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# A Study of the Relationship of Teachers' Self-Efficacy and the Impact of Leadership and Professional Development

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A STUDY OF THE RELATIONSHIP OF TEACHERS' SELF-EFFICACY AND THE  
IMPACT OF LEADERSHIP AND PROFESSIONAL DEVELOPMENT

A Dissertation

Submitted to the Graduate School and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

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Title: A Study of the Relationship of Teachers' Self-Efficacy and the Impact of Leadership and Professional Development

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Studies have shown that teachers are a direct link to student achievement. Teachers with a strong sense of self-efficacy nurture students toward academic accomplishments. Teachers with a weak sense of self-efficacy tend to surrender in the presence of difficulty. How then, do schools promote teachers' self-efficacy through leadership and professional development experiences provided to teachers?

This mixed-method study examined teachers' perception of their self-efficacy and the impact of leadership and professional development on that efficacy. One-hundred ninety-two teachers from 17 rural elementary schools throughout western Pennsylvania completed the *Teacher Efficacy Scale* (Woolfolk & Hoy, 1993). Teachers' personal teaching efficacy (PTE) mean scores were used to identify schools with extreme measures. Teachers of three schools identified as possessing overall high PTE, and teachers of two schools identified as possessing overall low PTE completed the *Nature*

*of School Leadership* (Leithwood, 1997) questionnaire.

Following the leadership measure, two teachers from each school were chosen and participated in individual interviews to reveal detailed qualitative information regarding the school principal(s) and professional development experiences. Quantitative results of the study revealed that degrees exist among teachers' PTE. Additionally, a statistically significant difference was found between the mean scores of teachers identified from high efficacy schools and low efficacy schools for the six categories of leadership traits. Surprisingly, faculty from schools identified as low efficacy actually rated their principal higher for exhibiting leadership characteristics thought to be effective.

Qualitative data regarding teachers' perceptions of self-efficacy, leadership traits and professional development experiences revealed no strong categories within either group. Additionally, the responses between groups were highly reflective of each other, providing inconclusive results.

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## TABLE OF CONTENTS

Chapter		Page
ONE	THE PROBLEM .....	1
	The Purpose of the Study .....	5
	Significance of the Problem .....	7
	Research Questions .....	8
	Definition of Terms .....	9
	Design of the Study .....	11
	Research Limitations .....	11
	Summary .....	12
TWO	REVIEW OF THE LITERATURE .....	13
	Introduction .....	13
	Sociocognitive Theory of Self-Efficacy .....	14
	Historical Overview of Self-Efficacy .....	15
	What is Self-Efficacy? .....	17
	Sources of Efficacy .....	18
	Distinguishing Characteristics of Self-Efficacy .....	19
	Teacher Self-Efficacy .....	23
	Self-efficacy and Student Achievement .....	25
	Leadership .....	27
	History of Leadership .....	28
	The Impact of Leadership on Teachers' Self-Efficacy Beliefs .....	30
	Professional Development .....	38
	Historical Perspective of Professional Development .....	39
	The Need for Professional Development .....	39
	Professional Development Research .....	42
	The State of Rural Schools .....	46
	Pennsylvania Association of Rural and Small Schools .....	52
	Summary .....	53
THREE	PROCEDURES AND METHODOLOGY .....	54
	Rationale .....	55
	Purpose .....	57
	Population and Study Sites .....	57
	Population Characteristics .....	58

	Age Range .....	58
	Gender .....	59
	Number .....	59
	Phase One - Initial Survey .....	59
	Phase Two - Follow-up Survey .....	59
	Phase Three - Interviews .....	59
	Instruments .....	60
	Reliability and Validity of Instruments ...	62
	Data Collection Method .....	63
	Analysis Methods .....	65
	Summary .....	65
FOUR	DATA ANALYSIS .....	66
	Introduction .....	66
	Descriptive Statistical Data .....	67
	Quantitative Analysis of the Findings .....	68
	Differences in Levels of Personal Teacher Efficacy .....	68
	Descriptive Statistics of Phase Two Participants .....	72
	Analysis of Personal Teacher Efficacy Data .....	75
	Analysis of Nature of School Leadership Data .....	80
	Qualitative Data .....	89
	Teacher Interviews .....	89
	Perception of Self-Efficacy on Teaching Behaviors .....	90
	Teacher's Self-Efficacy Impact on Students .....	93
	Impact of Leadership on Teacher's Self-Efficacy .....	94
	Leadership Support for Teachers .....	95
	Negative Impact of Leadership .....	96
	Shaping Self-Efficacy .....	96
	Participation in Professional Development Experiences .....	98
	Impact of Professional Development on Teaching Career .....	99
	Impact of Professional Development on Instruction .....	100
	A Quality Professional Development Experience .....	101
	Summary .....	103

FIVE	SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS .....	106
	Overview of the Study .....	106
	Conclusions Based on Key Findings .....	108
	Degrees of Self-Efficacy Results .....	108
	Leadership Results .....	109
	Good Professional Practice .....	110
	Collaborative Decision-Making .....	110
	Individualized Support .....	111
	Intellectual Stimulation .....	111
	Performance Expectations .....	112
	Visions and Goals .....	112
	Teacher Interviews .....	117
	Teachers' Perceived Self-Efficacy ....	117
	Professional Development Experiences .....	118
	Leadership that Promotes Teachers' Self-Efficacy .....	119
	Summary of Interviews .....	120
	Implications and Recommendations .....	121
	Implications of the Study .....	121
	Recommendations for Future Study .....	123
	Final Thought .....	126
REFERENCES .....		128
APPENDICES .....		138
	Appendix A - Teacher Efficacy Scale .....	139
	Appendix B - Permission to Use Survey ....	142
	Appendix C - Nature of School Leadership .....	144
	Appendix D - Permission to Use Survey ....	148
	Appendix E - Letter Requesting School District Participation .....	150
	Appendix F - Voluntary Consent Form .....	153
	Appendix G - Cover Letter to Principals ..	155
	Appendix H - Cover Letter to Teachers ....	158
	Appendix I - Teacher Interview Questions .	161

LIST OF TABLES

Table		Page
1	Differences in Mean Teacher Efficacy Scores among Selected Rural Schools in Western Pennsylvania .....	69
2	Comparison of Schools Labeled as High and Low on Mean Teacher Efficacy Scores .....	71
3	Demographics of High Self-efficacy and Low Self-efficacy Teacher Groups .....	73
4	Personal Teaching Efficacy Mean Scores between High Efficacy Schools and Low Efficacy Schools .....	77
5	Comparison of School Leadership Factors Mean Scores Between High Efficacy Schools and Low Efficacy Schools .....	82

## CHAPTER ONE

## THE PROBLEM

In the midst of the movement to improve public education to prepare all students to compete in a global society, reform efforts have been enforced in every state through mandates and regulations (Ahearn, 2002; Darling-Hammond, 2004; Hipp, 1996; Olson, 2002). Teachers are now finding it necessary to reflect on teaching practices, as well as knowledge and pedagogy in an effort to better meet the needs of students (Darling-Hammond & McLaughlin, 1995). Albert Bandura postulates, "The task of creating learning environments conducive to development of cognitive competencies rests heavily on the talents and self-efficacy of teachers" (Bandura, 1997, p. 240). Additionally, perceived self-efficacy, as defined by Bandura, is the belief that an individual has the ability to carry out certain actions that will result in a desired outcome (1997). Studies have shown a positive correlation between teachers' perceived self-efficacy and student achievement. How efficacious a person believes him or her self to be influences the choice of activities, amount of effort spent, and the persistence put forth to complete the tasks when confronted with obstacles.

This study is grounded in the theoretical construct of Bandura's social cognitive learning theory of self-efficacy and the conceptual constructs of professional development and leadership (Bandura, 1977). Bandura's 1977 study suggests that various factors affect an individual's perception of self-efficacy. Bandura identified two areas of self-efficacy: outcome expectations and efficacy expectations. Outcome expectations relate to the anticipated results based on individuals' actions. Efficacy expectations relate to how confident an individual believes him/herself to be in carrying out an action in an effort to reach the goal. The level of confidence determines how persistent one may or may not be in carrying out an action. Individuals who have high expectancies for both types of expectations are ensured greater success as they will continue to be persistent when confronted by difficulties that hamper steady progress. Those who have low expectancies will falter in the presence of difficulty.

Specifically, how efficacious individuals perceive themselves to be regarding an activity or experience contributes to the individuals' specific choice of activity and attention to that activity. The level of success at which the activity is completed is also affected by an individual's perception of self-efficacy. Finally, the

success level at which the past activity/experience was completed will impact an individual's perception of self-efficacy positively or negatively. This impact will affect future endeavors (Bandura, 1977).

Teachers' efficacy has a direct impact on student achievement in the classroom (Armor et al., 1976; Ashton & Webb, 1986; Ashton, Webb & Doda, 1982; Berman & McLaughlin, 1977; Dembo & Gibson, 1985; Gibson & Dembo, 1984; Tracz & Gibson, 1986; Tschannen-Moran et al., 1998). However, mitigating factors such as the influence of leadership and professional development experiences play a role in the degree of efficacy that teachers possess. More specifically, self-efficacy may be strengthened through the influence of the building principal or leader. Teachers who are comfortable with the working environment, who feel supported by administration, and perceive the principal to use his/her administrative influence with others for the teachers' benefit, tend to have higher efficacy beliefs (Leithwood, 1977). Additionally, professional development impacts efficacy when the knowledge and skills that are acquired are pertinent to the teachers' classroom situation (McLaughlin & Berman, 1977; Scribner, 1998). Professional development that is appropriate for teachers will create teacher motivation, allowing teachers to engage students in

learning situations for a greater length of time (Ashton & Webb, 1986; Gibson & Dembo, 1984). Finally, the interaction of leadership and professional development relates to the principal as well as teachers. Quality leaders will engage in the professional development experience along with the teachers. A reciprocal effect is that participation in the activities will further enhance leadership qualities by giving insight into the needs and wants of the faculty.

One factor that has the potential to limit teachers' self-efficacy is teaching in rural schools. Literature exists that describes the inequalities of rural schools, sometimes classified as small schools, and how these inequalities keep teachers from maximizing their professional self-efficacy. Lack of materials, properly trained colleagues, professional development opportunities and fair salaries are identified as contributors to rural school inequalities (Blair, 2003; Certo & Fox, 2002; Pascopella, 2002). These rural school factors potentially restrain teachers from meeting their maximum self-efficacy potential.

## The Purpose of the Study

In a time of reform that is based on equipping students with global knowledge as well as meeting pre-established bureaucratic standards, high-quality, skillful teachers are needed in the classrooms to raise student achievement. How teachers view their own classroom capabilities is of equal importance. Studies show a positive correlation between teachers' perceived self-efficacy and student achievement (Ashton & Webb, 1986; Bandura, 1977; Bandura, 1997; Gibson & Dembo, 1984; Hoy, 2000; Smylie, 1990). Furthermore, teachers who are supported by skillful principal leaders display a better sense of teacher efficacy than those who do not have principal support (Hipp, 1996; Hoy & Woolfolk, 1993; Lieberman, 1995; Scribner, 1998).

One way schools attempt to contribute to the improvement of their teachers is by providing professional development experiences for faculty (Darling-Hammond & McLaughlin, 1995; Lieberman, 1995; McLaughlin & Berman, 1977; McLaughlin & Marsh, 1978). Defined as any experience that improves teachers' knowledge and expertise, professional development may take the form of formal or informal methods of teacher learning (Johnson, 1990). Still, little information is available regarding specific

professional development characteristics that directly affect teachers' self-efficacy (Eraut, 1994).

Many federal and state governments focus their educational concerns on urban and suburban schools while neglecting the needs and conditions of rural schools. However, the enactment of the No Child Left Behind Act of 2001 (NCLB) includes all schools regardless of their locations, sizes or needs. The Act requires all schools to improve student performance and to maintain highly-qualified teachers in the classroom (Keller, 2003; Pascopella, 2002; Richard, 2003; Special Education Report, 2003; Tyler, 2003; The White House, 2004). Rural schools now face the difficulty of accurately representing student gains. Small class sizes, characteristic of rural schools, may cause a skewed distribution of scores, misrepresenting the actual achievement of students (Education USA, 2003). Additionally, highly-qualified, properly licensed teachers are difficult to recruit and maintain in small, barren communities (Tyler, 2003). Teachers employed in rural schools are often required to teach more than one core subject to departmentalized students or to have more than one grade level in a self-contained classroom. These dilemmas require teachers to make the most of their

capabilities and in some instances, exceed their perceived capabilities to keep rural schools functioning.

This study had several purposes. First, to identify the varying degrees of teachers' perceived self-efficacy averages. Second, to identify specific characteristics of professional development that teachers and principals believe contribute to increased efficacy. Third, to identify principal or leadership characteristics believed to influence teachers' perceived self-efficacy. Finally, to identify any unspecified characteristics believed to affect teachers' perceived self-efficacy.

#### Significance of the Problem

McLaughlin (1986) identifies the teacher as the most important resource in the schools, yet little is done to promote the continued learning and improvement for those in the profession (Darling-Hammond & McLaughlin, 1995). Still, some rural teachers function under conditions less than conducive for teachers to be efficacious. Much research has been done to compare the relationship of teacher efficacy to reform efforts and instructional effectiveness. These studies have shown that there is a definite link of teacher self-efficacy to reform efforts and instructional effectiveness (Hipp, 1996). While

literature and empirical data exist regarding teacher efficacy and various factors that influence teacher efficacy, little is known how principal leadership behaviors affect teacher efficacy (Hipp, 1996). Since teacher self-efficacy impacts student achievement it is imperative that the variables of professional development and leadership be studied in relation to teachers' perceived self-efficacy.

This research will attempt to uncover and detail characteristics within the school system that impacts teachers' perception of self-efficacy, namely leadership and professional development experiences. The study will detail how leadership and professional development experiences impact teachers' self-efficacy leading to teachers' choices of activities, the amount of energy exerted by teachers, and persistence towards reaching a goal. Interviews will uncover what key factors teachers feel are necessary to impact an individual's self-efficacy.

#### Research Questions

This research project studied the impact of professional development and leadership on teachers' perceived self-efficacy within rural schools. Namely: 1) Do differences exist in teachers' perceived self-efficacy

at varying degrees? 2) Does school leadership affect teachers' perceived self-efficacy? 3) What type of school leadership promotes self-efficacy from teachers' perspectives? 4) What types of professional development experiences are considered to be most worthwhile for improving self-efficacy from teachers' perspectives?

#### Definition of Terms

In this study of teachers' self-efficacy and the impact of leadership and professional development on that efficacy, several terms will be used. These terms are defined below:

Leadership -- relates to the ability to provide direction and exercise influence over others in an effort to achieve shared goals (Leithwood & Riehl, 2003).

