words, (c) Cut, (d) ABC order, and (e) Glue. Spelling 2: (a) Get a worksheet, (b) Name, and (c) Unscramble words.

This excerpt showed several examples of students processing and organizing information into graphic organizers. This included sort words into different columns, drawing pictures and using columns to organize information about the beginning, middle, and end of a story.

November 1, 2005 [Ms. Coppersmith] The students have been working on several math problems in class. Ms. Coppersmith divides the board into sections numbering the sections 19 – 23. She assigns five students to write the problem and answer on the board next to its corresponding number. As the students begin writing, Ms. Coppersmith addresses the class, "Ok. They are going to put the problems and answers on the board." She addresses the students at the board, "Be sure to show your work. Work it out please."

As these students work at the board, Ms. Coppersmith circulates the class, stopping to help students. When all of the students who were at the board have taken their seats, Ms. Coppersmith says, "Everybody's eyes on the board. Who worked 19?" Each student explains their answers

and work to the class in turn. After each student has spoken she asks the class if they understand and if "anyone has another way to do it?"

Ms. Coppersmith asks, "Who put number 23 on the board?" James raises his hand. The problem is incomplete. She asks James to read the problem. He reads, "A snail can travel eight inches in one minute. How long will it take him to travel 12 feet?" Ms. Coppersmith asks, "Who can tell me about number 23? It was pretty hard." Several students raise their hands.

Ms. Coppersmith asks her students to get out a piece of paper and then asks them to copy the graphic organizer she draws on the board. A copy of the graphic can be seen in figure 4-1.

Ms. Coppersmith continues, "Who can tell me the important information in the problem? Think about it and write all of the important information in the Think block." She gives students a few moments to think and write. Then she calls on a student to share her writing. "Jessica, what do we have to know?" Jessica says, "The snail can crawl eight inches in one minute and it goes 12 feet." Ms. Coppersmith says, "Right." and writes the information on the board in the graphic organizer to solve the problem.

She says, "Ok. What do I need to do to solve this?" Many hands go up. Megan replies, "You could multiply eight times twelve." Ms. Coppersmith says, "I saw lots of people do that but eight is in inches. How are inches and feet related?" She calls on a student who raises his hand. He says, "There are 12 inches in a foot." She says, "How could we figure out the number of inches in 12 feet?" Several students raise their hands and she calls on one. "12 times 12 equals 144." replies the student. Ms. Coppersmith says, "Ok. Yeah, but 144 what?" A student calls out, "Inches." She writes this information in the graphic organizer and asks the students to copy into theirs.

She addresses the class, "Now what do we do?" A student says, "Divide by eight." "Why is that?" she asks. "Because then we will know the minutes." replies the student.

"Ok. I want you to work out the problem. Take a few minutes to see what you get." After a few minutes she asks if anyone has the answer and calls on one student who answers, "18." "Eighteen! Very good!" exclaims Ms. Coppersmith, "It will take 18 minutes to get there." She works out the steps to the problem in the graphic organizer in the Solve block.

She continues, "Now how will we explain the problem? Nat, we did 12 x 12. Why?" Nat replies, "I have no idea." Ms. Coppersmith says, "We wanted to figure out the total number of inches in 12 feet. What was the second step? We divided our answer by eight to figure out how many minutes it took to travel 12 feet." She writes in the Explain block as she speaks.

In the above excerpt, the teacher helps the students understand the structure of informational text and how to organize their thought processes with the aide of a graphic organizer.

January 20, 2006 [Mr. Careem] Mr. Careem addresses the class, "All right. I want you on page 219 of your textbook. You should have an FCAT workbook on your desk. Turn to page 19 of the FCAT book and page 219 of the text." Students open both books. The class is very noisy. Several students are up and moving around the classroom. Mr. Careem says, "All right." He becomes distracted as a student walks past him. He asks the student, "Do you have a pencil?" The student holds one up and goes to his desk. Mr. Careem says, "SSSSHHHH!" You guys are shouting! Let's get to our seats and get those books open. The class begins to get quiet. When it is quiet, Mr. Careem says, "You guys are comparing and contrasting the United States and Canada. We kind of already did this, but it is in your FCAT book so we are going to do it again. Ok. You guys have seen a Venn diagram. You need to put in only information you find

in the reading. Don't put in stuff you already know, just stuff in the article. I know we already did this but only put in stuff in the article."

The FCAT workbook has a blank Venn diagram. Mr. Careem asks the students to put U.S. on one side and Canada on the other. He then asks them to read the article in the text on pages 219 and 220 and fill in the Venn diagram. He tells the students, "Finish this up real quick and we can play a vocabulary game."

As the students work, Mr. Careem and the ESE aide move around the room, they assist, clarify, and ask students to return to the task. Mr. Careem asks, "Alright. Who's not done preparing their diagram?" Several hands go up. Mr. Careem continues, "All right. Comparing and contrasting. What are some of the things you found in common? "Several students offer responses, "They are both in North America….The Rockies and the Appalachian mountains are in both….They have forests."

Mr. Careem asks, "What are some of the things unique to the U.S.?" Students respond one after the other, "We border Mexico….The U.S. has a Gulf Coast….Death Valley….Mount Everest." There are several laughs at this. Mr. Careem asks, "Do you mean Mt. St. Helens?"

Next, the students list characteristics unique to Canada.

The above excerpt shows how a middle school teacher uses a Venn diagram to help students to compare and contrast two countries.

November 14, 2005 [Mr. Tracy] Mr. Tracy addresses his class, "On the piece of paper, in the middle write the word Organism." He writes the word on the board. "Look at the word and spell it right. I want it in the middle of the paper." Students get out paper and copy the word.

"I want you to make believe that you are an animal. I'm going to drop you off on an island. I want you to write all the things you or your species needs to survive. Let's do an

example. Who could give me an example?" A student raises his hand and Mr. Tracy calls on him. "Food." "Good. Remember you could branch off from food and get more specific." He writes on the board, beginning a concept map. "Good. Work on that while I catch up on some stuff."

Students begin working on their concept maps while Mr. Tracy works on papers at the front of the room. After a few minutes he says, "All right guys, one more minute." After a minute or two, he says, "Who can give me something?" Mr. Tracy calls on students and they give him answers. He creates the map on the board as they converse. He says to his students, "If I write it on the board you need to write it down too."

"Next to any circle, put a check mark next to it if there is a cell in your body that has something to do with it." He gives them a few minutes to check their papers and then says, "I want you to raise your hand if you think a cell needs this." He calls out each circle in turn and looks for hands.

"All right. This is the fourth part of your notes so put N4 at the top of the paper and put it away."

This excerpt shows an example of how a concept map helps students organize information. This is also an example of how the teacher uses a version of the strategy Think Aloud in a middle school science class, while students observe the teacher modeling his thinking process aloud.

Summary

The observation excerpts illustrate examples of how the teachers use before, during, and after reading comprehension strategies. During the observations, the elementary teachers used the reading strategies to a much greater extent than the middle school teachers. Both elementary school teachers tended to blend the strategies during the lessons. Mr. Careem used the strategies

as stand alone activities. That is, he did not incorporate the strategies into the lesson, but used it as an activity after the lesson. For example, he used the bumper sticker activity not to summarize a reading from the text or a topic related to the lesson of the day, but as a sponge activity with newspaper articles of the students' choice. Mr. Tracy used several examples of graphic organizers including a concept map to help students make connections between concepts. He also used an anticipation guide to help students establish a purpose before reading.

The qualitative observations and quantitative analysis taken together show evidence of teachers' use of FRI reading comprehension strategies. The results of the quantitative analysis show that teachers' school-wide beliefs about the importance of the strategies were less after implementation. Also, teachers school-wide used the strategies less than they predicted. Though the middle school's collective teacher efficacy was less than the elementary school, CTE in both schools remained stable during the school year.

There was no relationship found between school-wide teacher beliefs about the importance of the strategies and any other variable. However, the qualitative analysis did reveal a small relationship between CTE and strategy use and a moderate relationship found between CTE and school level.