Professional development -- the formal and informal learning activities/experiences intended to advance teachers' professional knowledge, pedagogic skills, and attitudes (Fenstermacher & Berliner, 1983; Guskey, 2000; Smylie, 1989). Johnson's (1990) definition of professional development includes, "Virtually any experience that enlarges a professional educator's knowledge" (p.15).

General teacher efficacy -- refers to the belief that outside factors beyond teachers' control (such as the home environment or parental influence) impact students' academic achievement (Dembo & Gibson, 1985; Gibson & Dembo, 1984; Hoy, 2000; Omotani & Omotani, 1995).

High teacher self-efficacy -- refers to a confidence in one's own ability to affect change resulting in student achievement (Earley & Lituchy, 1991). These teachers tend to set higher goals for themselves as well as work harder and persist longer to achieve the goals that were set.

Low teacher self-efficacy -- a lack of confidence in one's own ability to carry out actions that will affect change in student achievement. Difficulties are viewed as obstacles rather than challenges.

Self-efficacy -- an individual's personal judgment of his/her capabilities to organize and carry out actions that will result in anticipated types of performances such as improved student achievement (Bandura, 1977, 1986, 1997; Pajares, 2002). (Used interchangeably with personal teacher efficacy and self-efficacy throughout the study.)

### Design of the Study

For the scope of this study, both quantitative and qualitative measures were used as a means for data collection. A large-scale survey was used to gather data regarding participants' perception of self-efficacy. After identification of teachers (schools) who had the greatest and least scores on average, teachers from these schools were asked to complete a leadership survey. Two teachers from each school were chosen to participate in the interview portion of the study. (Only one teacher from a school identified as having high self-efficacy declined participation.) The interviews consisted of open-ended, non-leading questions to reveal teachers' beliefs regarding quality professional development experiences and characteristics possessed by principals who have successfully or unsuccessfully aided in improving teachers' perceptions of self-efficacy.

### Research Limitations

The research in this study is intended to identify how professional development experiences and principals' leadership characteristics affect teachers' self-efficacy. The research is limited to teachers' perceptions and identification of components distinguishing the

professional development experiences and characteristics of the principal leader that impact self-efficacy.

Two surveys will be used throughout the study, the *Teacher Efficacy Scale* (Woolfolk & Hoy, 1993) and *Nature of School Leadership* (Leithwood, 1997). A limitation of both surveys is the willingness of participants to take part, to respond honestly and accurately, and to complete each survey in a timely manner that allows all completed surveys to be considered in the study. A limitation of the investigator/teacher interview is the willingness of the teachers to participate and to respond honestly.

The delimitation of the study is that participants are limited to rural school districts in Western Pennsylvania as identified by Pennsylvania Association for Rural and Small Schools (PARSS).

### Summary

The information provided in this chapter describes the problem of needing to improve teachers' self-efficacy in an effort to raise student achievement. The information sets the stage for the research study of teachers' perceived self-efficacy and the identification of factors that affect self-efficacy. Chapter Two will present a review of the literature as it relates to this study.

## CHAPTER TWO

### REVIEW OF THE LITERATURE

#### Introduction

The following is a review of the literature as it relates to teacher's self-efficacy. The review will begin with the construct of efficacy according to Bandura's social cognitive theory. This establishes support that individuals with a strong perception of self-efficacy act in a particular way, contributing to students' academic performance and achievement.

Over the past 25 years, numerous studies have been done linking teachers' sense of efficacy to instructional effectiveness as well as to school reform (Armor et al., 1985; Ashton & Webb, 1986; Berman & McLaughlin, 1977; Dembo & Gibson, 1985; Hoy & Woolfolk, 1993; McLaughlin & Marsh, 1978; Tschannen-Moran et al., 1998). Because of this, experts acknowledge that a link does exist between improved teachers' self-efficacy and improved student achievement (Tracz & Gibson, 1986). More specifically, studies have shown that leadership (Leithwood, 1977) and professional development (McLaughlin & Berman, 1977; Scribner, 1998) are two areas that impact teachers' sense of efficacy, indirectly affecting student performance and achievement. Since professional development and leadership are believed to impact teachers'

performance and efficacy beliefs, literature relating to these variables is presented. Finally, since it is the intent of the principal researcher to conduct the study in a rural setting, a description of the state of rural schools has been included.

#### Sociocognitive Theory of Self-Efficacy

Social cognitive theory, proposed by Bandura (1986) is a sociocognitive perspective that enables individuals to self-regulate cognitive processes and behaviors, rather than simply react to events. This perspective ascribes to the belief that "individuals are capable of exercising a degree of control over their thoughts, feelings, motivation, and actions" (Pajares, 2003, p.7) after a self-interpretation of performance. This control impacts and has the potential to alter subsequent actions and behaviors.

Bandura (1986, 1997) believed that behavior is more effectively predicted by the belief that individuals have regarding their capabilities rather than what they are actually capable of accomplishing. Therefore, an individual's self-belief is a driving force in his/her academic accomplishments. It is these beliefs that determine "how well knowledge and skill are acquired" (Pajares, 2003, p. 8).

### *Historical Overview of Self-Efficacy*

At the turn of the twentieth century, much attention was focused on the impact of how human behavior was affected by the idea of self and how one's self-perception affects behavior. An American psychologist, William James believed that "introspective observation is what we have to rely on first and foremost and always" (p. 185). James was among the first psychologists to address "self-esteem," defining it as a feeling about one's self and what one thinks of personal accomplishments in relation to other members of society (Pajares, 2002).

While behavioral psychologists such as Pavlov and Skinner dominated the 1920s through 1940s with attention to stimuli and response, the idea of "self" lost interest. Education, closely following psychological theory, disregarded a focus on "self" and was not focused on within the schools at this time. It wasn't until the 1950s that Abraham Maslow re-directed attention to the construct of self when he addressed a "motivational process" in which individuals are motivated by unsatisfied needs. Motivation was increased by "the need to become self-actualized, that is, to achieve one's potentialities, capacities and talents" (Pajares, 2002, p.3). As needs are met, other needs are identified as individuals proceed through the hierarchy of lower needs to higher needs.

The humanistic movement led to a new enthusiasm for studying self-constructs and self-beliefs during the 1960s and 1970s. Schools' attempts to nurture a positive self-concept and self-esteem in students were mired by a lag between theory and practice. Clearly, much of the research on self-esteem and student achievement provided findings that were "inconclusive or provided unsettling results" (Pajares, 2002, p. 4). Understandably, the enthusiasm for self-constructs began to diminish.

The 1970s and 1980s brought about the "cognitive revolution" influenced greatly by technological advances such as the computer. Psychologists turned their attention to internal, mental tasking such as information processing, schema building, and problem-solving. Additionally, a nationwide concern that academic standards had dropped drastically allowing students to be awarded a high school diploma with barely the skills necessary for daily functioning, caused a "back to basics approach to curriculum and practice" in the educational system (Pajares, 2002).

Regardless of the movement, renown social cognitivist, Albert Bandura (1977) identified in his publication, *Self-efficacy: Toward a Unifying Theory of Behavioral Change*, what he believed was an instrumental aspect missing from all theories of the day, including his own social learning theory

- "self-efficacy." Describing individuals as having a perception of their capabilities that impact and help to determine choices of activities and persistence in reaching a goal, Bandura referred to these self-perceptions as self-efficacy. In his 1986 publication, *Social Foundations of Thought and Action*, Bandura discussed a social cognitive theory in which he described people as having beliefs about their own capabilities. It is these beliefs or self-perceptions that actually drive people to their accomplishment rather than their actual ability (Bandura, 1986, 1997; Pajares, 2002). Those who believe that they have the capabilities to be successful make greater and lengthier attempts to achieve the desired outcome. From this point, many more theorists began to study the construct of self-efficacy.

#### *What is Self-efficacy?*

Self-efficacy, as defined by Albert Bandura (1986), is "people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performance" (p.391). Bandura (1986) clarified that self-efficacy "is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses" (p. 391). Perceived self-efficacy beliefs may

impact a person in either a positive, empowering way, or in a negative, demoralizing way. It is the individual's beliefs about being able to carry out the necessary actions to achieve a desired result that determine the impact (Bandura, 1977, 1986, 1997). For example, students' language arts grades will be based largely on their writing assignments. For those students who excel in composition, they will feel empowered and confident in their ability. Students who lack composition skills will be demoralized as they realize their weakness in composition (Pajares, 2002). In short, individuals who believe in their ability to perform a specific task will work harder and persist in order to successfully reach the goal than those who do not believe in their ability.

#### *Sources of Efficacy*

Bandura (1977) describes four sources of personal efficacy: performance accomplishments; vicarious experiences; verbal persuasions; and, emotional arousals. Performance accomplishments have the most potential for raising self-efficacy beliefs since they directly involve the individual and successful completion of a task. Vicarious experiences impact efficacy when an individual observes someone else completing a task with success, believing that they too can be successful. Verbal persuasion allows an individual to

overcome doubt when others express their beliefs in the individual's ability. However, self-efficacy stemming from verbal persuasion is not enduring; any sign of failure or obstacles will cause the individual's self-efficacy to weaken. Emotional arousal employs the individual's anxiety, steering the individual away from a feeling of avoidance. This method is often used to help phobics overcome their fears. Shaking or sweating prior to attempting a task is often interpreted by the individual as a sign of incapability. If the task is not successfully completed, the individual's self-efficacy will be further influenced in a negative manner (Bandura, 1977, 1986, 1997; Smylie, 1990). In general, self-efficacy will improve with repeated successful tasks and decrease with failure of tasks.

#### *Distinguishing Characteristics of Self-efficacy*

Beliefs of self-efficacy differ in level, generality, and strength. Specifically, the perception of a task is affected by the level of task demands necessary to accomplish the task. Will the demands classify as simple, moderate, or difficult? Generality refers to the range of activities that are included in the perception. Areas are more generalizable when activities are similar in degree, situations, and require the same capabilities. Finally, strength varies with self-

efficacy beliefs. Those who have weak self-efficacy beliefs will allow negative experiences to weaken their self-efficacy as they "give up" working toward the goal. Those with strong self-efficacy beliefs will continue to strive for accomplishment, even if difficulties or obstacles become apparent (Bandura, 1986, 1997).

Bandura's self-efficacy theory distinguishes between outcome expectancy and efficacy expectation. The degree to which the teacher believes the environment can be controlled is outcome expectancy. It deals with the general beliefs that a specific action produces a specific outcome. It does not refer to individual teachers' capabilities. The conviction that the teacher is personally capable of successfully executing actions that will result in the wanted outcome defines efficacy expectation (Bandura, 1986; Gibson & Dembo, 1984). It is efficacy expectation that predicates an individual's undertaking of a specific action. If the individual perceives the ability to successfully handle the task, he/she is more likely to engage. Once engaged, the positive perception of self-efficacy and a positive outcome expectancy will drive the individual to persist to completion. Upon successful completion of the task, the individual's positive self-efficacy will be affirmed or strengthened even more. Those who have a weak efficacy expectation and outcome

expectancy will allow fear and apprehension of obstacles to turn them away. Should the individual with a weak self-perception attempt the task, this person is more likely to surrender in the presence of difficulties or obstacles, ultimately resulting in a lower self-efficacy (Bandura, 1977, 1986, 1997; Gibson & Dembo, 1985; Smylie, 1990).

The locus of control focuses on causal beliefs of actions and outcomes, and whether the outcomes and actions are controlled internally or externally. Specifically, individuals with an internal locus of control believe that outcomes are a result of their own actions. Individuals possessing an external locus of control will conclude that external factors of which they had no control, such as luck, contributed to the specific outcome (Bandura, 1997, Marsh & Weary, 1995). However, a strong internal locus of control will not guarantee a strong self-efficacy for an individual. For example, those who believe themselves to be inept to perform specific activities may contribute to an inefficacious locus of control and a weak self-efficacy (Bandura, 1977, 1997; Smylie, 1990).

A difference between self-efficacy and self-concept (often referred to as self-esteem) exists. Quite often researchers use the terms "self-efficacy" and "self-concept" interchangeably. However, Bandura has made noticeable

distinctions. Again, self-efficacy refers to personal judgments about an individual's ability. Self-concept and self-esteem are based on an individual's feelings of self-worth as they relate to the values of society (Pajares, 2002). One major difference between the concepts of self-efficacy and self-concept is that "no fixed relationship" exists between the integration of cognitive, social and behavioral skills. An individual's belief about the perceived ability (self-efficacy) to perform a task extends beyond just the basic knowledge of what to do. Perception of self-efficacy stems from the interplay of the aforementioned skills. For example, bomber pilots may believe themselves to be very efficacious at what they do, but may not be necessarily proud of their ability to perform it well because of the type of task (Bandura, 1982; Pajaras, 2002; Smylie, 1990).

Finally, another major difference is that self-efficacy beliefs are not static. The beliefs may be altered as a result of contextual factors. For example, an individual may have a positive self-efficacy belief for driving on country roads, however, the belief may change as a result of driving in the city (Bandura, 1982; Pajares, 2002; Smylie, 1990).

Taking these specific differences into consideration, one realizes that assessment for each concept would differ. As noted by Graham and Weiner (1995), when an individual acquires

new skills, added to the performance of previous skills, efficacy beliefs are adjusted. No other motivational concept with an expectancy construct adheres to such specificity.

### *Teacher Self-Efficacy*

The teachers' belief that they possess the ability to influence student learning and achievement for all students, including those students who may be considered unmotivated and difficult is commonly referred to as teacher self-efficacy (Bandura, 1977, 1997; Guskey, 1987; Hoy, 2000; McLaughlin & Marsh, 1978). In 1977, the Rand Corporation studied planned change over a period of four years. The "Change Agent Study" looked closely at the change process and teacher growth. It was found that teacher efficacy was the most significant teacher attribute to growth and change throughout these studies (Rand, 1977, No VII). However, teacher efficacy was considered in a broad sense that combined beliefs about teachers in general with beliefs about individual ability. Research by McLaughlin and Marsh (1978) found teacher efficacy to positively impact: achievement of a project goal; the amount of adjustment made by the teacher throughout the project; student achievement; and, continued use of project methods and materials (McLaughlin & Marsh, 1978; Smylie, 1990).

Providing support to the construct of teacher-efficacy are the indirect investigations by Brookover et. al. in 1978 and Brophy & Evertson in 1977. Brookover et. al. (1978) studied social-psychological variables that set schools of similar socioeconomic standards and racial composition apart, based on students' academic performance. It was found teachers who demonstrate a great instructional commitment to students and practice positive reinforcement, nurture higher-achieving students (Brookover et. al, 1978). The Brophy and Evertson study of 1977 revealed students of teachers with high student expectations and strong feelings of responsibility to the students made higher academic gains (Brophy & Evertson, 1977; Dembo & Gibson, 1985; Gibson & Dembo, 1984).

Based on a multi-trait/multi-method analysis completed by Dembo & Gibson (1984), self-efficacy was found to have two distinct dimensions, teaching efficacy and personal teaching efficacy. Factor 1 of the factor analysis, personal teaching efficacy (PTE), refers to the teacher's own personal beliefs that he or she has the necessary skills and capability to improve student learning. This was represented on the survey by "If I really try hard, I can get through to even the most difficult or unmotivated students" (p. 573). Factor 2, general teaching efficacy (GTE) refers to beliefs that external factors beyond the teacher's control, such as

socioeconomic status, home environment and parental involvement, limit the teacher's ability to bring about change or stimulate improvement. This general relationship was represented by "When it really comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment" (p. 572). The researchers identified Factor 2 as a clear correspondence to Bandura's outcome expectancy concept (Gibson & Dembo, 1984).

#### *Self-efficacy and Student Achievement*

Albert Bandura studied self-efficacy concepts in relation to a variety of concepts such as motivation (Schunk, 1994), and phobias (Bandura, 1983). The studies noted that individuals develop ideas and self-perceptions of their capabilities. These capabilities "drive" individuals when interacting with their environment. Bandura (1977) refers to this control as "perceived self-efficacy."

A study that involved 20 Los Angeles elementary schools participating in the Preferred Reading Program focused on the classroom practices of those who successfully improved reading scores. It was shown that teacher efficacy, identified as "their sense of being able to get through to students, their

commitment and morale" (p. 38) positively affected black children's reading scores (Armor, et. al., 1976).

Another study, connecting teachers' self-efficacy to student achievement was carried out by Berman, et. al (1977). Two middle schools with very different organizational variables believed to impact teachers' efficacy were studied. After four or five classroom observations, it was concluded, "our study of teacher efficacy beliefs indicates that the extent to which teachers believe they are capable of influencing student performance affects their enthusiasm and persistence in working with their students and ultimately their students' achievement" (Ashton, et. al., 1982, p. 11).

In short, teachers who possess stronger perceptions of self-efficacy tend to display specific observable behaviors for themselves such as effort, persistence, enthusiasm, and confidence. These teachers use teaching time differently and engage students in learning for longer periods of time. Teachers with strong self-efficacy exemplify warmth and responsiveness to all students, especially those of lower ability. As David Kearns (1988) acknowledged, failure to change the willingness of all teachers to make a positive impact on all students and for teachers to believe in their own ability, is failure to deal with a critical issue in

education today. Teachers must believe in themselves and their students if educational strides are to be made.

While studies demonstrate direct links between teachers' perceived self-efficacy and student achievement, various factors within the school system impact teachers' perception of their efficacy. The two considered for this study are leadership and professional development.

### Leadership

Leadership stems from individuals whose attention focuses on an organization in order to provide "strong and evolving clarity about who the organization is" (Wheatly, 1999, p. 131). Additionally, leadership is "the process of being perceived as a leader" (Lloyd & Maher, 1993, p. 11) in the social construction of meaning amidst the followers (Meindl, 1995). Leadership requires individuals functioning in the capacity of leader to exhibit characteristics and qualities that are job-centered, employee(people)-centered, or a combination of both (Griffin & Moorhead, 1986; Oyinlada, Gellhaus & Darbo, 1997). Individuals exemplifying any of these leadership characteristics focus their attention on the functions and maintenance of the school building, interpersonal relations, teacher development, program focus, and/or student achievement (Fullan, 2002; Leithwood, 1990).

Scholars believe that leadership does not ascribe to one specific definition and may be explained from various perspectives. However, central to each perspective is the idea that leadership employs "non-coercive influences to direct and coordinate the activities of group members to achieve goals" (Oyinlade et al., 2003, p. 389).

### *History of Leadership*

Leadership in the 1930s was explained by leader trait theory which attempted to explain effective leadership based on natural characteristics of the leader. Extreme intelligence, a good memory, persuasiveness, and unlimited amounts of energy were characteristics that naturally led individuals to leadership positions. Due to the lack of predictability linking leadership traits to performance, this theory quickly lost favor (Steers, Porter & Bigley, 1996).

The latter part of the 1940s and early 1950s were dominated by leader behavior theories. A study conducted by Ohio State University, not specifically related to the field of education, identified two dimensions of effective leadership behaviors: initiating structure and consideration. Initiating structure describes the degree to which leaders identify the duties for which they are responsible as well as the responsibilities of their common employees. The second

dimension involves affective characteristics such as trust, friendship, and respect that are extended by the leader to common employees (Fleishman, Harris & Burttt, 1955).

A study by Likert (1961) produced very similar results. Leaders identified as job-centered, maintained a primary focus on the work of employees, where employee(people)-centered leaders focused on the needs and well-being of common employees as well as fulfillment of organizational goals. The truly effective leader is the one who possesses qualities of both types of leadership, initiating structure and consideration or job-centered and employee-centered leadership (House and Baetz, 1979).

Studies of the 1980s and 1990s centered on educational productivity (Hallinger, Bickman & Davis, 1996). These studies describe transactional leadership and transformational leadership. Transactional leaders focus on the task and job requirements (Avolio & Bass, 1988; Bass, 1985). Rosener (1990) concluded that men tend to match the transactional leadership style as they employ formal authority and organizational bureaucracy. Transformation leaders promote interpersonal relations through creating visions, encouraging commitment from all involved and institutionalizing change (Avolio & Bass, 1988; Bass, 1985). Rosener (1990) found more

women to possess "people skills" and characteristics of transformational leadership.

A study in 1996 by Hallinger, Bickman and Davis reported that principal leadership "can have an indirect effect on school effectiveness through actions that shape the school's learning climate" (p, 527). However, the researchers stress that principal leadership is influenced by personal and contextual variables, and that leadership styles are situation specific and are tailored to what works best for a specific local institution (Hallinger et. al, 1996).

*The Impact of School Leadership on Teachers' Self-efficacy Beliefs*

With the rapid change of pace in American society, schools are finding it difficult to adequately meet the needs of students. Schools are unprepared to provide students with necessary skills to be lifelong learners. When change is needed, failure to act will lead to extinction (Fullan, 2001; Schlecty, 2001). With the public school institution being threatened by alternative schooling, Schlecty (2001) expresses a hope that appropriate school leadership will once again strengthen the public school system. "Good school principals are the cornerstone of good schools. Without the principal's

leadership, efforts to raise student achievement cannot succeed" (Institute for Educational Leadership, 2002, p. 6).

"The idea that principals should serve as instructional leaders - not just generic managers in their schools is widely subscribed to among educators" (Fink & Resnick, 1999, p. 1). Within the school, the principal is the individual who carries the responsibility for maintaining a supportive, productive atmosphere (Hoy & Tarter, 1992). Specifically, "supportive principals respect the competence of their faculty and exhibit both a personal and a professional interest in the well being of their teachers" (Hoy et al., 1992, p. 38). This support and productivity often takes the form of praise, feedback with constructive criticism, and a "healthy" school environment. Fullan (2001) adds, "effective leaders listen attentively" (p. 123). Effective leaders will provide environments that promote teacher and student success. Uline, Miller & Tschannen-Moran (1998) state, "teaching and learning takes place at the classroom level, whereas other levels of the organization are providing the conditions necessary for these activities to take place" (p. 463).

The principal's role within the school and how that role impacts teachers has been widely studied. Edmonds (1979) states, "There are some bad schools with good principals, but there are no good schools with bad principals (In Stone, 1992,

p. 2). This statement identifies the principal as an integral force for successful schools.

A 1975 study done by Lortie suggests that administration that is not supportive of faculty and provides little feedback negatively impact teachers' self-confidence. Bandura (1977) too, emphasized the importance of feedback and appraisals for affecting teachers' sense of collective efficacy. Further, there is a relation between collective efficacy and teachers' self-efficacy as well as school administration satisfaction (Pajares, 2002).

Research findings by Hoffman, Sabo, Bliss and Hoy (1994) identified faculty's trust in the principal and principal "openness" to be significant. Since trust is a part of organizational support, it is believed to influence teacher performance.

Research conducted by Hoy, Tarter, and Witkoskie (1992) found administrative (principal) support to be a significant predictor of school effectiveness when studying 44 elementary schools in eastern United States. The study's correlational analyses showed that supportive leadership is related to collegial trust and effectiveness. Specifically, "the role of the principal is to develop a supportive environment" (p. 44) that promotes faculty to maximize their potential, creating effective schools.

While principal leadership can fall into generic categories of instructional, transformational, moral, participative, managerial, and contingent (Leithwood & Duke, 2000), each is distinguished by the concentration and focus.

In general, effective leaders foster a supportive environment as well as confidence in the faculty (Fullan, 2001; Hoy & Tarter, 1992; Leithwood, 1994); which promotes teachers' beliefs that they possess the ability to successfully instruct their students. This perception of teachers' ability is what Albert Bandura would refer to as a perception of self-efficacy. If principal leaders provide the necessary support, encouragement, and organizational/collegial support, teachers should possess a higher perception of self-efficacy. Those with a high perception of self-efficacy tend to try harder and persist longer in the presence of difficulties, resulting in improved student academic performance.

Lack of administrative support was found to impede teachers' confidence in self (Lortie, 1975). Leadership not attuned to teachers' professional needs stifled teachers' potential, rather than motivated teachers to strive to reach their fullest potential.

The preceding findings support Bandura's claim that appraisals and feedback affect efficacy expectations, which in

turn affect an individual's sense of efficacy. Leadership that develops collegial relationships, and sustained support for what teachers are doing provides stimulating and motivating experiences for teachers.

Transformational leadership appears to have gained favor as an attempt at a successful reform initiative. Leithwood (1990) defines the term "transform" as:

"Major changes in form, nature, function and/or potential of some phenomenon; applied to leadership, it specifies general ends to be pursued although it is largely mute with respect to means" (p. 5).

Transformational leaders have the ability to "shape and elevate the motives and goals of followers" (Bennis & Nanus, 1985, p. 217). Bennis and Nanus (1985) add that transformational leadership:

"Is collective, there is a symbolic relationship between leaders and followers and what makes it collective is the subtle interplay between the followers' needs and wants and the leader's capacity to understand ... these collective aspirations" (p. 217).

A study by Leithwood & Jantzi (1990) looked at 12 Ontario schools involved in school restructuring and improvement efforts. Qualitative measures were used to uncover the practices of the principals who were successful at developing

a collaborative professional culture over a three-year period of restructuring, getting teachers to meet the school restructuring goals.

Research questions were organized into three groups:

1. The extent to which collaborative cultures were achieved;
2. The significance of the larger context in which cultural change took place; and,
3. Strategies used by administrators to foster cultural change (Leithwood & Jantzi, 1990, p. 13).

Data were collected over a period of two days by detailed interviewers of both principals and teachers. Using a semi-structured instrument, interviewers attempted to uncover what respondents perceived to be as key elements in the change process.

Analysis of data provided support that principals do employ "transformational" strategies which build collaborative cultures within the schools, which lead to changes in faculty's understandings of their purposes and practices, as well as a greater ability to solve professional problems and issues (Leithwood & Jantzi, 1990). Since meaning is socially constructed (Berger & Luckmann, 1967), the meaning that each individual gains from the transformational leadership is

further determined by the interactions that were experienced with faculty members (Leithwood & Jantzi, 1990).

Transformational leadership was clarified further with a study carried out by Leithwood and Steinbach (1991). Looking at how principals included teachers to aid in solving problems, the study identified three conditions that effective transformational leaders maintained:

1. Everyone worked together to develop better solutions to problems;
2. Kept teachers motivated and committed to reaching the goals for implementation of solutions for the problem; and
3. Contributed to long-term growth in the problem solving capacities of teachers (p. 8).

Principals, by using the cognition of groups of teachers, were able to draw from multiple input and perspectives, and to avoid biases that might stem from less input (Leithwood & Jantzi, 1990).

A 1993 study by Leithwood, Jantzi and Fernandez examined the extent to which a particular form of leadership benefits the restructuring process, bringing about a fundamental change in the organization or system. This study surveyed 168 teachers in nine secondary schools in a large urban district. Findings showed that leaders who provided direction, purpose,

and meaning towards work contributed most to teachers' ability to commit to change. Strongest effects on teachers' motivational conditions stemmed from leaders able to create vision for faculty as well as practice consensus building within the school (Leithwood et al., 1993).

In an attempt to clarify and describe transformational leadership further, Leithwood conducted additional studies that addressed the nature, causes, and consequences of transformational leadership. Leithwood (1994) states:

"Leadership practices potentially contribute to outcomes that schools aspire to for students but this potential will almost always be mediated by other people, events or things such as teachers' commitment or school culture" (p. 503).

One study (1994) examined leadership practices over a four-year period within schools considered successful in regards to innovation and school improvement. This study employed quantitative methods as a means of data collection.

Administrators and teachers of 289 schools were asked to respond to a survey in order to gather information relating to the effects of transformational leadership on:

- Teachers' perceptions of school characteristics;
- Teachers' commitment and capacity beliefs (i.e. efficacy); and,

- Organizational learning.

Results showed a significant direct and indirect effect regarding transformational leadership on teachers' personal goals. In turn, teachers' personal goals "had strong direct effects on teachers' capacity beliefs" (p. 506) (e.g. self-efficacy), revealing a connection between leadership practices and capacity beliefs of self-efficacy (Leithwood, 1994).

While empirical research exists that makes a significant connection between leadership and teachers' self-efficacy, another component of the school system has been empirically linked to teachers' self-efficacy ... professional development.

#### Professional Development

A second factor believed to influence teachers' self-efficacy, indirectly affecting student achievement is professional development of teachers. Guskey (2000) defines professional development as the "process and activities designed to enhance the professional knowledge, skills, and attitude of educators so that they might, in turn, improve the learning of students" (p.16). This intentional act requires a clear vision of purpose and goals to be successful. Too often, school systems lack the vision, rendering the efforts to improve teachers' knowledge and skills fruitless (Guskey,

2000). Researchers often use the terms professional development and staff development interchangeably.

#### *Historical Perspective of Professional Development*

Since the early 1900s, teacher knowledge was not considered pertinent to the improvement of education. Reforms were "teacher proofed" by top-down bureaucratic control, and policymakers were in constant search of finding the "right" pre-packaged instructional unit. These included mandated curriculum directives, textbooks, and tests (Darling-Hammond, 1996; Leithwood, 1994). Finally, with the implementation of the No Child Left Behind Act of 2001 (and Goals 2000 which Congress eliminated in 2001) policymakers are realizing the need for change (Cavanagh, 2003). "Regulations cannot transform schools, only teachers, in collaboration with parents and administrators, can do that" (Darling-Hammond, 1996, p. 228).