Table 4-1. Student Demographics

	School			
	Elementary		Middle	
	n	(%)	n	(%)
Enrollment	1177		1215	
Percent Race/Ethnicity				
Asian	27	(2.3)	21	(1.7)
Black	129	(10.9)	187	(15.4)
Hispanic	136	(11.5)	95	(7.8)
Indian	4	(0.3)	3	(0.2)
Multi	64	(5.3)	32	(2.6)
White	818	(69.4)	877	(72.2)

Table 4-2. Participant Demographics

	School			
	Elementary		Middle	
	n	(%)	n	(%)
Participants	45		35	
Percent Race/Ethnicity				
Asian	1	(2.2)	0	(0)
Black	5	(11.1)	3	(8.6)
Hispanic	8	(17.8)	5	(14.3)
Indian	0	(0)	1	(2.8)
Multi	1	(2.2)	2	(5.7)
White	30	(66.7)	24	(68.6)
Gender				
Female	40	(88.9)	24	(68.6)
Male	5	(11.1)	11	(31.4)
Highest degree earned				
Bachelor's	28	(62.2)	24	(68.6)
Master's	14	(31.2)	11	(31.4)
Specialist's	1	(2.2)	0	(0)
Doctorate	2	(4.4)	0	(0)
Table 4-2 Continued				
Years Teaching Experience				
1-5	14	(31.1)	5	(14.3)
6-10	6	(13.3)	11	(31.4)
11-15	4	(8.9)	6	(17.1)
16-20	7	(15.6)	4	(11.4)
20+	14	(31.1)	9	(25.8)
Years at present school				
1-5	24	(53.3)	17	(48.6)
6-10	6	(13.3)	7	(20.0)
11-15	3	(6.7)	4	(11.4)
16-20	11	(24.4)	4	(11.4)
20+	1	(2.2)	3	(8.6)

Table 4-3. Mean Scores and Standard Deviations for Participants' Importance Scores on RSIUS

Administration	n	Mean	SD	SEM
Pre-implementation	80	195.82	29.40	3.31
Post-implementation	80	181.15	43.33	4.87
Pair Differences	80	14.67	49.75	5.60

Table 4-4. Mean Scores and Standard Deviations For Participants' Strategy Use Scores on RSIUS

Administration	n	Mean	SD	SEM
Pre-implementation	80	152.40	42.85	4.80
Post-implementation	80	138.80	43.84	4.90
Paired Differences	80	13.60	49.48	5.53

Table 4-5. Mean Scores and Standard Deviations for Collective Teacher Efficacy

Administration	n	Mean	SD	SEM
Pre-implementation	80	92.25	18.18	2.03
Post-implementation	80	93.90	17.05	1.91
Paired Differences	80	-1.65	20.96	2.34

Table 4-6. Mean Scores and Standard Deviations for School-Wide Beliefs in the Importance of FRI Reading Comprehension Strategies by School

	Participant's School	n	Mean	SD
Post-training Importance	Elementary	45	191.41	26.89
	Middle	35	201.37	31.81
	Total	80	195.82	29.40
Follow-up Importance	Elementary	45	179.66	43.16
	Middle	35	183.03	44.08
	Total	80	181.15	43.33

Table 4-7. Split-Plot ANOVA Source Table on School-Wide Beliefs in the Importance of FRI Reading Comprehension Strategies

Source	SS	df	MS	F
Within Subjects				
Importance Post/Follow-up	8826.54	1	8826.54	7.07*
Importance x School	423.65	1	423.65	0.34
Error (Importance)	96114.07	78	1248.24	
Between Subjects				
School	1732.38	1	1732.38	1.15
Error	115573.60	78	1500.96	

* $p < .05$

Table 4-8. Mean Scores and Standard Deviations for School-Wide Use of FRI Reading Comprehension Strategies by School

	Participant's School	n	Mean	SD
Post-training Strategy Use	Elementary	45	154.00	46.64
	Middle	35	150.34	37.99
	Total	80	152.40	42.85
Follow-up Strategy Use	Elementary	45	146.04	46.51
	Middle	35	129.49	38.82
	Total	80	138.80	43.84

Table 4-9. Split-Plot ANOVA Source Table on School-Wide Use of FRI Reading
              Comprehension Strategies

Source	SS	df	MS	F
Within Subjects				
Strategy Use	8172.00	1	8172.00	6.71*
Strategy Use x School	1638.50	1	1638.50	1.34
Error (Strategy Use)	95057.10	78	1218.68	
Between Subjects				
School	4022.96	1	4022.96	1.60
Error	196139.44	78	2514.61	

* $p < .05$

Table 4-10. Mean Scores and Standard Deviations for Collective Teacher Efficacy by School

	Participant's School	n	Mean	SD
Post-training CTE	Elementary	45	97.11	18.13
	Middle	35	86.00	16.47
	Total	80	92.25	18.18
Follow-up CTE	Elementary	45	97.11	18.96
	Middle	35	89.77	13.40
	Total	80	93.90	17.05

Table 4-11. Split-Plot ANOVA Source Table on Collective Teacher Efficacy

Source	SS	df	MS	F
Within Subjects				
CTE	140.01	1	140.01	0.63
CTE x School	140.01	1	140.01	0.63
Error (Importance)	17213.09	78	220.68	
Between Subjects				
School	3351.13	1	3351.13	9.21*
Error	28391.98	78	364.00	

* $p < .05$

Table 4-12. Pearson Product Moment Correlation Coefficients for Post-training Strategy Use, Follow-up Importance and School level with Follow-up Strategy Use

	Follow-up Strategy Use (r)
Post-training Strategy Use	.35
Follow-up Importance	.07
School	.20

Table 4-13. Pearson Product Moment Correlation Coefficients for Post-training CTE, Follow-up Importance, Follow-up Strategy Use, and School level with Follow-up CTE

	Follow-up CTE (r)
Post-training CTE	.43
Follow-up Importance	.06
Follow-up Strategy Use	.15
School	-.35

Table 4-14. FRI Reading Comprehension Strategies Observed During Teacher Observations

Observed Only in the Elementary School

- **KWL** - Students share what they **K**now, and what they **W**ant to know about a topic before reading, then after reading share what they have **L**earned.
- **PreP** – *Pre-Reading Plan* -Before reading, the teacher prompts the students to "Tell me anything that comes to mind when…" Then ask them to discuss their reasoning.
- **Preview and Predict** – Students preview the text and make predictions before reading, then compare predictions with actual content after reading.
- **Reciprocal Teaching** – Students participate in a dialogue about segments of the text by summarizing, creating questions, clarifying, and predicting.
- **Sticky notes** – Students use post-it notes to record their construction of meaning as they read then share with the group to clarify confusions.
- **Story Map** - Students identify characteristics and/or relationships of selected characters using a graphic organizer.

Observed only in the Middle School

- **Anticipation Guides** - Students respond to a series of statements before reading the text and then revisit and discuss after reading.

- **GIST** - *Generating Interactions between Schema and Text* - Students create summaries of 15 or fewer words. Students begin by summarizing single sentences, then paragraphs, then longer pieces of text. *(This strategy was mentioned by students but not directly observed)*

Observed in both Schools

- **Graphic Organizers** - Organizing concepts into a visual representation.

- **Think Aloud** – Modeling and verbalizing thought processes used during reading.

Not Observed

- **Class-wide Peer Tutoring** - Students provide academic support for their classmates by alternating turns as "tutor" and "tutee," each tutoring the other in turn

- **Multi-Column Notes** - Taking and organizing notes in column form during and after reading

- **Paired Reading** - Paired students read out loud together, each helping to correct mistakes.
- **QAR's**- *Question Answer Relationships* - Teaches students to recognize types and levels questions and how to locate the information to answer them.
- **Questioning the Author** – Students respond to a series of questions about the text in order to consider the author's intent and his or her success at communicating it.
- **Selective Underlining** – Students underline or highlight key words, phrases, vocabulary, and ideas that are central to understanding the text.
- **Semantic Mapping** - Using a graphic organizer to subordinate information from the text into main ideas, characters, events, or other central ideas.

- **Think-Pair-Share** - Students think about a topic individually, share their thoughts with a partner and then the class.

Think	Solve
Explain	

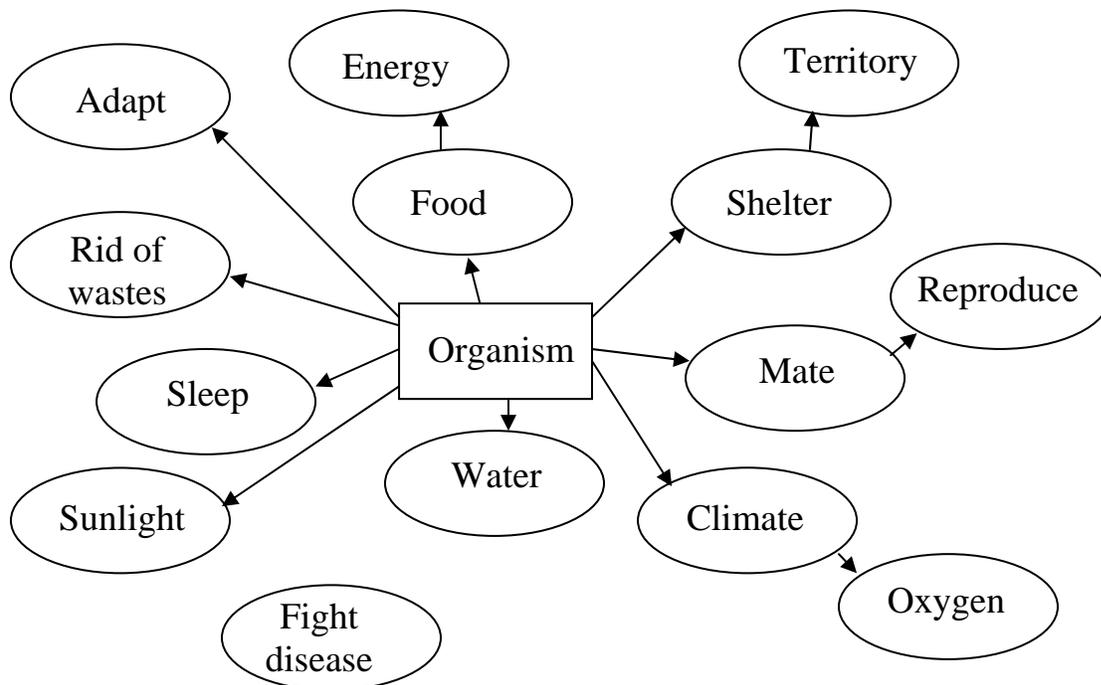Figure 4-1.   Graphic Organizer Drawn on Board by Ms. Coppersmith

Figure 4-2.   Concept Map Created by Mr. Tracy and Students

CHAPTER 5
DISCUSSION

To meet public and political demand for increased student achievement, schools and school districts are searching for effective professional development programs. However, most programs of professional development have been found to be ineffective (Guskey, 2002b; Shafer, 1995; USDOE, 2000). Effective professional development programs must: (a) involve teachers in goal setting and planning the training (Azin-Manley, Sachse, & Olson, 1996); and (b) provide teachers with specific, concrete, and practical ideas that directly relate to the day-to-day operation of their classrooms (Fullan & Miles, 1992).