#### *The Need for Professional Development*

A rapidly changing, informational society demands that teachers stay current on professional knowledge in order to effectively prepare students to compete in a global society.

"Teachers' jobs are more complex than ever before. They must respond to the needs of a diverse and changing student population, a rapidly changing technology in the

workplace, and demands for excellence from all segments of society" (Fullan, 1993, p. 5).

Yet, the conventional means of teachers' development that focuses on improving teachers skills and techniques is insufficient for preparing teachers to meet the demands of today's students as well as reforms (Little, 1993). Factors that influence teacher learning and development have not been widely studied (Darling-Hammond & McLaughlin, 1995; Eraut, 1994; Lieberman, 1995). For this reason ineffective and poor methods of teacher professional development continue. The overwhelming concern for the state of professional development has led to "teachers, administrators, researchers, and bureaucrats all agreeing that current staff development or in-service programs are irrelevant, ineffective, and generally a waste of time and money" (McLaughlin & Berman, 1977, p. 191).

Professional development often takes the form of graduate course work, outside conferences, or several days set aside in the school calendar for teachers' "special" events. In essence, these are one-shot workshops, piece meal information, or learning that bears no relevance to the teachers' classroom life (Darling-Hammond, 1996; Guskey, 2000; Lieberman, 1995).

Ann Lieberman believes that the only way to reform schools is to focus on teacher development that supports teacher learning. She asserts, "what everyone appears to want

for students is for some reason denied to teachers when they are learners" (p.291). To improve the state of the schools is to redefine teachers' work from isolated culture to collaborative cultures that understand and support the workings of the entire school, engaging teachers, and promoting growth for everyone involved (Arredondo, Brody, Zimmerman and Moffett, 1995; Lieberman, 1995).

Darling-Hammond and McLaughlin (1995) offer design principles of effective professional development. The design is intended to focus on the teacher and learner:

- Engagement of teachers in tasks of teaching, assessment, observation, and reflection;
- Grounded in inquiry, reflection, and experimentation;
- Collaborative - to share knowledge among the teacher community;
- Connected to and derived from teachers' work with students;
- Sustained, ongoing, intensive and supported; and,
- Connected to other aspects of school change (p. 598)

This type of professional development is a departure from the control methods of the past to "strategies intended to develop schools' and teachers' capacity to be responsible for student learning" (Darling-Hammond & McLaughlin, 1995, p. 598).

*Professional Development Research*

Past studies have included narrowly focused evaluations of particular professional development programs, such as Bredeson & Scribner (1996), and Sparks (1986). Others are broad studies of resource allocations for professional development experiences, such as Miller & Lord, (1994, In Scribner, 1998). Yet, investing in professional development does not guarantee an automatic improvement in student achievement.

Smylie (1988) notes that professional development links to self-efficacy in that teachers' personal efficacy may act as "a professional filter through which new ideas and innovations must pass before teachers internalize them and change their behaviors ..." (Smylie, 1988, p. 148). Teachers who feel confident in their ability to have students achieve desired results will make continual attempts toward students' success. These teachers will most likely have more students who make significant academic gains than those who do not have a confidence in their teaching ability and students' learning ability. In a broad sense, self-efficacy is a predictor for teachers' potential to change their individual behaviors.

Empirical evidence is extremely limited on the effect of professional development on student learning (Guskey & Sparks, 1991). Furthermore, research on the effectiveness of

professional development tends to produce inconsistent and contradictory results (Guskey, 2003; 2000). Guskey (2000) offers three reasons for the lack of definitive responses: (a) confused criteria of what constitutes effective professional development; (b) a misguided search for main, overall effects, neglecting important information; and, (c) a focus on occurrence quantity rather than issues of quality.

The four-year Rand "Change Agent Study" of 1975 gathered data from 293 vocational, bilingual and Right-to-Read programs in 30 school districts throughout the country. From the varied programs, one clear factor was evident: projects that were successful change agents within the system, were functioning as "staff development projects" (p. 192). The study also revealed project monies spent and project technology were not significant factors in the project outcomes. Two factors of significance were administrators' support and implementation strategy. Three components of the implementation strategy were found to be important for change. These include staff being able to develop curriculum materials they will use, on-line planning that allowed for pre-planning, and revision and sustained training over several years that was concrete and hands-on for teachers.

The Rand series of studies clearly identifies two distinct models of teacher development: deficit model, and

developmental model. The deficit model is a top-down approach that limits teachers' control. The model is goal oriented, rather than process oriented. When used as the choice method for professional development, results were predictable. Teachers found the development activities to be irrelevant to daily classroom life and believed administration to be merely fulfilling an obligation of professional development. In the classroom, teachers continued to implement the same practices as always.

The developmental model is process oriented in an effort to equip teachers with the necessary skills for identification of and solutions to problems. The developmental model ascribes to a point of view rather than a single specific program or strategy. This view permeates the entire district with expectations about teachers' roles, professional needs, and classroom responsibilities. McLaughlin & Berman (1977) identify six characteristics of the developmental model:

- Resources of funds and authority are given to both principals and teachers to do their jobs;
- Sustained training for principals to make the transition from authoritative administrator to educational leaders was necessary;
- Establishment of teacher centers where they can meet and share knowledge;

- Shift in staff development from standardized programs to small group collaborative efforts to meet teachers' needs;
- Joint decision making between administrator and staff in determining needs and activities for staff development; and,
- Release time from the classroom for teachers' professional growth (p. 194).

The authors concluded that effective staff development is determined by the district beliefs of teachers and principals as learners (McLaughlin & Berman, 1977).

Many studies were conducted between the mid-seventies and late-eighties that provided supporting evidence in favor of instructional leadership as an effort to prepare schools to enter the 21<sup>st</sup> century (Leithwood, 1988, 1992, 1994). One major component of instructional leadership is teacher development. While many principals realize the need to foster staff development, often feelings of inadequacy or an unclear understanding of what form the development should take prevent them from doing so (Leithwood, 1988, 1990).

Professional expertise, psychological development, and career cycle are the three areas of professional development that the instructional leader has the potential to influence.

The classroom, school, and district are most directly affected by the dimension of professional expertise.

Clearly, research relating to professional development and the effects on teachers' self-efficacy, either directly or indirectly, is extremely limited. Yet, strategies, support, and participation of leadership in professional development experiences appear to have an overall positive impact on helping teachers to adapt, change, and grow. Often, leadership, financial support, and availability of resources are limited by budgets. No school system seems to understand this more clearly than rural school systems. With expectations and accountability ever-increasing, available dollar amounts distributed to schools fail to increase at the same rate.

#### The State of Rural Schools

Rural schools are a part of the public school system that educates a surprisingly large number of children. Most rural schools are distinguished by their location in a town with a population of approximately 25,000 people, a school size of 2,500 students, and a population of 274 people per square mile (PARSS, n.d.; Tyler, 2003).

Much federal and state attention is focused on the difficulties of urban and suburban schools, neglecting the

needs of rural districts (Belsie, 2003). Challenges to education and experiences of success are often more severe for students of "the nation's poorest rural counties" (Carter, 1999, p. 1). Yet, the problems of rural schools persist.

How then does professional expertise impact teachers in rural schools? With the recent implementation of the No Child Left Behind (NCLB) Act of 2001, all schools are required to raise student performance, measurable by standardized test scores and to maintain highly qualified teachers (Richard, 2003; Tyler, 2003). While rural schools will receive additional funding, rural educators do not see the funding solving the problems of the rural schools since rural schools tend to have higher operating expenses. One such example is the far-reaching transportation of students (Pascopella, 2002). Most districts are contractually bound to specific bus companies for a multiple number of years. The ever-increasing gas prices raises the expenses of the bus company which in turn gets passed on to the school district. Because of the binding contract, districts are not able to consider the services of companies with competitive pricing. This type of expense reduces the state per pupil dollar ratio that can be used toward teacher salaries and school materials (Haas, 2000).

Another financial hardship for rural school districts is the tax base of rural homeowners (Blair, 2003; Pascopella, 2002). Those living in rural and agricultural areas have structures such as old farm houses, barns, and sheds which are assessed at a lower rate, generating less money for the local public school system (Haas, 2000). The following example is a comparison of tax base millage between a rural district and a suburban district in the same western Pennsylvania county. Based on the size and age of the homes, and a lacking population density, one mill in the rural school district is equivalent to about 93 thousand dollars in the year 2004. A suburban school approximately 30 miles away is able to generate nearly 306 thousand dollars per mill. The homes and properties, as well as population density make this possible. In short, the higher the assessment, the smaller burden that each household has to bear. Operating expenses of the schools, whether rural or suburban, are very similar. Teacher salaries and family benefit costs are similar as well. The distinguishing factor between rural and suburban districts is the amount of money generated to cover all expenses.

The state is to make up some of the financial difference to lift some burden off of rural districts, but this is often not the case. Politicians hesitate to raise taxes (Pascopella, 2002). In order to help rural schools, personal

income taxes would need to be raised. Thus, the problem persists.

NCLB requires an improvement in student achievement (Pascopella, 2002; Tyler, 2003; The White House, n.d.). Beginning in 2005, student achievement will be determined by standardized test scores. Small student populations which are often characteristic of rural schools may lead to an unfair portrayal of students' ability, resulting from statistically unreliable scores (Education USA, September 2002). For example, a class comprised of only ten students with one or two students performing poorly on the test will decrease the overall scores of the group significantly. This distortion of scores may affect the school's achievement of NCLB "Adequate Yearly Progress," subjecting the school to corrective action under false pretenses (Tyler, 2003).

Another demand placed on all schools is to secure a highly qualified teaching force by 2006 (Special Education Report, August 2003). To be considered highly qualified, teachers must have a bachelor's degree, be state licensed and demonstrate subject knowledge by passing rigorous teaching exams (Keller, 2003; Richard, 2003). Even with meeting the qualifications of a highly qualified teacher, it is estimated that nine percent of teachers leave within the first year of teaching and over one-fifth of teachers leave within the first

five years. Darling-Hammond (1999, 2001) estimates that nearly 30% of the teaching force will leave the profession within the first five years of employment regardless of the school locale. Limited by budgets, rural schools find it difficult simply to attract highly qualified teachers when larger districts are potentially able to provide better wages (Blair, 2003; Richard, 2003; Tyler 2003). Retaining these teachers will be another up-hill effort. In short, individuals often are not drawn to the sparse remote areas of the low-paying rural schools.

Budget and small class sizes continue to impact teacher quality. To meet the budget and educate all students using the current faculty, teachers are often required to combine subjects or grade levels taught. For example, one teacher might focus on teaching Math and Science to departmentalized classes. Another teacher might have a classroom comprised of first and second grade students with individual grade-level curriculums. These limitations within the system and exceeding demands of the classroom teachers are certain to have an effect on the teaching quality demonstrated by teachers within rural districts.

A study by Certo & Fox (2002) supported the ideas of Darling-Hammond. This study compared seven schools in Virginia to investigate teacher attrition and retention.

Results showed that "insufficient salary, lack of administrative support and lack of planning time" (Tyler, 2003, p. 27) was significant to teacher attrition and retention. Specific work conditions believed to affect appropriate workload, collegial interaction, professional development, participation in decision making, and support for student discipline (Wasley, 2002) has encouraged rural schools to expand the area of teacher recruitment.

State leaders met at Capitol Hill during May 2003 to discuss issues of rural schools such as teacher quality, improved test scores, and necessary funding. In an attempt to give relief to rural schools, while maintaining the integrity of NCLB, the Federal Education Department approved the idea that test scores might be averaged over several years as a means of test results reliability (Education USA, 2003; Richard, 2003).

In contrast to the plight of rural public schools, several small private schools have monies and support necessary to overcome attrition and retention issues that allow these schools to experience overall success as it relates to student academics, teacher satisfaction, and teacher efficacy (Wasley, 2002).

Leaders realize that acceptable working conditions and a feeling of community are key to teachers enjoying their work

and feeling that they are supported (Blair, 2003). Still, issues exist within rural schools that ultimately impact student achievement.

#### Pennsylvania Association of Rural and Small Schools

A group of public school superintendents from rural and small school districts throughout Pennsylvania began meeting in 1983 to informally discuss concerns regarding their districts. Two areas of major importance to these administrators were finance and the quality of education for their students. It was felt that most decisions made by policymakers were based on metropolitan school district particulars, which did not fit the needs of the rural and small schools.

Addressing the concerns would mean that rural and small schools would need to present a unified front to make the concerns heard and for people to take notice. For this reason, a formal organization was created in November 1984 called Pennsylvania Association of Rural and Small Schools, or PARSS (PARSS, n.d.). Since its inception, PARSS continues to grow with 171 school districts and intermediate units currently holding membership. The organization has highlighted rural concerns and interests among organizations

such as the Pennsylvania Department of Education, the State School Board, and the State Legislature.

The mission of PARSS evolves as the needs of schools evolve. However, PARSS maintains as a goal, "quality education for every child in Pennsylvania" (PARSS, n.d., p. 3).

### Summary

The preceding information was a review of the literature as it relates to Bandura's theory of self-efficacy beliefs and the impact in education. Bandura believes that people's judgement of their capabilities is a driving force behind what they actually accomplish. A positive belief of efficacy motivates individuals to try harder and longer, while a weak perception of efficacy contributes to minimal motivation (Bandura, 1977, 1986, 1997). The constructs of leadership and professional development were reviewed, as they are believed to contribute to teachers' perceived self-efficacy beliefs. Finally, a summary of rural schools was included since the study will be carried out in rural schools throughout western Pennsylvania. Rural schools' inequities relating to accountability, teacher quality, and finances were reviewed, as well as the PARSS organization established to provide all students with a quality education. The following chapter outlines the design of the study.

CHAPTER THREE  
PROCEDURES AND METHODOLOGY

The focus of this study was to examine elementary teachers' sense of self-efficacy as defined by Bandura, (1977, 1986, 1997) in 17 rural elementary schools in western Pennsylvania. It also examined how the variable of leadership and professional development experiences affected self-efficacy. The study was carried out in three phases. Both quantitative and qualitative methods were employed throughout the investigation. This chapter describes the methodology and rationale behind the choice. It includes descriptions of the procedures.

Quantitative data as described by Gay and Airasian (2000), "are used to describe current conditions, investigate relationships, and study cause-effect phenomena" (p. 11). For the purpose of this study, specific quantitative research methods included descriptive data as well as correlational data. Descriptive data permitted the investigator to identify current conditions of teachers' self-efficacy beliefs. Correlational data were analyzed to investigate the relationship between components of leadership and the impact on teachers' self-efficacy. To acquire more in-depth

information of teachers' perceptions, qualitative measures, specifically open-ended interviews, were carried out.

Qualitative research as defined by Denzin and Lincoln, "... is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them" (p. 2). Additionally, qualitative research builds a "complex, holistic picture" (Creswell, 1998). Qualitative research allows the investigator to answer {how} and {why} questions and to compile a "detailed view" and narration of the research, as well as carry out the investigation in a natural setting (Creswell, 1998; Gay & Airasian, 2000).

#### Rationale

Phase One of the study merely required identification of rural schools with extreme mean scores of personal teacher efficacy (PTE). To obtain this data, a basic quantitative survey method was appropriate to use. Once schools with the extreme mean scores were identified, it was a goal of the investigator during Phase Two to see which characteristics of leadership had a positive correlation to the self-efficacy

means. Again, a quantitative measure was used in order to run a *t* test.

The major goal of this research was to investigate *how* leadership and professional development experiences affect rural school teachers' self-efficacy. While research shows that teachers' self-efficacy is directly linked to student performance and achievement in the classroom (Ashton et al., 1983; Dembo & Gibson, 1985; Gibson & Dembo, 1984; Smylie, 1988, 1990; Tschannen-Moran et al., 1998), research on the impact of principals (Edmonds, 1979) and professional development (Darling-Hammond & McLaughlin, 1995; Eraut, 1994; Lieberman, 1995) on self-efficacy is limited.

Bandura's Sociocognitive Theory of Self-Efficacy (1986, 1997) and the link of teachers' self-efficacy to student achievement provides the framework for the investigation (Bandura, 1997; Hoy, 2000). While it is understood that various factors within the school system impact teachers' perception of self-efficacy, little is documented as to how and why leadership and professional development affect teachers' perception of their self-efficacy (Edmonds, 1979; Eraut, 1994; Darling-Hammond & McLaughlin, 1995; Lieberman, 1995). In order to form a complete picture of the impact on teachers, it was necessary to investigate beyond quantitative

measures and allow these teachers to describe the impact and do so in the natural school setting.

To understand the impact that leadership and professional development have on personal teaching efficacy (self-efficacy), it was advantageous to employ qualitative methodology that provided teachers the opportunity to narrate and describe how and why leadership and professional development affect them (either positively or negatively).

#### Purpose

The purpose of this mixed-method study was to identify rural school teachers' perception of personal self-efficacy and to identify how the variables of leadership and professional development affect self-efficacy.

#### Population and Study Sites

The population included in this study was regular education elementary teachers from 17 rural elementary schools throughout western Pennsylvania. Rural schools, instead of urban or suburban schools were chosen for participation since the Pennsylvania Association of Rural and Small Schools (PARSS) identifies the quality of education for students of rural and small schools as one of their primary concerns. Specifically, rural schools often identify small student populations and attracting and maintaining highly skilled

teachers (Blair, 2003; Education USA, 2003; Richard, 2003; Tyler, 2003) as concerns. These concerns have the potential to inhibit rural schools' ability to meet the NCLB adequate yearly progress that is measured by standardized tests and maintaining a highly qualified teaching force (Richard, 2003).

To maintain consistency of study sites, data were gathered from "Rural Elementary Schools" in western Pennsylvania as defined by the PARSS (n.d.).

It was the intention of the principal investigator to obtain interview responses from principals as well as teachers. However, only one principal followed through on the commitment of the principal to be interviewed. Subsequent phone messages and e-mails to the remaining four principals did not ascertain principal participation. For this reason, principal interviews were not included in the study.

### *Population Characteristics*

#### *Age Range*

This study is not dependent on the age of the subjects. However, based on the average of traditional graduating college students and general retirement age, it is estimated that subjects will range in age from 23 to 65 years of age. Since data were collected anonymously, the average age of subjects was unable to be determined.

### *Gender*

Both males and females were included. Since data were collected anonymously, a specific tally of gender was not possible.

### *Number*

*Phase One - Initial survey.* The targeted number of schools for participation was set at 30 schools. This would allow for estimated totals of those surveyed to be 210 teachers and 30 principals. Although 34 survey packets were sent to 34 rural school districts, not all schools returned surveys to the principal investigator. Follow-up phone calls were made to the districts or schools, however, many schools declined participation citing lack of time, too many requests for study participation, and lack of interest.

*Phase Two - Follow-up survey.* Six schools were chosen to continue with the study. Of these six schools, only five schools returned the *Nature of School Leadership* survey. The deadline for return was extended in an attempt to gain the participation of the sixth school; however, no surveys were subsequently received. Reasons were not offered for the non-participation of the sixth school.

*Phase Three - Interviews.* Of the five schools that participated beyond the initial survey, all agreed to provide

teachers to be interviewed. Two teachers from four schools were interviewed, and one teacher from the fifth school was interviewed (for a total of nine teachers). The principal having only one teacher participate cited lack of teacher cooperation and interest as the reason for not selecting a second teacher.

### Instruments

Phase One employed The Teacher Efficacy Scale (Appendix A) (1993) by Woolfolk and Hoy. According to Albert Bandura, motivation comes from people's judgments of their ability to carry out specific action and the anticipated consequences of those actions. Bandura identifies these concepts as efficacy expectations and outcome expectancies (1977). From these concepts, Gibson and Dembo (1984) developed a 30-item survey/questionnaire to correspond with Bandura's theory of self-efficacy and to measure efficacy as it is aligned with efficacy expectations and outcome expectancies. Woolfolk and Hoy went on to modify the Gibson and Dembo (1984) instrument. Woolfolk and Hoy (1993) found the first dimension of efficacy to "reflect a general belief about the power of teaching to reach difficult children ... and [teachers'] attitudes toward education" (p. 357), labeling this dimension as general teaching efficacy (GTE). The second dimension reflected the

"teacher's personal sense of efficacy" (p. 357) and was labeled personal teaching efficacy (PTE). From these two dimensions, a short 10-item survey/questionnaire was developed; five items corresponded to general teacher efficacy and five items corresponded to personal teacher efficacy. Teachers respond to statements on The Teacher Efficacy Survey using a Likert-scale of 1 = Strongly Agree through 6 = Strongly Disagree.

Phase Two employed The Nature of School Leadership (Appendix C) survey, developed by Leithwood (1997). This survey is intended to measure teachers' perceptions of their principal's leadership behaviors based on the six dimensions classified by Leithwood. The final page of the survey included three statements/questions developed by the principal investigator that teachers were asked to briefly respond to. The statement/questions asked teachers to describe the professional development experiences that were participated in over the past three years, list the professional organizations for which they hold membership, and list the professional journals to which they subscribe.

Phase Three employed investigator-constructed interview questions that allowed each participant to share their complete thoughts on the topic of each question.

## Reliability and Validity of Instruments

Phase One employed the *Teacher Efficacy Scale* developed by Woolfolk and Hoy (1993). Reliabilities for PTE and GTE of the short form were within the same range as the Gibson and Dembo's (1984) *Teacher Efficacy Scale* from which it was developed. The coefficient alpha reliabilities: personal teaching efficacy, .77; and general teaching efficacy, .72 (Hoy & Woolfolk, 1993). Validity was determined when Gibson and Dembo (1984) performed a "multitrait-multimethod analysis that supported both convergent and discriminant validity of the scale" (Hoy & Woolfolk, 1990, p. 289).

Phase Two data were collected using *the Nature of School Leadership* (1997) survey. Leithwood and Jantzi (1997) reported the following Cronbach coefficient alpha reliabilities for each dimension: Symbolizing Good Professional Practice, .93; Developing a Collaborative Decision-Making Structure, .93; Providing Intellectual Stimulation, .94; Providing Individualized Support, .90; Holding High Performance Expectations, .87; and Fostering Development of Vision and Goals, .98. The combined reliability for the instrument is .978 (Personal correspondence with L. Jantzi, September 2, 2004).

### Data Collection Method

Participants included in this study were teachers in rural schools throughout Western Pennsylvania as identified by the Pennsylvania Association of Rural and Small Schools (PARSS) and the 2003-2004 Pennsylvania Education Directory. The intent was to have all teachers from participating schools take part. Because of this, surveys were mailed and interviews were conducted by phone for the convenience of participants.

Phase One employed the Woolfolk-Hoy *Teacher Efficacy Scale* because of the comprehensive, yet simplistic appeal. This was an attempt to have all, or nearly all, teachers from participating schools respond and maintain a high return rate. Permission was granted by A. Woolfolk-Hoy on 10-3-03 (Appendix B). Demographic information was included at the end of the survey. Once school-wide teachers' self-efficacy averages were determined and rank-ordered, the three schools with the highest overall teacher self-efficacy averages and the three schools with the lowest overall teacher self-efficacy averages were identified. It was requested that these schools participate in the remainder of the study.

Phase Two employed Leithwood's *Nature of School Leadership Survey* because of the comprehensiveness and relativity of topics. Permission to use the instrument was granted by K. Leithwood on 11-24-03 (Appendix D).

Phase Three employed open-ended interview questions. Five schools were chosen to participate in follow-up interviews in order to describe at length how leadership and professional development experiences affect teachers' sense of self-efficacy. Teachers were randomly selected from the three schools that had the highest average PTE scores and from the two schools with the lowest average PTE scores. One school ranking among the three lowest scoring schools chose not to participate beyond Phase One. Consent to interview teachers and principals, was obtained through district superintendents (Appendix E), and in some cases directly from the building principal (Appendix G).

The interview questions were field tested by four teachers prior to the actual Phase Three interviews. Additionally, actual interviews were tape recorded and transcribed for accuracy and control of investigator bias. Open coding (Creswell, 1998) was used to segment information and to identify themes regarding professional development experiences that affect teachers' perceived self-efficacy and leadership that affects teachers' perceived self-efficacy. Thematic and patterned responses, emerging from the transcripts, were compared between schools and the overall school self-efficacy average.

## Analysis Methods

SPSS software was used to analyze the self-efficacy and leadership data. The methods of analysis are discussed below.

Phase One data were analyzed using one-way ANOVA since data from 17 individual schools were collected. The groups were completely independent of each other, with the exception that all were from the population of practicing elementary classroom teachers (Gay & Airasian, 2000).

Phase Two data were analyzed using *t* test and Point Bi-Serial Correlations. The *t* test was chosen to test for the significance of mean difference between the high efficacy teacher groups and low efficacy teacher groups as per each of the five survey questions related to PTE.

Phase Three interview data were collected by using handwritten recording (by the interviewer) as well as audio-taped responses to open-ended questions. Data were analyzed through text coding and identification of patterns.

## Summary

This chapter described the procedural methods used throughout this mixed-method study. In Chapter Four the presentation of results collected are presented, as are the data analysis.

## CHAPTER FOUR

### DATA ANALYSIS

#### Introduction

The purpose of this study was to examine the impact of leadership and professional development on elementary teachers' perception of self-efficacy in rural schools throughout western Pennsylvania. Rural schools were chosen because of the lack of federal and state attention to rural school needs, yet with the same accountability measures in place as in urban and suburban schools (Richard, 2003; Tyler, 2003).

The study was carried out in three phases using quantitative and qualitative methods. Likert-scale surveys were used to gather data regarding teachers' self-efficacy and leadership characteristics that teachers perceive the principal to exhibit. Interviews provided deeper understanding of the impact that leadership and professional development have on teachers' self-efficacy.

This chapter presents the results of the analysis of the quantitative data identifying varying degrees of teachers' self-efficacy from 17 rural schools located throughout western Pennsylvania (Phase One). Additional quantitative data reported in this chapter compare teachers' perceptions of

leadership attributes with varying degrees of overall school self-efficacy averages of five schools identified with extreme self-efficacy averages (Phase Two). Finally, this chapter describes the results of the analysis of the qualitative measures, which provided data through interviews with teachers of the five schools participating beyond Phase One (Phase Three).

#### Descriptive Statistical Data

Thirty schools were chosen and agreed to participate in Phase One of this study, employing the Teacher Efficacy Scale survey (Woolfolk & Hoy, 1993) (See Appendix A). Of these 30 schools, only 17 schools returned the survey information by the deadline for a return rate of 57% of schools.

The data gathered from this survey were used to determine teachers' average self-efficacy score for each school that participated. Once the school averages were identified, schools were rank-ordered according to the total self-efficacy mean. The top three schools and the bottom three schools were asked to participate in Phase Two and Phase Three. Of the six schools, the top three and two of the bottom three schools participated. One hundred nine copies of the Nature of School Leadership (Leithwood, 1997) (See Appendix C) survey were mailed to schools. Fifty were completed and returned for a 46% return rate of Phase Two.

Phase Three required teachers to participate in individual interviews. Two teachers from each of the five schools were asked to participate. Nine teachers, or 90% of those asked, agreed and completed phone interviews with the principal investigator. The teacher who declined to participate in Phase Three was from a school identified as having a high efficacy mean.

### Quantitative Analysis of the Findings

#### *Differences in Levels of Personal Teacher Efficacy*

Phase One was carried out to answer the specific research question: Do differences exist in teachers' perceived self-efficacy at varying degrees? To answer this question, a one-way ANOVA was run to determine if differences exist in teachers' self-efficacy scores/averages. The lowest average (1.60) indicated the school with the greatest overall self-efficacy, while the school with the highest average (2.91) indicated the school with the least overall self-efficacy. Data are presented in Table 1. Participants responded to five questions listed on the Teacher Efficacy Scale (Woolfolk & Hoy, 1993) pertaining to personal teaching efficacy (PTE) (See Appendix A). Scale ratings were one through six, with 1 = Strongly Agree; 2 = Moderately Agree; 3 = Agree slightly more than disagree; 4 = Disagree slightly more than agree; 5 =

Table 1

*Differences in Mean Teacher Efficacy Scores among Selected  
Rural Schools in Western Pennsylvania*

School	N	Mean	Std. Deviation
School 1	16	1.7125	.48425
School 2	9	2.6778	.63988
School 3	10	2.9100	.54863
School 4	2	2.6500	.07071
School 5	13	2.6231	.51178
School 6	14	2.8357	.73653
School 7	16	2.5437	.59885
School 8	26	2.6000	.50754
School 9	6	2.6500	.59582
School 10	14	2.8214	.59895
School 11	3	2.0000	.60000
School 12	19	2.8526	.53993
School 13	2	1.6000	.00000
School 14	10	2.8400	.33066
School 15	12	2.5250	.36213
School 16	2	2.5500	.63640
School 17	18	2.7944	.48443
Total	192	2.6089	.61190

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.766	16	1.298	4.476	<.001
Within Groups	50.749	175	.290		
Total	71.515	191			

Moderately Disagree; and 6 = Strongly Disagree.

The range of scores for overall school averages of teachers efficacy were 1.60 for schools with the highest efficacy mean, to 2.91 for schools with the lowest efficacy mean. The calculated  $p$  value of  $<.001$  is less than the alpha of 0.05.