The FRI professional development model, the program that was investigated in this study, was designed to meet the National Staff Development Council (NSDC, 2001) standards and the Florida master in-service plan. Those standards include: (a) a whole-school professional development approach; (b) continuous assessment of progress; (c) follow-up support; and (d) evaluation.

The purpose of this study was to determine to what extent FRI training has promoted school-wide change in teachers' instructional practices, attitudes and beliefs about reading comprehension, and collective teaching efficacy in an elementary and middle school in northeast Florida. To determine the relationship between school-wide teachers' perceptions, measures of their beliefs about importance and use of reading strategies learned during the Florida Reading Initiative (FRI) and collective teacher efficacy within participating schools were studied.

This chapter begins with an overview of the findings of the study. Next, conclusions based on these findings, and recommendations for further research are described. The chapter concludes with the implications of the study.

Summary of Results

1. Results of a dependent samples t-test indicated that elementary and middle school teachers' school-wide beliefs about the importance of FRI reading comprehension strategies were significantly lower eight months after implementation of those strategies, $t(79) = 2.62$, $p = .02$.

2. Teachers' school-wide reported use of FRI reading comprehension strategies in both the elementary and middle school were significantly lower than their predicted use, $t(79) = 2.46$, $p = .02$.

3. A dependent samples t-test indicated that CTE did not significantly change during the school year, $t(79) = 0.70$, $p = .48$.

4. Results of a 2 x 2 split-plot ANOVA indicated that there was a significant main effect for the importance scores within-subjects $F(1, 78) = 7.07$, $p = .01$. The overall scores demonstrated a difference in the pretest and post test importance scores within the two groups. There was no within-subjects interaction between importance and school, $F(1, 78) = 0.34$, $p = .56$. Also, there was no significant difference between the elementary and middle school levels, $F(1, 78) = 1.15$, $p = .27$. The importance scores were lower school-wide after implementation, but there was no difference between the middle school and elementary schools.

5. Results of the 2 x 2 split-plot ANOVA indicated that there was no strategy use by school interaction, $F(1, 78) = 1.34$, $p = .25$. However, there was a significant main effect for the strategy use scores within-subjects, $F(1, 78) = 6.71$, $p = .01$. The overall scores demonstrated a significant difference within the two groups; the follow-up survey scores for both the elementary and middle schools showed a significant decrease. There was no significant difference found between the school levels; $F(1, 78) = 1.60$, $p = .21$. The post test strategy use scores were lower than the post-training scores, but there was no significant difference between the two school levels.

6. Results of the 2 x 2 split-plot ANOVA indicated that there was no CTE by School interaction, $F(1, 78) = 0.63$, $p = .43$. Also, a main within-subjects effect for CTE was not significant, $F(1, 78) = 0.63$, $p = .43$. However, there was a significant difference between the school levels; $F(1, 78) = 9.21$, $p = .003$. There was no change in CTE within the schools after implementation, but the collective efficacy was higher in the elementary school than the middle school.

7. The correlation coefficient, $r = .07$, indicated that the relationship between teachers' school-wide beliefs about the importance of strategies and school-wide strategy use was not significant. There was no relationship between importance and strategy use.

8. The correlation coefficient ($r = .06$) indicated that the relationship between CTE and teachers' school-wide beliefs about the importance of strategies was not significant. That is, there was no relationship between CTE and beliefs about strategy importance. However, there was a moderate-to-large relationship between post-training survey and follow-up survey CTE ($r = .43$). There was also a moderate, negative relationship between follow-up

survey CTE and school level (r = -.35). The middle school post CTE scores were lower than the elementary school.

9. The correlation coefficient (r = .15) indicated that there was a small, positive relationship between CTE and strategy use.

10. Observations of elementary teachers and middle school teachers showed that FRI reading comprehension strategies were implemented in the classroom.

<div align="center">

Discussion

</div>

This study supported some of the expected relationships but not others. There was a small, positive relationship between CTE and strategy use. Evidence was found to support the stability of collective teacher efficacy across time. There was evidence of a moderate, negative relationship between school level and CTE. However, there was no support for expectations of relationships between teachers' school-wide beliefs about importance and strategy use, or school-wide beliefs about importance and CTE. There was also a significant drop in the school-wide beliefs about importance over time and the use of strategies over time. Elaboration on each of these findings and their relationship to the literature follows.

Importance and Strategy Use

The FRI Summer Reading Academy was designed to change teachers' beliefs about student reading achievement and train them in the use of specific reading comprehension strategies. Teachers' school-wide beliefs about the importance of FRI strategies and their predicted use of those strategies were measured by the RSIUS on the last day of the training and again eight months into the school year. Both importance scores and strategy use scores were found to be significantly lower on the post test. Also, it was hypothesized that there would be a relationship found between school-wide beliefs about importance of FRI Reading Comprehension Strategies and the use of those strategies. That is, it was assumed that if teachers

believed in the importance of the strategies they would be more likely to use those strategies. However, there was no significant relationship.

There may be several reasons for the drop in both importance and strategy use scores as measured by the RSIUS. One possibility is that teachers may have been overly idealistic and enthusiastic immediately after the summer training. Another reason may stem from the resistance teachers display in changing their deeply-held beliefs and practice. A third possibility might be that the teachers may have adapted the strategies to the point that they did not recognize or remember the names or descriptions on the survey instrument. A fourth possibility may be that there has not been an appropriate level of follow-up and support. Lastly, there may not have been sufficient time for teachers to change their long-term practice.

Beginning on June 6th, 2005 the two week FRI Summer Reading Academy provided professional development opportunities were held for teachers to meet, train and have discussions with other teachers from both their school and other schools attending the institute. Participants received content-specific reading strategies and shared ideas on how to implement those strategies in their classrooms. Teachers also met and planned with their own faculty several times during the two week training to discuss and plan efforts to improve student reading achievement in their school. The FRI was designed to generate whole-school buy-in to the school change effort. Because the initial survey was taken on the last day of the training, the level of enthusiasm for the whole-school change may have caused the initial school-wide beliefs about importance and predicted use of reading comprehension strategies to be higher than normally expected. Also, because the training ended 50 days before the start of the 2005-2006 school year, some content knowledge about the strategies may have been lost over time.

Educators form their beliefs about teaching from their personal experiences as both

students and teachers (Borko & Putnam, 1995; Czerniak, 2000; Guskey, 1995; Kagan, 1992;

Lumpe, Haney, & Pederson & Liu, 2003). Most content area teachers are not trained in reading

comprehension (Bremer, Vaughn, Clapper, & Kim, 2002). Beliefs about how students learn to

read and learn content tend to be formed from their personal experiences. Like the science and

math teachers studied by Loucks-Horsley et. al. (1998), participants in the professional

development model used by FRI may have been exposed to learning activities that were very

different from those they had previously experienced. Also, the new strategies and mental

models presented may have required teachers to perform in ways that were contrary to their well

established beliefs and practices (Borko & Putnam, 1995; Little, 1994).

Professional development efforts are designed to bring about change in teachers' attitudes,

beliefs and practice (Guskey, 2002a). Teachers' beliefs are a major factor in whether or not new

instructional practices will be implemented and maintained (Anderson, 2002; Fullan, 2001,

Loucks-Horsley & Matsumoto, 1999). Darling-Hammond (1998) contends that learning new

ways of teaching means that teachers must look closely at their deeply held beliefs about

themselves and their students, and about teaching and learning. However, changing instructional

practice is difficult, takes time and practice (Denton, 2003, Goodlad, 1998), and teachers will fall

back on old practices when confronted with novel or stressful situations (Pajares, 1992). Change

in practice has been shown to be a multi-year process (Schmoker, 1999; Fullan, 2001) and

sustained use of newly-learned practices have been found to be low (Gersten et. al.1997).

Guskey's (2002) model of teacher change (see figure 2-1) shows that change in beliefs and

attitudes happen after teacher see evidence that the strategies they are using have a positive effect

on student achievement. Perhaps teachers did not have enough time to see any evidence of

student achievement. School-wide beliefs about importance and strategy use scores falling after the initial enthusiasm may have resulted because the time frame studied was less than one school year.

Teachers are consumers of learning strategies; they pick and choose what parts of an initiative they will assimilate into their teaching repertoire (Guskey, 1988; Huberman, 1995). They use what they believe will work in their classroom with their students. They abandon new practices if there is no evidence of a positive effect on student achievement (Guskey, 2002b). After studying a group of teachers over a four-year period, Duffy (1993) found that teachers flowed through a continuum of nine "points of progress" when implementing new strategies. These points range from a low of "confusion and rejection" where participants felt overwhelmed, to a "creative-inventive" stage. In the creative-inventive stage, teachers felt very confident about the use of the strategies and when confronted with unexpected situations they were able to revise the strategies to fit the situation. The midpoint of the continuum is named "the wall" because it was a time where the teachers realized that they "must somehow figure out how to make the strategies genuinely useful to students" (p.115). Cohen and Ball (1999) wrote, "Teachers' knowledge is nested in particulars, and they interpret and adapt in context, building ideas, habits, and practices as they go . . . their own interpretations and decisions are tailored to the specifications of their situations" (p.11). This was evident during the observations in which teachers changed the format of the reading strategy to fit the level of student.

Different students need different methods at different times and effective reading instruction requires thought and adaptation (Duffy, 1999). The skills needed to teach children of all ability levels to read require a wide range of teaching strategies. Thus, teachers need time and practice to select and learn the correct combination (Denton, 2003). Because no two situations

are exactly the same, teachers adapt learning strategies to each situation; things that worked well yesterday may not work the well today or even the next period.

The evidence shows that school-wide beliefs about importance and use of newly-learned reading comprehension strategies were significantly lower eight months after implementation of FRI and that there was no relationship between the two variables. However, teachers did report that they were indeed using FRI strategies during the year, although to a lesser degree than they first expected them to use those strategies. Also, observation of teachers confirmed the use of FRI strategies though strategy use was less evident in the middle school.

Collective Teacher Efficacy and Relationships

Teachers' beliefs directly affect their goals, plans, and actions (Loucks-Horsley, et. al. 1998). Understanding teachers' beliefs may be beneficial to those planning professional development. Lumpe, Haney, and Czerniak (2000) suggested that developing profiles of science teachers' patterns of belief could help in the development of professional development plans. Collective teacher efficacy is a measure of teachers' shared beliefs about the staff's capacity to influence student achievement (Goddard et. al., 2000) and has been shown to be a powerful predictor of general student achievement (Bandura, 1993; Cybulski, 2003), in elementary mathematics and reading achievement (Goddard, Hoy, & Woolfolk, 2000), student achievement in secondary schools (Hoy, Sweetland, & Smith, 2002), including math, science, writing, and reading achievement (Goddard, et. al., 2004).

Using Goddard's (1998) collective efficacy instrument, this study showed evidence that there was no significant change in participants' collective teacher efficacy during implementation of FRI reading comprehension strategies. That is, the calculated CTE scores at both the elementary school and middle school were very stable and relatively high (see table 5.1). The scale ranged from a low of 1 to a high of 6. Belief systems have been shown to be

very resistant to change (Kagan, 1992; Pajares, 1992). Results also indicated that the CTE scores of the elementary school teachers were significantly higher than those of the middle school teachers. There is some evidence that efficacy beliefs vary with grade level (Cowley & Meegan 2001; Wertheim & Leyser, 2002).

There was no evidence of a significant relationship between CTE and teachers' beliefs school-wide about strategy importance. The low correlations may be a function of the small sample size and restriction of range. There was however, a relationship found between CTE and strategy use. Highly efficacious teachers have been shown to implement new initiatives and preserver longer than low efficacious teachers (Bandura, 1997b; Gibson & Dembo, 1984). Also, teachers with high efficacy scores were more willing to persist in change efforts (Pederson & Liu, 2003).

Collective teacher efficacy has been shown to be influenced by several things including mastery and vicarious experiences, social persuasion, and affective state (Bandura, 1997b; Goddard, 1998). Mastery experiences enforce beliefs that future success will follow. Vicarious experiences through conversation and observations of colleagues can help build teachers beliefs about their own abilities. Social persuasion in the form of professional development, verbal discussion, feedback and models of success can also build collective efficacy beliefs. The affective state of the school can affect collective efficacy the overwhelming stress of beginning a new initiative can lower the collective efficacy of a school or the presence of a positive culture can build it. For example, schools with high collective efficacy deal with stressors much better than those with lower efficacious beliefs (Bandura, 1997b).

Implementing newly learned strategies means changing "teachers' conceptions of what constitutes appropriate teaching in that culture" (Duffy, 1993, p.119). Both schools had

relatively strong existing collective efficacy scores. Therefore, one possible explanation of the lack of linkage between CTE and importance beliefs is that the schools' collective beliefs about what was already working in their schools were already well established. There was evidence of several reading comprehension strategies being used in the elementary school for several years before the FRI Summer Reading Academy. For example, both elementary teachers indicated that the reciprocal teaching model had been a favorite learning strategy for several years.

Theoretical Implications

This study has implications in Social Cognitive Theory (SCT) in that it studied the school-wide beliefs, actions, and efficacy after a professional development effort. This area has not been well studied. According SCT, achievement is a product of the interactions between an individual's personal, behavioral, and environmental factors (Bandura, 2002; Pajares, 2002; Schunk, 2003). Bandura (1986) stated, "What people think, believe, and feel affects how they behave" (p.25). This is the concept self-efficacy; the belief a person has about his or her capabilities to produce an effect. Self-efficacy promotes accomplishments through individuals' choices, effort, perseverance, resilience, thought patterns and emotional reactions (Henson, Kogan, & Vacha-Haase, 2001).

However, individuals are not isolated, especially within schools. They function within social groups which share beliefs about the capabilities of the individuals which make up the group and the capacity of the group as a whole to achieve a goal. This is the construct of collective efficacy; the school-wide beliefs among teachers that their efforts as a whole have a positive effect on students.

Bandura's (1997b) theory of Triadic Reciprocal Causation (Figure 5.1) provides a rational for the connection of individual efficacy beliefs, strategy use and CTE. Collective efficacy beliefs influence the beliefs and feelings of the individual teachers within the school, which

94

influences the level of effort and persistence at both the individual and collective levels, which influences the collective efficacy beliefs of the school.

This study adds to the theoretical base by providing evidence that even when CTE beliefs are relatively high within a school, new innovations may not immediately be assimilated. Beliefs about the importance of the innovations may not be affected by the collective efficacy beliefs, or indeed CTE beliefs may have a negative effect on the assimilation of the change effort. Goddard, et. al. (2002) contends that CTE may have a positive effect on individuals who have efficacy beliefs that are lower than those of his or her colleagues. That is, a teacher who has low efficacy beliefs, who perhaps does not believe in their ability to implement new strategies, may be bolstered by the actions and beliefs of the majority of those around her and find success.

Teachers are used to being shown new ways of teaching and learning and are just as used to ignoring those change efforts (Cuban & Tyack, 1995). When teachers have strong beliefs about their abilities to successfully affect the achievement of their students it may be very difficult to persuade them to do something different. Professional development efforts ask for teachers to change behavior. Accordingly, behavior is influenced by both environmental factors such as collective teacher efficacy beliefs and personal factors such as feelings and self-efficacy beliefs. New behaviors may not be tried or if tried may not persist in the face of strong personal or collective beliefs, or if there is strong anxiety about the change effort.

Practical Implications

This study did not support the hypothesis that strong beliefs about strategies are linked to their use. However, other researchers have concluded that teachers must see evidence that the new change produces student achievement before they will continue to use the new strategies (Anderson, 2002; Cohen & Ball, 1999; Fullan, 1985; Fullan & Miles, 1992; Fullan & Stiegelbaum, 1991; Guskey, 1997; Guskey & Huberman 1995; Loucks-Horsley & Matsumoto,

1999). Teachers will believe strategies work when they have seen it work, or as Guskey (2002) states, "Experience shapes their attitudes and beliefs" p. 383).   Fullan (2001) reports that loss of momentum and dip in implementation is normal during a change effort. School leaders need to anticipate this "implementation dip" (p. 40) and work to keep the momentum going by understanding "…that change is a process, not an event" (p.40).

This study indicated that individuals who see things as very important tend to view the same things as not as important over time. The teachers' beliefs in the importance about FRI reading comprehension strategies dropped significantly during this study. Also teachers' reported use of the reading strategies was significantly lower than they initially predicted. School leaders should be aware of a potential drop in interest in over time even if participants report high initial enthusiasm immediately after professional development. Bandura (1997b) stated that schools are social structure built upon common interests and beliefs. Because of the social nature of schools and because of the potential for loss of interest, school leaders must put in place structures to ensure that the initiative moves forward. These structures should include vehicles for teacher collaboration and learning, opportunities for on-going, content-specific development opportunities, demonstrations and modeling of best practice, follow-up training and support from the leadership.

Most professional development programs are ineffective because they do not take into account how teachers are motivated and how teachers change practice (Guskey, 2002). The Florida Reading Initiative is a whole-school model which requires all teachers within the school to work together toward a common goal; 100% literacy. Because schools are social entities, school leaders must work to improve the collective efficacy belief level of their teachers. High efficacy beliefs have been shown to facilitate an individual's establishment of goals, motivation

and perseverance to achieve those goals, (Bandura, 1997a; Henson, Kogan, & Vacha-Haase, 2001; Pajares, 2002), have been shown to be a reliable predictor of teacher change and use of new strategies (Smylie, 1988), and has been linked to student achievement (Bandura, 1993; Cybulski, 2003; Goddard, Hoy, & Woolfolk, 2000; Goddard, LoGerfo, & Hoy, 2004). Therefore school leaders must work to strengthen teacher efficacy and collective efficacy by providing opportunities for mastery and vicarious experiences for their teachers. They must provide teachers time for them to visit other teachers to see the new strategies in use in authentic environments. Efficacy is also strengthened through social persuasion; therefore school leaders must also provide opportunities for teachers to share successes and failure with one another.