When grouping the teachers of the schools identified as high efficacy together ( $n = 21$ ), the mean average totaled 1.74. The group comprised of teachers identified from low efficacy schools ( $n = 29$ ) had a mean average of 2.87. In comparison, the high efficacy group scored just above one complete point higher overall.

Additional comparative information is found in Table 2.

Table 2

*Comparison of Schools Labeled as High and Low on Mean Teacher Efficacy Scores*

	N	Mean	Standard Deviation
High	21	1.7429	.47389
Low	29	2.8724	.53378
Total	50	2.3980	.75606

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.540	1	15.540	59.822	<.001
Within Groups	12.469	48	.260		
Total	28.010	49			

One-tailed test of significance

*Descriptive Statistics of Phase Two Participants*

Of the schools identified to participate beyond Phase One, 21 teachers were classified into the group of teachers possessing high self-efficacy. This was determined by the overall school mean score on the *Teacher Efficacy Scale*. The teachers categorized into the low efficacy group equaled 32, the number of participants from the two schools with the lowest mean scores on the *Teacher Efficacy Scale*. A summary of the descriptive statistics follows. Additional information can be found in Table 3.

Within the sample of 21 high self-efficacy teachers, one was male and the remaining 20 teachers were female. Nine of these teachers were in the age range of 30-39, while seven teachers were 50 years of age or above. Eight teachers reported having taught for one to ten years, and eight other individuals have taught 11 to 20 years. All 21 participants have elementary certification, with two having early childhood certification, and five having other certification (such as Reading Specialist, Special Education, or Principal Certificate). Of this group, 12 teachers have earned a Bachelor's Degree and nine have earned a Master's Degree.

The sample group consisting of teachers identified as possessing low self-efficacy totaled 32. Of this group, two were male, 29 female, and one individual provided no response.

Table 3

*Demographics of High Self-Efficacy and Low Self-Efficacy**Teacher Groups*

Demographics		Frequency	Percent		
Gender	High n = 21	Male	1	4.8	
		Female	20	95.2	
	Low n = 32	Male	2	6.2	
		Female	29	90.6	
		No Response	1	3.1	
	Age	High n = 21	20 - 29	4	19.0
30 - 39			9	42.9	
40 - 49			1	4.8	
50 or Above			7	33.3	
Low n = 32		20 - 29	6	18.8	
		30 - 39	1	3.1	
		40 - 49	9	28.1	
		50 or Above	15	46.9	
		No Response	1	3.1	
Years of Full-Time Teaching		High n = 21	1 - 10	8	38.1
	11 - 20		8	38.1	
	21 - 30		2	9.5	
	31 or Above		3	14.3	
	Low n = 32	1 - 10	9	28.1	
		11 - 20	12	37.5	
		21 - 30	8	25.0	
		31 or Above	3	9.4	
	Certification	High n = 21	Early Childhood	2	9.5
			Elementary	21	100.0
Middle School			0	0.0	
Other			5	23.8	
Low n = 32		Early Childhood	3	9.4	
		Elementary	29	90.6	
		Middle School	0	0.0	
		Other	4	12.5	

Table 3 (continued)

*Demographics of High Self-Efficacy and Low Self-Efficacy**Teacher Groups*

Demographics		Frequency		Percent
Highest Degree Earned	High n = 21	Bachelors	12	57.1
		Masters	9	42.9
	Low n = 21	Bachelors	13	40.6
		Masters	17	53.1
		No Response	2	6.3

The majority of participants (15) were in the 50 or above age range. Nine teachers reported being 40-49 years of age. Years of teaching were evenly dispersed. Twelve individuals have taught for 11-20 years, followed by nine having taught one to ten years, and eight at 21 to 30 years of teaching. Certification included 29 participants having elementary certification, three having early childhood certification, and four being certified in another area. Finally, the highest degree earned was a Bachelor's Degree for 13 participants, Master's Degree for 17 participants, and two individuals who provided not response.

The following section details the findings for the high self-efficacy and low self-efficacy groups as related to the PTE items on the *Teacher Efficacy Scale*.

#### *Analysis of Personal Teacher Efficacy Data*

Personal teacher efficacy (PTE), commonly referred to as self-efficacy is the individual teacher's belief that he/she possesses the skills and capability to impact student learning in a positive way (Dembo & Gibson, 1984). Since half of the questions from the Teacher Efficacy survey related to general teacher efficacy rather than personal teacher efficacy, only those questions directly related to personal teacher efficacy were considered for analysis of Phase Two participants. A

one-way ANOVA was run to identify the differences that exist between the average scores of teachers from high efficacy schools with those from low efficacy schools.

Since differences exist in teachers' sense of efficacy, individual responses to the five questions relating directly to PTE were used to determine teachers' personal self-efficacy score between high efficacy schools and low efficacy schools. This data can be found in Table 4.

The five questions relating to PTE are discussed in the following paragraphs.

Survey item three(Q3), "When I really try, I can get through to most difficult students" refers to the idea that the teacher personally feels capable of helping all students learn, even those who struggle. Data reveal a mean score of 1.95 for teachers of high efficacy schools, which is just slightly above the response "Moderately Agree." The mean score for teachers identified from low efficacy schools is 2.16, falling slightly short of the mean for the response "Moderately Agree." The  $p$  value of 0.193 is greater than the alpha of 0.05, indicating that no significant difference exists between teachers of high efficacy and low efficacy schools as related to Q3.

Survey item six (Q6), "If a student did not remember information I gave in a previous lesson, I would know how to

Table 4

*Personal Teaching Efficacy Mean Scores between High Efficacy Schools and Low Efficacy Schools*

		N	Mean	SD	Sum of Squares	df	F	Sig.
Q3	High	32	2.16	.884	.527	1	.764	.386
	Low	21	1.95	.740	35.171	51		
Q6	High	32	2.25	1.078	.146	1	.136	.714
	Low	21	1.95	.964	54.571	51		
Q7	High	32	1.72	.683	1.883	1	5.020	.029
	Low	21	1.33	.483	19.135	51		
Q8	High	32	1.81	.965	3.519	1	5.411	.024
	Low	21	1.29	.463	33.161	51		
Q9	High	32	2.47	1.107	2.786	1	2.734	.104
	Low	21	2.00	.837	51.969	51		

increase his/her retention in the next lesson" refers to the teacher's capability to personally adjust information and be flexible with instruction to improve student learning. Teachers of high efficacy schools had a mean score of 2.14 while teachers of low efficacy schools had a mean score of 2.25. Comparison of both groups is similar in that the average of both groups fall just short of the response "Moderately Agree" regarding the survey item related to student retention. A  $p$  value of 0.357 is greater than the alpha of 0.05, indicating that no significant difference exists between the high efficacy and low efficacy teacher groups.

Survey item seven (Q7), "If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly" refers to the teacher's belief that he/she is competent to bring the student back to task and allow that student to refocus. Data reveal a mean score of 1.33 for teachers of high efficacy schools and 1.72 for teachers of low efficacy schools. A  $p$  value of 0.014 is less than the alpha of 0.05, indicating a significant difference between high efficacy and low efficacy schools. Teachers from schools identified as high efficacy fell short of the response "Strongly Agree" regarding refocusing

techniques. Even still, the average score was more closely related to "Strongly Agree" than "Moderately Agree."

Survey item eight (Q8), "If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty" refers to the teacher's ability to determine if materials are on the level of the students' abilities. The mean score for the teachers of high efficacy schools was 1.29 while the mean score for teachers of low efficacy schools was 1.81. Scores indicate that teachers of high efficacy schools identified more closely with the response of "Strongly Agree," than "Moderately Agree." Teachers of low efficacy schools identified more closely to the response of "Moderately Agree." The  $p$  value of 0.012 is less than the alpha of 0.05, indicating a significant difference between teachers of high efficacy and low efficacy schools as related to Q8.

Finally, survey item nine (Q9), "If I really try hard, I can get through to even the most difficult or unmotivated students" refers to the teacher possessing the necessary resources and training to reach out to and motivate all students to learn. The mean score for teachers of high efficacy schools was 2.00. The mean score for teachers of low efficacy schools was 2.47. Teachers of high efficacy schools responded "Moderately Agree" to the question related to

difficult or unmotivated students. Teachers of low efficacy schools were midway between the responses of "Moderately Agree" and "Agree slightly more than disagree." A  $p$  value of 0.052 is just slightly greater than the alpha of 0.05, indicating no significant difference between the groups.

The Likert-scale response to these five items discussed above determined teachers' personal self-efficacy scores. The following information reviews characteristics exhibited by the school leader as perceived by the high efficacy teacher group and low efficacy teacher group.

#### *Analysis of Nature of School Leadership Data*

To gather data relating to the research questions, "Does school leadership affect teachers' perceived self-efficacy?" the five schools identified as having high teacher self-efficacy averages or schools identified as having low teacher efficacy averages completed the Nature of School Leadership (Leithwood, 1997) survey. The 32 item Likert-scale survey asked teacher participants to rate school leaders in six categories. The scale of 1 through 6 represented "Strongly Disagree" through "Strongly Agree" respectively. An independent samples  $t$ -test was run to determine if a significant difference exists between the groups identified as

high efficacy schools and low efficacy schools. These data are presented in Table 5.

The first category, *Symbolizing Good Professional Practice*, centered around six questions that identified the principal's professional practices that include respect for staff, tone for interaction with students, willingness to change practices, modeling of problem-solving techniques, promoting an atmosphere of care and trust, and represents a symbol of success and accomplishment. Teachers identified as possessing high self-efficacy averaged 3.83 on this first group of statements, suggesting that they are more in agreement that their leader(s) symbolizes good professional practice, more than they somewhat agree or disagree. Teachers identified as possessing low self-efficacy averaged 4.61 on the same items, indicating that they "Agree" to "Strongly Agree" that their principal symbolizes good professional practice in school. Comparison of the two groups shows that the low efficacy group rated their leader three-quarters of a point (0.78) higher on average. The  $p$  value of .003 is less than the alpha of 0.05, indicating a significant difference between groups.

The second category, *Developing a Collaborative Decision-Making Structure*, is determined by the responses to five statements. These include: the principal's ability to

Table 5

*Comparison of School Leadership Factors Mean Scores Between High Efficacy Schools and Low Efficacy Schools*

School Leadership Factors	School Self-Efficacy	N	M	SD
Good Professional Practice	High	24	3.8333	1.09677
	Low	41	4.6098	.40928
Collaborative Decision-Making Structure	High	24	3.8542	1.06924
	Low	41	4.5325	.58597
Providing Individualized Support	High	24	3.7292	1.05015
	Low	41	4.4573	.58337
Providing Intellectual Stimulation	High	24	3.9821	1.01830
	Low	41	4.5854	.35971
High Performance Expectations	High	24	4.1528	.85680
	Low	41	4.8130	.29860
Fostering Development of Visions and goals	High	24	3.7014	1.13357
	Low	41	4.5447	.45799

Table 5 (continued)

## Independent Samples t-Test

Name of School Leadership Factors	t	df	Sig (2-tailed)	Mean Difference
Good Professional Practice	-3.335	26.800	.003	-.7764
Collaborative Decision-Making Structure	-2.866	31.243	.007	-.6784
Providing Individualized Support	-3.126	31.470	.004	-.7282
Providing Intellectual Stimulation	-2.802	26.402	.009	-.6032
High Performance Expectations	-3.648	26.310	.001	-.6602
Fostering Development of Visions and goals	-3.482	27.461	.002	-.8433

Note. An assumption of the t-test is the variance (i.e., the standard deviation) is equal in both groups. The standard deviations were clearly not equal, as verified by a Levine's test of homogeneity. Thus, a t-test model was used since the assumption of equal variance was not justified.

delegate faculty leadership broadly and again for achieving specific goals, promote teachers' involvement in decision-making, allow a degree of autonomy in decision-making, and work to achieve effective communications with faculty. The high efficacy teacher groups averaged 3.9 in this subset indicating that on average the respondents mostly "Agree" that the principal exhibited the factors necessary for developing a collaborative decision-making structure within the school. Low efficacy teacher groups averaged a score of 4.5 indicating that teachers "Agree" to "Strongly Agree" that the principal exhibits factors that promote a collaborative decision-making structure. Comparison of the groups shows that the low efficacy group rated the principal slightly above one-half point (0.68) higher than the high efficacy group. A *p* value of 0.007 is less than the alpha of 0.05, indicating a significant difference between scores.

Category Three of the survey, *Providing Individualized Support*, centered around four statements. These statements include the principal's ability to take teachers' opinions into consideration when taking school action, recognize the unique needs and areas of expertise of individual teachers, include all teachers without showing bias or favoritism, and show appreciation for teacher contributions. High efficacy teacher groups averaged a score of 3.7 in this area,

indicating teachers "Somewhat Agree/Disagree" to "Agree". Low efficacy teacher group averaged 4.5, which is between "Agree" to "Strongly Agree". It might be interpreted that these teachers all agree and some strongly agree that their principals are able to provide support for teachers on an individual, personal level. Comparison of the two groups shows that the low efficacy group averaged nearly three-quarters of a point (0.73) higher than the high efficacy group. The  $p$  value of 0.004 is less than the alpha of 0.05, indicating a significant difference between groups.

Group four, *Providing Intellectual Stimulation* referred to the principal's ability to affect faculty members "growth" in the teaching profession by stimulating and encouraging individuals to consider new ideas and practices, monitor and pursue personal learning goals, and provide opportunities for faculty to share and learn from each other. Participants responded to seven statements related to intellectual stimulation. The high efficacy group had a mean score of 3.98 indicating that participants chose to "Agree" that the principal possesses factors that stimulate teachers' professional growth. The low efficacy group averaged 4.59 indicating that the majority of participants "Agree" to "Strongly Agree". The  $p$  value of 0.009 is less than the alpha of 0.05, indicating a significant difference between groups.

The fifth group of statements regarded the principal *Holding High Performance Expectations* for teachers as well as students. Additionally, it addresses the expectations of the principal for teachers to be effective innovators. The high efficacy group averaged 4.15, while the low efficacy group averaged 4.81. A difference of 0.66 between the means show that both groups had very similar feelings regarding the principal and performance expectations. Both groups' scores are within the "Agree" to "Strongly Agree" range. The *p* value of 0.001 is less than the alpha of 0.05, indicating a significant difference between groups.

The final group of statements, *Fostering Development of Vision and Goals*, is comprised of statements that relate to the principal's overall ability to provide a sense of purpose within the school, communicate and work to clarify the school mission, and build a cooperative school wide community for establishing school goals. The high efficacy group averaged 3.70, while the low efficacy group averaged 4.54. In comparison, the high efficacy group's perception was that their leader possessed these factors just slightly more than they "Somewhat Agreed/Disagreed." The low efficacy group's score was midway between the choices of "Agree" to "Strongly Agree" that their principal exhibits these factors. The *p*

value of 0.002 is less than the alpha of 0.05, indicating a significant difference between groups.

In summary, all six items were found to be statistically significant based on teachers' responses. The teachers identified as having high personal self-efficacy in Phase One had a lower average score for each of the six categories comprising The Nature of School Leadership survey. The teachers identified as having overall low mean scores for personal teaching efficacy had a higher average score for each of the six categories. In each case, the difference between the high efficacy and low efficacy groups was at least one-half point on the Likert-scale.

The statistical significance of all six items on the survey increased attention to the final three questions/statements that were compiled by the principal investigator and included with the survey. While all teachers did not respond to all three questions, two distinct patterns still emerged.

When asked to describe the professional development experiences in which teachers participated within the last three years, the majority of teachers from the low efficacy group described activities that take place in the school building such as grade level meetings, in-service experiences, and training in specific programs. Teachers of the high

efficacy group described much the same as the low efficacy group with the addition of numerous outside conferences, post-graduate level courses, and earned master's degree/equivalent.

Responses to the second question, "To which professional organizations do you belong?" showed similar results. Teachers of the low efficacy group identified organizations that go along with being hired by a school district such as Pennsylvania State Education Association (PSEA) and the National Education Association (NEA). Teachers of the high efficacy group reported being members of PSEA and NEA, as well as the International Reading Association (IRA), local reading councils, American Educational Research Association (AERA), National Association for the Education of Young Children (NAEYC), and honor societies.

The third item asked respondents to "List the professional development journals to which you subscribe." Respondents from both the low efficacy and high efficacy groups listed magazines and journals such as Teacher, Reading Teacher, Mailbox, Kappa Delta Phi, Reading Research, Phi Delta Kappan, Research Quarterly, and Review of Educational Research. No pattern related to professional readings emerged for either teacher group.

Review of the three questions/statements constructed by the principal investigator shows that the high efficacy group

appears to be involved in educational opportunities that extend beyond the school walls and the workplace. These teachers attend more outside conferences and report being involved in organizations that disseminate a broad array of knowledge and information.

### Qualitative Data

Interviews were held with two teachers from each participating school. However, the exception of only one teacher willing to participate in the interview session existed within one school identified as having high efficacy on average. The interviews provided qualitative data, based on teachers' responses for the research questions:

1. Do professional development experiences and school leadership affect teachers' perceived self-efficacy?
2. What types of professional development experiences are considered to be most worthwhile for improving self-efficacy from teachers' perspectives?
3. What type of school leadership promotes self-efficacy from teachers' perspectives?

### *Teacher Interviews*

The interview began with introductions and basic interview guidelines. Participants were told that they would be asked a series of questions relating to self-efficacy,

leadership, and professional development. The interviewer remained silent while the participant responded to each question. If the participant hesitated or requested clarification, a prompt was given by the interviewer. Teachers' self-efficacy was defined as the teacher's belief in his/her ability to affect student learning and achievement. No additional guidelines were outlined.

All nine teachers interviewed were professional, as well as pleasant, with their responses. These teachers welcomed the invitation to participate and made certain that they had a clear understanding of each question prior to giving their response. Seven of the nine offered contact numbers and e-mail addresses in the event that clarification or additional information was needed by the principal investigator. All participants had at least two years of teaching experience, and some as many as 28 years of experience.

#### *Perception of Self-Efficacy on Teaching Behaviors*

Participants responded to the first interview question, "In what way does your perception of self-efficacy affect your teaching behavior?" Teachers from the low efficacy schools made the correlation between the belief in their ability to lead students to making academic gains, while teachers from high efficacy schools expressed the need for confidence in

what they are doing in the classroom as well as a responsibility to students. One teacher of a low efficacy school stated:

My judgement of my ability to succeed often comes into play when I'm creating lessons and teaching.  
(T 2-1)

Another responded:

If I believe I can do it and I possess the skills, then there is a high correlation between ability to do and having it be done. The desire pushes you to continue and be confident. (T 1-1)

While these teachers address the belief in their abilities, a third respondent of a low efficacy school who has been in the field for 28 years expressed the need to modify teaching behaviors:

... The teacher's teaching style and 'way' brings about a desired effect to stop and look more closely at each individual child. I change teaching behaviors on an individual basis for each of 25 students when I can. I have changed my teaching style to get desired outcomes from as many students as possible. (T 2-2)

Four of the five high efficacy teachers focused on a confidence in self, that by modeling, would show students that hard work and persistence, can help to achieve a goal. One teacher believed that the perception that the students have regarding how the teacher feels about himself or herself impacts how the students will feel about themselves. The teacher states:

... The better you feel about yourself, the more that you're going to portray to your students that it is very important for them to feel that way about themselves and to work to their potential and always try their best.  
(T 3-1)

Strengthening the threat between responses, another teacher specifically addressed modeling, and expressed the belief that modeling self-confidence will help students to develop a confidence in themselves. She responded:

I believe in myself and have self-confidence in what I'm doing. Hopefully I will model that to the students and they will develop confidence in themselves and keep working towards the goal. (T 5-1)

While neither of the respondents addressed self-efficacy directly, both expressed the importance of self-portrayal in order to guide students in development of the students' own confidence.

Only one teacher from the high efficacy group alluded to self-efficacy:

If you believe in yourself, your skills and your ability to use strategies effectively, then, the more empowered and the more knowledgeable that I become, then it affects everything that you do in the classroom.  
(T 4-2)

While the respondent did not address self-efficacy directly, he/she indirectly acknowledged the belief in one's own ability and the impact that this belief will have in the classroom.

*Teachers' Self-Efficacy Impact on Students*

Question two related to how teachers' perception of self-efficacy affected students in the individual classrooms. Specifically, "How do you think your perceptions of self-efficacy influence your students' achievement?" Responses were mixed throughout high efficacy and low efficacy groups, with four of the nine teachers directly addressing the impact that their perception of self-efficacy would have on the students. Two low efficacy teachers, from the same school stated:

I believe that a strong efficacy allows me to realize that I'm able to increase their achievement. Understanding the outcomes that I want from each student, and each student's learning ability, I hope that my style would get them to achieve at their own level of success. (T 2-2)

and

My perception does affect my students' achievement. If I'm not willing to try something new because of my own perception or thoughts of my ability to succeed, then my students would lose a chance to even attempt to be successful at what I'm thinking about not trying. Self-efficacy definitely does affect student achievement. (T 2-1)

Teachers from high efficacy schools had similar responses:

I think they have a great effect. My goal is always to believe that I can help each of them master concepts through intervention and re-teaching for those who don't obtain it the first time through instruction. (T 3-2)

A teacher from a different school within the high efficacy group responded:

The perception of myself comes across in how I teach.  
The way that I teach affects how the students learn.  
(T 4-1)

Nearly fifty percent of the respondents realized the importance and impact that a teacher's self-efficacy belief has on students in the classroom. Some addressed the idea that a positive self-efficacy belief brings about positive experiences for students, while others discussed the diminishing returns that might stem from a negative self-efficacy belief.

Mixed responses, not directly addressing self-efficacy included being a role model, modeling determination, exhibiting confidence, and conveying to students the need for life-long learning. These responses were elicited from teachers at both high and low efficacy schools.

#### *Impact of Leadership on Teachers' Self-Efficacy*

Question three related to the indirect impact of the school leader on student achievement. "What two characteristics does your school leader exhibit that make you feel more able to affect students' learning outcomes?" Three teachers of low efficacy schools and one teacher of a high efficacy school expressed that a leader who is supportive of teachers makes an impact on their ability to affect students. Freedom and flexibility in the classroom was identified from

two teachers of low efficacy schools and one teacher of a high efficacy school. Concern for students' best interest, and knowing the students was believed to make an impact by two teachers from the same high efficacy school. Only teachers of high efficacy schools felt that an approachable leader made an impact.

### *Leadership Support for Teachers*

Question four asked, "What does your school leader do to support teachers in their work?" Teachers of low efficacy schools believed that school leaders provided support to teachers by bringing in, and making available, various resource people who have potential to improve the school culture. One teacher cited a specific example:

... Another is the Child Study Team which is a team of teachers, psychologists, and counselors to look at the at-risk students to try to develop strategies and programs that might help the kids and the teachers adjust. It's a support program for students as well as teachers. Teachers don't have to feel that they are alone with the problems. There are people who are aware and trying to help the situation. (T 1-2)

Three teachers identified "encouragement to attend conferences and professional development" as a support offered by the school leader. Of the teachers encouraged to attend various conferences, one was from a low efficacy school and two were from different high efficacy schools. Additionally, teachers

identified "support of teachers in meetings with parents and students" as an encouragement in their work. Only one teacher out of the three high efficacy schools identified support in meetings as having a positive impact while one teacher from each low efficacy school recognized support as having a positive impact on teachers' work.

#### *Negative Impact of Leadership*

Question five asked, "What characteristics of the school leader negatively affect your teaching?" Four teachers responded "Nothing." Two teachers cited "intimidation" and "makes me nervous" as negative factors. Of these teachers, one was from a low efficacy school and one from a high efficacy school. Even still, these teachers clarified that the personal feelings are a result of the principal representing administration. The feelings are not brought on by something intentionally done by the principal. Two other teachers cited "inexperience." Again, one was from a low efficacy school and one was from a high efficacy school.

#### *Shaping Self-Efficacy*

Question six asked, "How difficult is it to contribute to, or shape, a teacher's self-efficacy belief once it is developed?" All nine participants responded to this question with little or no hesitation. The only hesitations stemmed

from appropriate choice of words rather than debate of the question. Four participants responded that it is dependent on the individual. Of these four respondents, three were from the low efficacy group and one was from the high efficacy group. One teacher of a high efficacy school shared:

I guess you have to look at the source. You look at the personalities. There are people in my building who want to be change agents. They seek knowledge, they seek truth... There are people in my building who would like change and want more information, but they are hesitant. They really need someone to take them to the mountain. [Some] pretty much think they know it all. Those people will never change. It's a nebulous answer, but it's reflective of human nature. (T 4-2)

Another teacher of a low efficacy school shared her belief:

It depends on the individual's personality. You can't take a group of adults and shape them or not shape them. Some will be able to change to create a successful environment for their students. ...It is easy for a person who is open-minded. (T 2-2)

Both responses reflect the individuality of all teachers.

Even those who believed it to be difficult to modify someone's self-efficacy did not feel that it was impossible to do so.

Four teachers of high efficacy schools perceived it to be difficult, but not impossible, to shape self-efficacy. One teacher's opinion:

I think nothing is impossible, but I think it's very difficult. I don't always stand by 'teach an old dog new tricks,' but if you're talking about a 20-year veteran teacher who doesn't have an idea of what self-efficacy means and how it can effect them in their classroom and with their

students, I think that's hard to change. (T 3-2)

Because of her personal beliefs, this teacher expressed a need for solid mentoring and induction programs that give teachers a sense of control and a sense of responsibility to help every child meet with success. In order to improve self-efficacy, teachers must understand the true meaning of it.

A teacher from a low efficacy school felt that modifying self-efficacy is more simplistic if it is approached in a positive, consistent manner:

I think you need to make sure that it's done in a positive way and that it needs to be consistent over a period of time. (T 2-1)

All responses to Question six were that self-efficacy can be shaped. Some teachers believed that the ability to change is dependent on the individual, while others believed that changes could be brought about with help and consistency from within the system.

#### *Participation in Professional Development Experiences*

Question seven asked participants to "Briefly describe the school-wide professional development activities that you have participated in." Upon review of participants' responses, no clear pattern emerged that would distinguish one group from another. Each teacher described programs that would enhance the curriculum such as Special Education

programs, behavior specialists, English as Second Language, Pennsylvania System of School Assessment preparations, and appropriate usage of curricular materials.

*Impact of Professional Development on Teaching Career*

Question eight asked teachers, "How have professional development experiences affected you throughout your career?" Four of the nine respondents viewed professional development experiences as a means for professional growth and a commitment to learning. These responses were elicited from two teachers of the top-ranking high efficacy school and two teachers from different low efficacy schools. Low efficacy school teachers responded:

I take them in like a sponge. I go to everything that I possibly can and try to use things from each experience. I consider myself a life-long learner. (T 1-1)

The other:

Anytime that you're getting new information through educational workshops, you are acquiring additional professional knowledge. (T 1-2)

The teachers from the high efficacy schools shared:

They help me to continue to grow. ...Each change has been a growing experience, and the trainings help me to continue to grow. (T 3-1)

Foremost, they are very empowering. It's the driving force. You go out there and get that information, then you find yourself wanting more. You see the weaknesses in your ability. You want to be the change agent. You want your district

to be better. You want to be a better educator yourself. You want your students to be the best they can be. (T 4-2)

### *Impact of Professional Development on Instruction*

Question nine addressed the impact that professional development has on instruction. Specifically, "What three things throughout the professional development experience have most likely affected the way you approach your classroom instruction?" Two teachers from separate low efficacy schools believed that addressing topics that are relevant to the classroom impacted their approach to classroom instruction. Three additional teachers, one from a low efficacy school and two from different high efficacy schools, identified confidence brought out through professional development experiences as having an impact on classroom instruction.

The teacher from the low efficacy school clarified that the presentations helped her to feel more comfortable when incorporating elements of the experience into the curriculum. She used technology as an example:

Teachers were instructed how to use the technology and then given the opportunity to participate in hands-on which made me more confident in using technology in the classroom. (T 2-2)

The teachers from the high efficacy schools believed that professional development experiences affirmed or made them feel confident that what they were doing in the classroom was

appropriate. One teacher from a high efficacy school responded:

I think my confidence in teaching things has improved. Now that I'm learning more through professional development, I feel more confident and that I'm doing it the right way. (T 4-1)

The second teacher from a high efficacy school responded in much the same manner:

Professional development gives me more confidence that what I'm doing in the classroom is on the right track for what the students need. (T 5-1)

There was no evident pattern to any of the responses provided by the other seven participants. Individual responses from low efficacy teachers included wonderful ideas, latest information, and packed with ideas. The remaining teachers of the high efficacy schools responses included a strengthening of educational philosophy, a chance for follow-up of students and activities, and an opportunity to develop a better understanding and sensitivity toward individual students.

#### *A Quality Professional Development Experience*

The tenth and final question of the interview asked, "What characteristics must be present in a quality professional development experience?" Of the nine teachers interviewed, five teachers believed that relevancy of the topic to the classroom was important. Of these teachers,

three were from low efficacy schools and merely stated "Relevancy" without any elaboration. The two teachers from the high efficacy schools elaborated on their response:

Whatever is being presented needs to be a good match to the audience. The topic needs to apply to what the teachers are doing. (T 4-2)

Relevancy, it has to be important to what I'm doing in the classroom. (T 5-1)

Based on the responses of these participants, relevancy relates to importance and pertinence in the classroom.