The ultimate goal of professional development is student achievement. Student achievement is directly related to what teachers do in the classroom. Fullan and Stiegelbauer (1991) put it best, "Educational change depends on what teachers do and think – it's as simple and as complex as that" (p. 117). School leaders must be involved in all aspects of the school's professional development efforts, providing appropriate resources, follow-up and support, assessment of teacher and student progress, and making decisions based on data. For the Florida Reading Initiative School improvement model to work must establish a whole-school learning community in which the members agree to adopt a particular set of reading strategies. Teachers must be provided opportunities to collaborate and share their success. Small victories help teachers see the value of the innovation which in turn will help them change their beliefs and practice.

Recommendations for Further Study

This study was only one step in exploring the relationships between teachers' beliefs and implementation, persistence, and collective teacher efficacy beliefs. Several recommendations for further research follow.

This study was limited to two schools; an elementary school and a middle school. Future studies would benefit from a larger sample. As of this date 74 schools have received training in the Florida Reading Initiative. A study that would survey all FRI schools to determine the extent to which teachers are implementing the strategies would shed some light as to effectiveness of the initiative.

This study also is limited in that it only looked at teachers in elementary and middle school. It is suggested that a study which looks at the use of strategies in high school would also add to the knowledge base.

Change in practice may take years (Fullan, 2001; Schmoker, 1999); therefore a longitudinal study of three or more years is suggested.

The ultimate goal of all teacher professional development is increased student achievement. Unfortunately, this study was too small in scope to look for relationships between teacher beliefs, strategy use, collective teacher efficacy, and student achievement. A larger study using all FRI schools may shed some light on how FRI implementation affects student achievement.

Guskey (1988) reported that teachers alter the implementation of new programs so that they were no longer effective. A study of the extent to which teachers change the initiatives or strategies may give insight into the success or failure of those initiatives

Most research into teacher efficacy and collective efficacy is quantitative in nature. Qualitative studies may delve deeper into teachers' belief systems and provide insights that quantitative measures might not. This type of study may answer questions about why teachers choose or abandon particular strategies learned during the professional development may assist

in planning and conducting future professional development. In-depth teacher interviews may reveal how the training has or has not affected their practice.

Successful professional development efforts require ongoing coaching, modeling and support (Joyce & Showers, 1995; Showers & Joyce, 1996). Therefore a qualitative study of reading coach availability, frequency of meeting with the reading coach and other teachers, and the range of topics discussed would be helpful to gauge support teachers receive after training.

As mentioned above, several of the strategies "learned" during the FRI summer institute were already in wide use. A teacher survey of strategy use before the training may establish a baseline from which to gauge new strategy use after the training.

Teacher beliefs have profound effects on implementation of change (Abraham & Belanger, 2001; Fullan & Stiegelbauer, 1991; Guskey, 2002b; Kagan, 1992; Olson & Singer, 1994; Pajares, 1992). These beliefs cannot be examined by looking solely at behavior (Kagan, 1992). According to Senge (1990) mental models are "deeply ingrained assumptions, generalizations… that influence how we understand the world and how we take action" (p. 8). Understanding one's mental models begins by "turning the mirror inward; learning to unearth our internal pictures of the world, to bring them to the surface and hold them rigorously to scrutiny" (p. 9). Perhaps by asking teachers to keep reflective journals before, during, and after professional development may provide opportunities to better examine teacher beliefs.

One limitation of the FRI training is that although teachers receive information about reading strategies, they are given little opportunity to practice the use of those strategies. It is suggested that FRI training sessions should consider incorporating opportunities to practice implementation during the sessions.

Table 5.1. CTE Scores Obtained by Averaging All Teacher Scores from the CTEI *

	Post-training survey	Follow-up survey
Elementary School	4.62	4.73
Middle School	4.10	4.27

*(Goddard, 1998)

BEHAVIOR
(FRI Strategy Use)
(Effort and Persistence)

PERSONAL
FACTORS
(Self-efficacy beliefs)

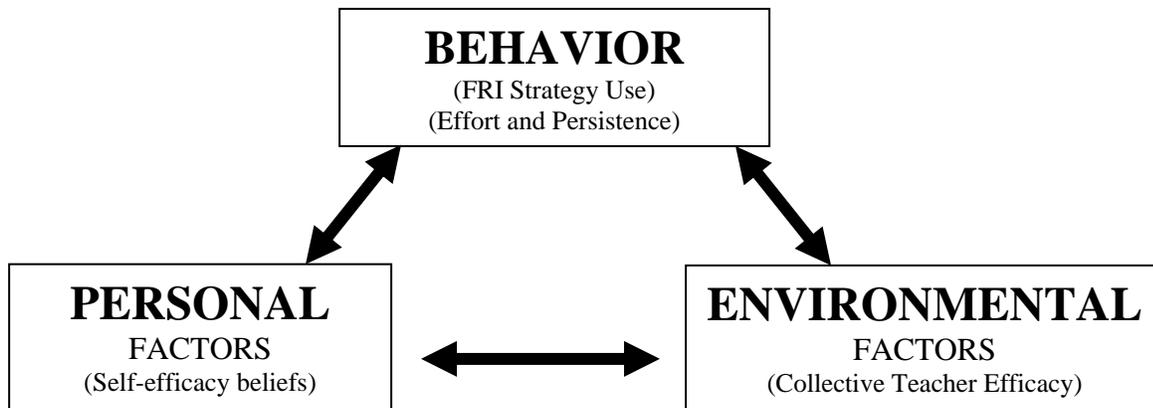**ENVIRONMENTAL**
FACTORS
(Collective Teacher Efficacy)

Figure 5.1.   Triadic Reciprocal Causation

APPENDIX A
PARTICIPANT LETTER

Department of Educational Leadership, Policy and Foundations
P.O. Box 117049
Norman Hall, Room 258
Gainesville, FL 32611-7049

Dear Colleague:

I am a doctoral candidate at the University of Florida and a high school assistant principal for Flagler County Schools. I am conducting a study investigating the link between educators' beliefs and the use of reading-based strategies following the Florida Reading Initiative training. The survey is designed to collect information about teachers' beliefs of the importance and use of reading strategies, collective teacher efficacy within school sites, and demographic information.

I would appreciate it if you would take a few minutes to answer the questions on this survey. This survey will take fifteen or twenty minutes. If you cannot accurately provide an answer a question, please leave it blank. You do not have to answer any questions you do not want to and you may withdraw at any time without penalty. There are no known risks, and participation is voluntary.

Responses to questions about your identity are solely for follow-up purposes and will remain confidential. During the 2005 – 2006 school year I will send you a follow-up questionnaire via email. When you submit your completed questionnaire, your name will be deleted from the mailing list and never connected to your answers in any way; your identity will be kept confidential to the extent provided by law.

The results of this survey will be provided to you at your request. There are no direct benefits or compensation to participants.

If you have any questions about this research, please contact me at (386) 437- 7540 x 1011 or my faculty supervisor, Dr. Linda Behar-Horenstein, at 352 392-0731 x 230. Questions or concerns about research participants' rights may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611; ph (352) 392-0433. Please sign and return this copy of the letter with the survey. A second copy is provided for your records. By signing this letter, you give me permission to report your responses anonymously in the final manuscript to be submitted to my faculty supervisor as part of my course work. Thank you very much for your assistance.

Chris Pryor

I have read the procedure described above and I voluntarily agree to participate in this study.

_____ _____
Signature of participant   Date

I would like to receive a copy of the results of this study. _____

READING STRATEGY IMPORTANCE AND USE SURVEY

DIRECTIONS:
- Read each statement below.
- Circle the numbers on the left side to indicate your belief in the strategy's importance.
- Circle the number on the right side to rank the frequency you will implement each strategy in your classroom (if you are a teacher) or school (if you are an administrator).

Please use the following scales:

Importance	Strategy Use
"It would be ___ to use this strategy"	"I used this strategy ____ minutes per week."
1 = Very unimportant	1 = 0
2 = Fairly unimportant	2 = Less than 30
3 = Some importance	3 = 30 - 60
4 = Fairly important	4 = 61 - 90
5 = Very important	5 = more than 90

Importance	Comprehension Strategy or Activity	Strategy Use
1　2　3　4　5	1. Asking students to respond to a series of questions about the author's intent and his or her success at communicating it.	1　2　3　4　5
1　2　3　4　5	2. Asking students to organize concepts using a visual aide.	1　2　3　4　5
1　2　3　4　5	3. Providing focusing questions for students to read before reading	1　2　3　4　5
1　2　3　4　5	4. Using QAR's	1　2　3　4　5
1　2　3　4　5	5. Teaching students about internal text structure such as sequence of events, descriptions of characters, setting, and events, and plot.	1　2　3　4　5
1　2　3　4　5	6. Using Multi-Column Notes	1　2　3　4　5
1　2　3　4　5	7. Using Anticipation Guides	1　2　3　4　5
1　2　3　4　5	8. Providing incentives to motivate students to read	1　2　3　4　5
1　2　3　4　5	9. Using Reciprocal Teaching	1　2　3　4　5
1　2　3　4　5	10. Asking students to take and organize notes in column form during and after reading.	1　2　3　4　5

Importance	Comprehension Strategy or Activity	Strategy Use
1 2 3 4 5	11. Asking students to recognize types and levels questions and how to locate the information to answer them.	1 2 3 4 5
1 2 3 4 5	12. Using Story map	1 2 3 4 5
1 2 3 4 5	13. Making students aware of external text structures such as title, table of contents, appendix, glossary, index, etc.	1 2 3 4 5
1 2 3 4 5	14. Creating a dialogue about segments of the text by summarizing, creating questions, clarifying, and predicting.	1 2 3 4 5
1 2 3 4 5	15. Using Think Aloud	1 2 3 4 5
1 2 3 4 5	16. Incorporating reading comprehension strategies into your specific content area	1 2 3 4 5
1 2 3 4 5	17. Using Graphic Organizers	1 2 3 4 5
1 2 3 4 5	18. Using KWL	1 2 3 4 5
1 2 3 4 5	19. Asking students to respond to a series of statements before reading the text and then revisiting after reading	1 2 3 4 5
1 2 3 4 5	20. Teaching students to be aware of their own thinking as they read.	1 2 3 4 5
1 2 3 4 5	21. Having students use graphic organizers to subordinate information to main ideas, characters, events, or other central ideas.	1 2 3 4 5
1 2 3 4 5	22. Using Selective Highlighting or Underlining	1 2 3 4 5
1 2 3 4 5	23. Students use sticky notes to record their thoughts as they read then share with the group to clarify confusions.	1 2 3 4 5
1 2 3 4 5	24. Using Semantic mapping	1 2 3 4 5

Importance	Comprehension Strategy or Activity	Strategy Use
1 2 3 4 5	25. Asking students to think about a topic individually, share their thoughts with a partner and then the class.	1 2 3 4 5
1 2 3 4 5	26. Using Think-Pair-Share	1 2 3 4 5
1 2 3 4 5	27. Using Class-wide Peer Tutoring	1 2 3 4 5
1 2 3 4 5	28. Using GIST	1 2 3 4 5
1 2 3 4 5	29. Pair students, one person reads while partner follows along	1 2 3 4 5
1 2 3 4 5	30. Verbalizing the thought processes used during reading	1 2 3 4 5
1 2 3 4 5	31. Reading to students	1 2 3 4 5
1 2 3 4 5	32. Using symbols to note key points.	1 2 3 4 5
1 2 3 4 5	33. Helping students identify and understand characteristics and/or relationships of selected characters using a graphic organizer.	1 2 3 4 5
1 2 3 4 5	34. Using Sticky Notes	1 2 3 4 5
1 2 3 4 5	35. Asking students to write a summary of a short part of a passage, generate a class summary, and continue until passage is complete.	1 2 3 4 5
1 2 3 4 5	36. Prompting students to "Tell me anything that comes to mind when…" Then ask them to discuss their reasoning.	1 2 3 4 5
1 2 3 4 5	37. Having students highlight or underline important parts of the text	1 2 3 4 5
1 2 3 4 5	38. Using Paired reading	1 2 3 4 5

Importance	Comprehension Strategy or Activity	Strategy Use
1 2 3 4 5	39. Explaining the structure of narrative text	1 2 3 4 5
1 2 3 4 5	40. Using PreP	1 2 3 4 5
1 2 3 4 5	41. Having students take turns as "tutor" and "tutee."	1 2 3 4 5
1 2 3 4 5	42. Using Preview and Predict	1 2 3 4 5
1 2 3 4 5	43. Using Questioning the author	1 2 3 4 5
1 2 3 4 5	44. Pointing out items of information that help readers to understand the meaning of a particular word.	1 2 3 4 5
1 2 3 4 5	45. Monitoring student thinking while reading	1 2 3 4 5
1 2 3 4 5	46. Asking students what they know, and what they want to know about a topic before reading, then after reading ask what they have learned.	1 2 3 4 5
1 2 3 4 5	47. Teaching students to recognize different types and levels of questions	1 2 3 4 5
1 2 3 4 5	48. Asking students to preview text and make predictions before reading, then compare predictions with actual content after reading.	1 2 3 4 5
1 2 3 4 5	49. Explaining the structure of informative text	1 2 3 4 5

Collective Teacher Efficacy Instrument
(Goddard, 1998)

Directions: Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral to the right of each statement

	Strongly disagree	Moderately disagree	Disagree slightly more than agree	Agree slightly more than disagree	Moderately agree	Strongly agree
	1	**2**	**3**	**4**	**5**	**6**
1. Teachers in this school have what it takes to get children to learn.	1	2	3	4	5	6
2. Teachers in this school are able to get through to difficult students.	1	2	3	4	5	6
3. If a student does not learn something the first time, teachers will try another way.	1	2	3	4	5	6
4. Teachers here are confident they will be able to motivate their students.	1	2	3	4	5	6
5. Teachers in this school really believe that every student can learn.	1	2	3	4	5	6
6. If a student doesn't want to learn, teachers here give up.	1	2	3	4	5	6
7. Teachers here need more training to know how to deal with these students.	1	2	3	4	5	6
8. Teachers in this school think that there are some students that no one can reach.	1	2	3	4	5	6
9. Teachers here don't have the skills needed to produce meaningful student learning.	1	2	3	4	5	6
10. Teachers here fail to reach some students because of poor teaching methods.	1	2	3	4	5	6

	Strongly disagree	Moderately disagree	Disagree slightly more than agree	Agree slightly more than disagree	Moderately agree	Strongly agree
	1	**2**	**3**	**4**	**5**	**6**
11. These students come to school ready to learn.	1	2	3	4	5	6
12. Home life provides so many advantages they are bound to learn.	1	2	3	4	5	6
13. The lack of teaching materials and supplies makes teaching very difficult.	1	2	3	4	5	6
14. Students here just aren't motivated to learn	1	2	3	4	5	6
15. The quality of school facilities here really facilitates the teaching and learning process.	1	2	3	4	5	6
16. The opportunities in this community help ensure that these students will learn.	1	2	3	4	5	6
17. Teachers here are well prepared to teach the subjects they are assigned to teach.	1	2	3	4	5	6
18. Teachers in this school are skilled in various methods of teaching.	1	2	3	4	5	6
19. Learning is more difficult at this school because children are worried about their safety.	1	2	3	4	5	6
20. Drugs and alcohol abuse in the community make learning difficult for students here.	1	2	3	4	5	6
21. Teachers in this school do not have the skills to deal with student disciplinary problems	1	2	3	4	5	6

APPENDIX D
PERMISSION TO USE CTEI

From: Pryor, Chris
Sent: Tuesday, April 26, 2005 1:00 PM
To: 'Roger Goddard'
Subject: RE: Collective Teacher Efficacy Instrument

Thank you!

Chris Pryor

-----Original Message-----
From: rgoddard@mail.umich.edu [mailto:rgoddard@mail.umich.edu] On Behalf Of Roger Goddard
Sent: Tuesday, April 26, 2005 12:05 PM
To: Pryor, Chris
Subject: Re: Collective Teacher Efficacy Instrument

Dear Chris:

My understanding is that you must cite the article in which I originally published the instruments. There are actually two: the original scale published in AERJ and a 12 item short form published in Educational and Psychological Measurement.

If you go to Wayne K. Hoy's website, you'll find the citation information and the scales there.

My only personal request is that you let me know the outcomes of your study and if you ever write up the study for publication in a peer reviewed journal, please send me a copy.

Good luck with your research.

Sincerely,
Roger Goddard

--On Sunday, April 24, 2005 3:58 PM -0400 "Pryor, Chris"
<PryorH@flagler.k12.fl.us> wrote:

Dear Dr. Goddard,

I am a doctoral candidate at the University of Florida. I am writing > a proposal to study collective teacher efficacy, use of newly learned reading comprehension strategies and student reading achievement. I would like to use your Collective Teacher Efficacy > Instrument. How might I obtain permission and a copy? Thank you,

Chris Pryor
Assistant Principal
Flagler Palm Coast High School
> Bunnell, FL 32110
> 386-437-7540 x 1011
>
>

LIST OF REFERENCES

Abraham, N., & Belanger, J. (2001). *Technical and professional communications in secondary schools: Barriers created by teachers' beliefs and attitudes*. Vancouver; British Columbia. (ERIC Document Reproduction Service No. ED449537).

Allinder, R. M. (1995). An examination of the relationship between teacher efficacy and curriculum-based measurement and student achievement. *Remedial and Special Education, 16*, 247–254.

Anderson, R. D. (2002). Reforming science teaching: What research says about inquiry. *Journal of Science Teacher Education, 13*, 1-12.

Ashton, P. T., & Webb, R. B. (1986). *Making and difference: Teachers' sense of efficacy and student achievement*. New York: Longman.

Azin-Manley, M., Sachse, T., & Olson, C. (1996). *Staff development needs survey*. Jackson, WY: Region V Board of Cooperative Services Center for School Improvement. (ERIC Document Reproduction Service No. ED405306).

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*, 117–148.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71–81). New York: Academic Press. (Reprinted in H. Friedman [Ed.] *Encyclopedia of mental health*. San Diego: Academic Press, 1998).

Bandura, A. (1997a). Self-efficacy [Electronic version]. *Harvard Mental Health Letter 13(9)*, 4–6.

Bandura, A. (1997b). *Self-efficacy: The exercise of control* [Electronic version]. New York: Freeman.

Bandura, A. (2002). Social cognitive theory in cultural context [Electronic version]. *Journal of Applied Psychology: An International Review, 51,* 269–290.

Barber, M. S. (2002). The influence of the Alabama Reading Initiative on the culture of three inner-city elementary schools in the state of Alabama. (Doctoral dissertation, The University of Alabama at Birmingham, 2002) *Dissertations Abstracts International, 64(1)*, 95. (UMI No. 3078520).

Barry, A. L. (1997). High school reading programs revisited. *Journal of Adolescent & Adult Literacy, 40,* 524–531.

Barry, A. L. (2002). Reading strategies teachers say they use. *Journal of Adolescent & Adult Literacy, 46,* 132–141.

Borko, H., & Putnam, R. T. (1995). Expanding a teacher's knowledge base: A cognitive psychological perspective on professional development. In T. R. Guskey and M. Huberman (Eds.), *Professional Development in Education: New Paradigms and Practices* (pp. 35-65). New York: Teachers College Press.

Bouffard-Bouchard, T. (2000). Influence of self-efficacy on performance in a cognitive task. *The Journal of Social Psychology, 130,* 353–363.

Bremer, C. D., Vaughn, S., Clapper, A. T., & Kim, A. (2002). *Collaborative strategic reading (CSR): Improving secondary students' reading comprehension skills. Research to practice brief: Improving secondary education and transition services through research.* (ERIC Document Reproduction Service No.ED468581).

Cohen, D. K., & Ball, D. L. (1999). *Instruction, capacity, and improvement. Consortium for Policy Research in Education.* (ERIC Document Reproduction Service No. ED431749).

Cole, J. C. (2002). What motivates students to read? Four literacy personalities. *The Reading Teacher, 56,* 326–336.

Cowley, K. S., Meegan, M. L. (2001). *Assessing teacher efficacy and professional learning community in 19 elementary and high schools.* Paper presented at the 10th Annual Meeting of the CREATE National Evaluation Institute (Wilmington, NC, July 19–21, 2001). (ERIC Document Reproduction Service No. ED458274).

Creswell, J. W. (2004). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). New York: Prentice Hall.

Cuban, L., & Tyack, D. (1995). *Tinkering toward Utopia: A century of public school reform.* Cambridge: Harvard University Press.

Cybulski, T. G. (2003). Investigating the role of the collective efficacy of teachers in fiscal efficiency and student achievement. (Doctoral dissertation, The Ohio State University, 2003) *Dissertations Abstracts International, 65(02),* 360. (UMI No. 3124056).

Darling-Hammond, L. (1998). Teacher learning that promotes student learning. *Educational Leadership, 55(5),* 6–11.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 8(1).* Retrieved March 18, 2004. from http://epaa.asu.edu/epaa/v8n1/

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that promote professional development in an era of reform, *Phi Delta Kappan, 78,* 597–604.

Denton, D. R. (2003). *Reading First: Lessons from successful state reading initiatives.* Atlanta, GA: Southern Regional Education Board. (ERIC Document Reproduction Service No.ED477336).

Donovan, J. F., Sousa, D. A., & Walberg, H. J. (1987). The impact of staff development on implementation and student achievement. *Journal of Educational Research, 80*, 348-351.

Duffy, G. G. (1993). Teachers' progress toward becoming expert strategy teachers. *The Elementary School Journal, 94,* 109–120.

Duffy, G. G. (1999). In pursuit of an illusion: The flawed search for the perfect method. *Reading Teacher, 53,* 10-16.

DuFour, R. P. (1997). The school as a learning organization: Recommendations for school improvement. *NASSP Bulletin, 81*, 81–87.

Dutro, E., Fisk, M. C., Koch, R., Roop, L. J., & Wixson, K. (2002). When state policies meet local district contexts: Standards-based professional development as a means to individual agency and collective ownership. *Teachers College Record, 104*, 787–811.

Elmore, R. F. (2002). Hard questions about practice. *Educational Leadership, 59(8),* 22–25.

Evers, W. J. G., Brouwers, A., & Tomic, W. (2002). Burnout and self-efficacy: A study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *British Journal of Educational Psychology, 72*, 227–243.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research, 38(1),* 47–65.

Fielden, K. (2003). Fact or fiction: Qualitative research results in information systems. *Informing Science* [Electronic version]. Retrieved April 29th, 2006 from http://precedings.informingscience.org/IS2003Preceedings/docs/027Field.pdf

Florida School Laws (2005). *School Community Professional Development Act*, F.S.S 1012.98 § 62-2006-74.

Friedman, I. A., & Kass, E. (2002). Teacher self-efficacy: A classroom-organization conceptualization. *Teaching and Teacher Education, 18*, 675-686.

Fritz, J. J., Miller-Heyl, J., Kreutzer, J. C., & MacPhee, D. (1995). Fostering personal teaching efficacy through staff development and classroom activities. *The Journal of Educational Research,88,* 200–208.

Fullan, M. (1985). Change forces and strategies at the local level. *Elementary School Journal, 85*, 391–421.

Fullan, M. (2001). *Leading in a culture of change.* San Francisco: Jossey-Bass.

Fullan, M. (2002). The change leader. *Educational Leadership,59(8)*, 16–20.

Fullan, M. G., & Miles, M. B. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan, 73*, 744–752.

Fullan, M. G., & Stiegelbauer, S. (1991). *The new meaning of educational change* (2nd ed.). New York, NY: Teachers College Press.

Gardner, H. (1991). *The unschooled mind*. New York: Basic Books.

Gersten, R., Vaughn, S., Deshler, D., & Schiller, E. (1997). What we know about using research findings: Implications for improving special education practice. *Journal of Learning Disabilities, 30,* 466–476.

Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teaching efficacy, and selected teacher characteristics. *Teaching and Teacher Education 15*, 487–496.

Ghaith, G., & Yaghi, H. (1997). Relationships among experience, teacher efficacy, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education, 13,* 451–458.

Gibson, S., & Dembo, M. (1984) Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76,* 569-582.

Glickman, C. D., Gordon, S. P., & Ross-Gordon, J. M. (1998). *Supervision of instruction: A developmental approach*. Boston: Allyn & Bacon.

Goddard, R. D. (1998). The effects of collective teacher efficacy on student achievement in urban public elementary schools. (Doctoral dissertation, The Ohio State University, Columbus. *Dissertations Abstracts International, 59(10),* 3705. (UMI No. 9911154).

Goddard, R. D., Hoy, W. K, & Woolfolk, A. W. (2000). Collective teacher efficacy: Its meaning measure, and impact on student achievement. *American Educational Research Journal, 37*, 479–508.

Goddard, R. D., LoGerfo, L., & Hoy, W. K. (2004). High school accountability: The role of perceived collective efficacy. *Educational Policy, 18*, 403–425.

Goodlad, J. (1998). *How teachers teach*. New York: McGraw-Hill.

Gordon, L. M. (2001). *High teacher efficacy as a marker of teacher effectiveness in the domain of classroom management*. Paper presented at the Annual Meeting of the California Council on Teacher Education (San Diego, CA, Fall 2001). (ERIC Document Reproduction Service No. ED465731).

Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes toward the implementation of instructional innovation. *Teacher and Teacher Education: An International Journal of Research and Studies, 4(1)*, 63–69.

Guskey, T. R. (2000), *Evaluating professional development*. Thousand Oaks, CA: Corwin Press, Inc.

Guskey, T. R. (2002a). Professional development and teacher change. *Teachers and Teaching: Theory and Practice, 8,* 382–391.

Guskey, T. R. (2002b). Does it make a difference? Evaluating professional development. *Educational Leadership, 59*(6), 45-51

Guskey, T. R., & Huberman, M. (Eds.). (1995). *Professional development in education: New paradigms and practices.* New York: Teachers College Press.

Harvey, S., & Goudvis, A. (2000). *Strategies that work: Teaching comprehension to enhance understanding.* York, ME: Stenhouse Publishers.

Henson, R. K., Kogan, L. R., & Vacha-Haase, T. (2001). A reliability generalization of the teacher efficacy scale and related instruments. *Educational and Psychological Measurement, 61,* 404–420.

Hoover, W. A. (1996). The practice implementations of constructivism. *SEDLetter, 9(3).* Retrieved October 24, 2004, from http://www.sedl.org/pubs/sedletter/v09n03/practice.html

Hoy, W. K., Sweetland, S. R., & Smith, P. A. (2002). Toward an organizational model of achievement in high schools: The significance of collective efficacy. *Educational Administrative Quarterly, 38*, 77–93.

Hoy, W., & Miskel, C. (1996). *Educational administration: Theory research and practice*, (5th ed.). New York: McGraw-Hill.

Huberman, M. (1995). Networks that alter teaching: Conceptualizations, exchanges and experiments. *Teachers and Teaching: Theory and Practice*, *2,* 192-211.

Jacobucci, L., Richert, J., Ronan, S., & Tanis, A. (2002). *Improving reading comprehension by predicting, monitoring comprehension, remediation, and personal response strategies*. Chicago, IL: Saint Xavier University. (ERIC Document Reproduction Service No.ED473054).

Joyce, B., & Showers, B. (1995). *Student achievement through staff development* (2nd ed.). New York: Longman.

Kagan, D. M., (1992). Implications of research on teacher belief. *Educational Psychologist, 27*, 65–90.

Kent, A. M. (2003). The Alabama Reading Initiative: Developing highly skilled teachers of reading through innovative professional development. *Reading Improvement, 40,* 147–152.

Kurz, T. B. (2001). An exploration of the relationship among teacher efficacy, collective teacher efficacy, and goal consensus. (Doctoral dissertation, Texas A & M University *Dissertations Abstracts International, 62(07)*, 2341. (UMI No. 3020068).

Learning First Alliance. (2000). *Every child reading: A professional development guide*. Baltimore, MD: Association for Supervision and Staff Development.

Lieberman, A. (1995). Practices that support teacher development [Electronic version]. *Phi Delta Kappan, 76,* 591–595.

Little, J. W. (1994). Teachers' professional development in a climate of educational reform. *Systemic Reform: Perspectives on Personalizing Education.* Retrieved October 22, 2004, from http://www.ed.gov/pubs/EdReformStudies/SysReforms/little1.html

Little, M. E., & Houston, D. (2003). Research into practice through professional development. *Remedial and Special Education, 24(2),* 75–87.

Loucks-Horsley, S. &Matsumoto, C. (1999). Research on professional development for teachers of mathematics and science: The state of the scene. *School Science & Mathematics, 99*, 258-271.

Loucks-Horsley, S., Hewson, P. W., Love, N., & Stiles, K. E. (1998). Designing professional development for teachers of science and mathematics. Thousand Oaks, CA: Corwin Press.

Lumpe, A. T., Haney, J. J., & Czerniak, C. M. (2000). Assessing teachers' beliefs about their science teaching context. *Journal of Research in Science Teaching, 37,* 275-292.

Lyon, G. R. (2004). The science of reading research. *Educational Leadership, 61(6),* 12–17.

Marks, H. M., & Louis, K. S. (1999). Teacher empowerment and the capacity for organizational learning. *Educational Administration Quarterly, 35*, 707–750.

Mays, N., & Pope, C. (1995) Qualitative research: Rigour and qualitative research. *BMJ Journals* [Electronic version]. Retrieved April 29th, 2006 from http://bmj.bmjjournals.com/cgi/content/full/311/6997/109

Monahan, T. C. (1996). Do contemporary incentives and rewards perpetuate outdated forms of professional development? *Journal of Staff Development, 17,* 44–47.

Moscovitch, E. (2001). *Evaluation of the Alabama Reading Initiative: Final report*. Montgomery, AL: Alabama State Department of Education. (ERIC Document Reproduction Service No.ED464366).

National Commission on Teaching & America's Future. (1996). *What matters most: Teaching for America's future*. New York,: Teachers College Press.

National Reading Panel (2000). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups.* Washington, DC: National Institute of Child Health and Human Development.

National Staff Development Council. (2001). *NSDC standards for staff development* [Electronic version]. Retrieved November 15th, 2004, from http://www.nsdc.org/standards/index.cfm

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies, 18,* 197-206.

North East Florida Educational Consortium. (n.d.). *The Florida Reading Initiative: Overview*. Retrieved November 28, 2004 from http://www.nefec.org/fri/

Olson, J. R., & Singer, M. (1994) Examining teacher beliefs, reflective change, and the teaching of reading. *Reading Research and Instruction, 34*, 97–110.

Pajares, F. (2002). *Overview of social cognitive theory and self-efficacy*. Retrieved November 11, 2004, from http://www.emory.edu/EDUCATION/mfp/eff.html.

Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading and Writing Quarterly, 19*, 139–158.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307–332.

Parsad, B., Lewis, L., & Farris, E. (2001). *Teacher preparation and professional development: 2000* (National Center for Educational Statistics (Rep. No. NCES-2001-088). Washington DC: U.S. Department of Education.

Pederson, S., & Liu, M. (2003). Teachers' beliefs about issues in the implementation of a student-centered learning environment. *Educational Technology Research Development, 51(2)*, 57–76.

Penfield, R. D. (2003*). The fundamentals of quantitative data analysis for the behavioral sciences.* Unpublished manuscript, University of Florida.

Pressley, M., Wharton-McDonald, R., Allington, R., Block, C. C., Morrow, L., Tracey, D., et al. (2001). A study of effective first-grade literacy instruction. *Scientific Studies of Reading, 5(1),* 35–58.

Ross, J. A., & Gray, P. (2004). *Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy.* Paper presented at the annual meeting of the American Educational Research Association, SanDiego, CA. Retrieved April 16, 2005, from http://www.oise.utoronto.ca/field-centres/ross/CTEleadership.pdf

Ross, J. A., Hogaboam-Gray, A., & Hannay, L. (2001). Effects of teacher efficacy on computer skills and cognitions of Canadian students in grades K – 3. *The Elementary School Journal, 102,* 141–156.

Schmoker, M. (1999). *Results: The key to continuous school improvement* (2nd ed.). Alexandria, VA: ASCD

Schuman, H., & Presser, S. (1991). *Questions and answers in attitude surveys: Experiments on question form, wording, and context.* New York: Academic Press.

Schunk, D. H. (2003). Self-efficacy for reading and writing: Influence of modeling, goal setting, and self-evaluation. *Reading and Writing Quarterly: Overcoming Learning Difficulties, 19,* 159–172.

Senge, P. M. (1990) *The fifth discipline. The art and practice of the learning organization*, London: Random House.

Shafer, R. A. (1995). *Interactional processes and support structure which foster professional development: A qualitative study*. Paper presented at the Annual Meeting of the American Educational Association, San Francisco, CA. (ERIC Document Reproduction Service No. ED390831).

Showers, B., & Joyce, B. (1996). The evolution of peer coaching. *Educational Leadership, 53*, 12-16.

Smylie, M. A. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal, 25,* 3–30.

Sparks, D. (1984). Staff development and school improvement: An interview with Ernest Boyer. *Journal of Staff Development, 5(2)*, 32–39.

Sparks, D. (2000). Foreword. In T. R. Guskey (Author), *Evaluating professional development* (pp. ix – xiii). Thousand Oaks, CA: Corwin Press, Inc.

Stajkovic, A. D., & Luthans, F. (1998). Social cognitive theory: Going beyond traditional motivation and behavioral approaches. *Organizational Dynamics, 26(4),* 62 – 74.

Texas Reading Initiative/Texas Education Agency. (n.d.). *What is the Texas Reading Initiative?* Retrieved December 5, 2004, from http://www.tea.state.tx.us/reading/news/whatexrea.html

Torgeson, J. K. (1998). Catch them before they fall: Identification and assessment to prevent reading failure in young children. *American Educator, 22(1–2),* 32–39.

Tschannen-Moran, M., & Woolfolk-Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783–805.

Tschannen-Moran, M., Woolfolk-Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202–248.

Tuckman, B. W. (1999). *Conducting educational research* (5th ed.) Belmont, CA: Wadsworth Group/Thomson Learning.

U.S. Department of Education: Office of the Under Secretary. (2000). *Does professional development change teaching practice? Results from a three-year study* (Document No. 2000-04). Retrieved October 4, 2004, from www.ed.gov/offices/OUS/eval/

Vaughan, A. (2000). *Closing the gap: How the Alabama Reading Initiative is transforming reading instruction for all students*. Montgomery, AL: Alabama Sate Department of Education. (ERIC Document Reproduction Service No.ED464363).

Wendorf, C. A. (1997). Part VII: Multiple regression (MR) prediction with continuous variables. *Manuals for univariate and multivariate statistics*. Retrieved September 3, 2006, from http://www.uwsp.edu/psych/cw/statmanual/mrcountinuous.html

Wenglinsky, H. (2000). *How teaching matters: Bringing the classroom back into discussions of teacher quality.* Princeton, NJ: Educational Testing Service.

Wertheim, C., & Leyser, Y. (2002). Efficacy beliefs, background variable, and differentiated instruction of Israeli prospective teachers. *The Journal of Educational Research, 96,* 54–63.

Wildman, T. M., & Niles, J. A. (1987). Essentials of professional growth. *Educational Leadership, 44(5),* 4–10.

Woolfolk, A. E., & Hoy, W. K (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology, 82*, 81—91.

BIOGRAPHICAL SKETCH

Hugh Christopher Pryor (Chris) was born in Bartow, Florida, November 17, 1960 and graduated from Flagler Palm Coast High School in 1978. He attended Daytona Beach Community College on a music scholarship for bassoon from 1978–1980 majoring in liberal arts. After obtaining a bachelor of arts degree in biology from Stetson University in Deland, Florida in 1991, he began his teaching career as a high school science teacher in Daytona Beach Florida. After transferring to Flagler County Schools in 1993, he obtained his Master of Arts in Education degree in education from Stetson University in 1996. After entering the University of Florida he obtained an Educational Specialist degree in educational leadership from the University of Florida in 2002 and moved to assistant principal duties at Flagler Palm Coast High School. He was accepted as a doctoral candidate in 2003. Appointed principal in 2005, he opened Matanzas High School as a new school in Palm Coast, Florida. Only through the wonderful support of his family, faculty and staff has he been able to been able to complete his doctoral work.