Two additional teachers identified the importance of practical information for the classroom. The response from the teacher of the low efficacy school simply stated, "Practical information," (T 1-2) while the response from the teacher of the high efficacy school was:

Your audience has to value what it is that you are saying and feel what you're presenting to them [is something] they are going to be able to use in their room. If they don't value it, or feel that it is something they are going to be able to implement or use for the success of their instruction, then it goes out the window. (T 3-2)

Even still, one teacher from a high efficacy school identified the need for practicality to the classroom, yet when elaborated upon, the explanation aligned more closely with relevancy:

Practicality to the classroom is very important. Often teachers come from a professional development experience and think 'what am I going to do with this?' Make it meaningful for teachers to use. (T 4-1)

Finally, two teachers from low efficacy schools and two teachers from high efficacy schools noted that the presenter at the professional development experience must be knowledgeable in the field and able to present the information in a language appropriate for the teaching profession.

Responses included:

Knowledgeable presenter in the field. (T 1-2)

Qualifications of the presenter; well grounded, researched. (T 1-1)

The language of the presenter has to be appropriate. It has to be a good match for the audience. (T 4-2)

Good presenter who shares the information in a dynamic, interesting way to keep our attention.  
(T 5-1)

These teachers believed that the presenter impacted the quality of the professional development experience.

#### Summary

In this chapter, quantitative and qualitative data were analyzed and presented in an effort to answer the research questions:

1. Do differences exist in teachers' self-efficacy at varying degrees?
2. Does school leadership affect teachers' perceived self-efficacy?

3. What type of school leadership promotes self-efficacy from teachers' perspectives?
4. What types of professional development experiences are considered to be most worthwhile for improving self-efficacy from teachers' perspectives?

The instrument used to collect quantitative data for Question one was the Teacher Efficacy Scale (Woolfolk & Hoy, 1993) comprised of ten items relating to the constructs of General Teaching Efficacy and Personal Teaching Efficacy. The statistical technique employed was one-way Analysis of Variance (ANOVA). It was found that differences at varying degrees do exist among teachers' perceived self-efficacy, determined by a range of mean scores for teachers' self-efficacy from participating schools.

The Nature of School Leadership (Leithwood, 1997) was the 32-point survey item used to gather quantitative data relating to question two. Each item was classified into one of six groups relating to leadership traits/characteristics. An independent t-test determined the significance of scores. Items were found to be statistically significant in all six areas of leadership traits/characteristics on the basis of teachers' responses.

Finally, qualitative data were gathered through teacher interviews. Teachers' responses provided answers to research

questions three and four. Interview data were transcribed and coded. Coding was studied in order to identify any patterns and similarities throughout the responses. No evident patterns or themes emerged from either the high efficacy or low efficacy groups of teachers.

Chapter Five will present a summary, conclusions, and implications of the findings. The study will conclude with recommendations for future research.

## CHAPTER FIVE

## SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This chapter will provide a summary of the information related to teacher self-efficacy and the impact of professional development experiences and leadership on that efficacy, conclusions, and implications of the findings, and recommendations for future research.

## Overview of the Study

This study aimed to examine rural school teachers' perceptions of their personal self-efficacy and the impact of leadership and professional development on that efficacy.

Everyday, teachers are expected more and more to improve their students' academic gains. Albert Bandura expressed his belief that learning environments conducive to students' achievement are created by the talents of the teachers and the belief in their ability to impact and improve student learning, or self-efficacy (Bandura, 1997). Studies have been conducted linking teachers' sense of self-efficacy to instructional effectiveness in the classroom. While limited, studies have shown that leadership (Leithwood, 1977) and professional development experiences (McLaughlin & Berman, 1977; Scribner, 1998) affect this self-efficacy, creating an indirect impact on student achievement.

Leadership styles are situation specific and can be influenced by personal and contextual variables (Hallinger et. al, 1996). Regardless, an effective leader will foster a supportive environment within the school and exude a confidence in the faculty (Fullan, 2001; Hoy & Tarter, 1992; Leithwood, 1994).

To provide teachers with professional development experiences that will promote professional growth, teachers and leaders must begin with a clear vision of the purposes and goals for the professional development (Guskey, 2000). Additionally, teachers must be viewed as learners for an effective experience (McLaughlin & Berman, 1977).

Rural schools throughout western Pennsylvania are held to the same accountability measures as urban and suburban schools, regardless the size of the student body, number of faculty members, or amount of available tax dollars used to fund the schools. These issues may cause a significant impact on teachers' self-efficacy beliefs, as well as professional development experiences and leadership qualities.

The purpose of this mixed-method study was to identify various degrees of teacher self-efficacy; differences of leadership traits as perceived by teachers of high efficacy and low efficacy schools; and specific components of professional development experiences and leadership

characteristics to promote teachers' self-efficacy as identified by teachers.

Phase One participants included 192 faculty members from 17 rural elementary schools throughout western Pennsylvania. Phase Two participants were faculty of the five schools identified during Phase One. (A sixth school was identified during Phase One, but the school declined participation.) Fifty of the 109 surveys mailed were returned for a rate of 46%. Phase Three participants included nine elementary teachers from five of the schools agreeing to participate beyond Phase One. Two teachers from each school were chosen to be interviewed by the principal investigator. One teacher declined participation.

### Conclusions Based on Key Findings

This section will summarize the key findings and the conclusions drawn based on the research. Three areas are included: degrees of self-efficacy; leadership results based on degrees of efficacy; and leadership and professional development results based on teacher interviews.

#### *Degrees of Self-Efficacy Results*

Do differences exist in teachers' perceived self-efficacy at varying degrees? Phase One revealed that teachers vary in the perception of their self-efficacy. Determined by the

various self-efficacy mean scores, it was found that varying degrees of perceptions of self-efficacy do exist. The range of scores between the 17 participating schools was 1.60 to 2.91. These findings supported Bandura's (1986) claim that, "People who regard themselves as highly efficacious act, think, and feel differently from those who perceive themselves as inefficacious" (p. 395). These data were intended to justify and provide a basis for identification of schools classified as high efficacy and low efficacy.

#### *Leadership Results*

Phase Two employed the Nature of School Leadership survey (Leithwood, 1997). This survey was intended to identify differences in responses between teachers of schools identified as high efficacy and low efficacy, and to answer the question, "Does school leadership affect teachers' perceived self-efficacy?"

A prediction prior to the tests being run, and based on previous research, would have connected the high efficacy group of teachers to identifying their principal/leader to exhibit the six traits identified by Leithwood (1997) more strongly than the low efficacy group of teachers. A reciprocal effect of the principal exhibiting these exemplary

traits would nurture the teachers' self-efficacy, making it stronger (Pajares, 2000).

Items were analyzed according to the level of self-efficacy possessed by teacher groups (high efficacy and low efficacy). Additionally, the differences between high efficacy and low efficacy schools on all six items were found to be statistically significant at  $p = 0.05$ . The schools identified as possessing low self-efficacy among faculty rated their principal higher for possessing specific effective leadership characteristics in each item than schools identified as having high self-efficacy.

#### *Good Professional Practice*

The first item, "Symbolizing Good Professional Practice" relates to the tone and atmosphere set by the principal throughout the school. With a statistically significant difference between high efficacy and low efficacy schools ( $p = 0.003$ ), teachers identified as low self-efficacy rated their principal as exhibiting characteristics of good professional practice higher than teachers of high self-efficacy with mean scores of 4.61 and 3.83 respectively.

#### *Collaborative Decision-Making*

The second item, "Developing a Collaborative Decision-Making Structure" encompasses the principal's delegation of

responsibilities among faculty, inclusion of faculty during decision-making for the good of the school, and good communication among staff. At  $p = 0.007$ , the differences in responses were found to be statistically different. The low efficacy teacher group scored higher with 4.5 than did the high efficacy group with 3.9. This indicates that the low efficacy group agreed more strongly than the high efficacy group that the principal/leader does practice collaborative decision-making within the school.

#### *Individualized Support*

The third item, "Providing Individualized Support" includes the principal's ability to remain unbiased and to consider the individual expertise of all faculty. Again, there was a statistical difference ( $p = .004$ ) between scores, indicating that the low efficacy teacher group perceived their principal to exhibit unbiased, individualized characteristics, more so than teachers of the high efficacy group.

#### *Intellectual Stimulation*

Item four, "Providing Intellectual Stimulation" required principals to stimulate teachers to grow professionally through providing materials or encouragement that allows the teacher to try new ideas or pursue goals. At  $p = 0.009$ , this item was statistically significant. Again, the low efficacy

group with a mean of 4.59 scored higher than the high efficacy group at 3.98, revealing that teachers from the low efficacy group feel that their principal/leader stimulates and supports them professionally.

#### *Performance Expectations*

The fifth item, "Holding High Performance Expectations" requires the principal to hold high expectations for teachers and students that they make positive progress towards growth. This statistically significant item ( $p = 0.001$ ) revealed that the low efficacy group (4.81) believes more strongly than the high efficacy group (4.15) that their principal holds high expectations for faculty and students.

#### *Visions and Goals*

The sixth item, "Fostering Development of Vision and Goals" reflects principal communication of a clear mission, goals, and purpose for the school. This item was statistically significant at  $p = 0.002$ . Again, the low efficacy group (4.54) believes more strongly than the high efficacy group (3.70) that their principal communicates a clear mission, goals, and purpose for the schools.

As previously stated, it was predicted that the high efficacy group of teachers would have rated their principal(s) higher for exhibiting the traits of an outstanding

principal/leader as identified by Leithwood (1997). Previous theories and studies support this prediction, and are discussed in the following section.

Triadic reciprocal causation, an aspect of Bandura's (1986, 1997) social cognitive theory of self-efficacy, supports this notion. Triadic reciprocal causation allows individuals the capability to influence events in their lives, dependent of personal interpretation of the interaction of three determinants: personal factors of cognitive, affective or biological events; behavior; and the external environment. The individual's interpretation of the bi-directional interaction impacts the individual's perceived self-efficacy, or personal teacher efficacy. Specifically, individuals engage in certain acts, interpret the outcomes of their actions, and based on the interpretations of capacity and ability, alter future performances to align with behaviors that are consistent with the individual's personal beliefs.

Studies by Hoy et al. (1992) and Hoy and Woolfolk (1993), strengthen the connection between leadership and self-efficacy. Hoy et al. found supportive behaviors of the principal enhance teacher effectiveness, along with a community of trust between colleagues. Hoy and Woolfolk found when analyzing teachers' perceptions of self, a healthy school climate (relationships among students, teachers, and

administrators) to positively impact teachers' self-efficacy. Principals who used their influence in support of teachers, primarily with superiors, nurture teachers' self-efficacy beliefs, making them stronger. Leaders who exemplify notable quality characteristics such as respect for staff, sensitivity toward individual's unique needs and abilities, promotion of professional growth, high performance expectations and an overall sense of purpose established by visions and goals, should produce teachers of higher efficacy through positive interactions and motivation by the leaders.

However, results of the data analysis in this study indicated just the opposite. Teachers of the low efficacy group perceived more strongly that their leader exhibited the traits outlined by the Nature of School Leadership (1997) survey than did the high efficacy group. Based on Bandura's (1986) reciprocal effect, teachers who are led by a principal with exemplary leadership traits should develop a stronger self-efficacy belief. The self-efficacy strengthens as a result of the leader's ability to foster the efficacy along with other aspects of teaching. Again, the results did not confirm this. What then might have produced these unexpected results? Although the data in this study were not adequate to answer "Why?" inferences have been made.

One explanation for the results may be the difficulty of assessing the interaction of the principal leadership with other elements that impact the teachers' self-efficacy (Smylie, 1990), such as collegial relationships and feedback (Ashton & Webb, 1986). Some teachers may perceive themselves to be very efficacious as a result of professional interactions and relationships with colleagues. Additionally, these teachers may not find that their perception of efficacy is dependent on the relationship between teacher(s) and principal, or on the principal's input and feedback. Teachers may be self-driven and not even aware of the contributions of the principal because of their own strong feelings of efficaciousness and competence.

A second explanation may be factors such as leadership of previous administrators, undergraduate programs, years of experience, or student achievement and feedback that strengthened the teachers' self-efficacy. For example, it is expected that teachers of high-achieving students would possess a strong self-efficacy belief (Ashton & Webb, 1986; Omotani & Omotani, 1995) without recognizing the impact of current leadership. These experiences may have influenced teachers' self-efficacy beliefs previously and continue to carry through to other stages of their teaching profession. For this reason, teachers with strong self-efficacy beliefs

would not necessarily identify current leadership as attributing to their self-efficacy beliefs.

A third explanation may relate to teachers' involvement in professional development beyond the workplace. Many teachers from the high efficacy group reported having attended numerous outside conferences and had taken graduate level courses. Some earned a Masters degree. Teachers who had these experiences would contribute to a school climate that may be different from teachers who have not been exposed to professional development outside of that provided by the school district. As suggested by Hallinger et al. (1996), leadership styles are situation specific and should be tailored to whatever works best for a specific school or situation. For this reason, the principal(s) of the teachers identified as the high efficacy group might not find it necessary to focus on improving the self-efficacy of teachers who already exemplify a high self-efficacy and are capable of nurturing students to high academic gains. The principal is then able to focus on other areas within the school system or program that should provide coherence, indirectly affecting teachers' performances and students' academic achievement (Hallinger, et al., 1996).

### *Teacher Interviews*

To gain additional insight into teachers' self-efficacy, the qualitative measure of individual teacher interviews was used. The interview responses were grouped into three categories for analysis. The first category related to teachers' perceived self-efficacy as it relates to student instruction in the classroom. This included responses to questions one, two, and six. The second category related to the professional development experiences and the impact that these experiences might have on teachers' self-efficacy. The responses to questions seven, eight, nine, and ten were analyzed in relation to each other. The third category of responses relates to school leadership, the characteristics that are exemplified by school principals, and how these characteristics may affect teachers' self-efficacy. The responses to questions three, four, and five were analyzed.

#### *Teachers' Perceived Self-Efficacy*

Does school leadership affect teachers' perceived self-efficacy? Responses to the questions in this category were of minimal difference, leading to inconclusive results. Teachers of the low efficacy group expressed a confidence and belief in their personal ability to affect and improve student achievement. These teachers realized that students have

unique needs, therefore, it is necessary to incorporate various techniques and methods in order to meet as many individual needs of children as possible. Additionally, the low efficacy group verbalized the realization that their own personal efficacy directly impacts students' learning because of the willingness of the teacher to try new ideas and to make multiple attempts to allow students to experience success at their own level.

Another difference in responses was that the low efficacy group of teachers believed that self-efficacy modifications are dependent on the individual(s) and reflective of human nature. Any teachers who want to add to their repertoire of ideas in order to help children will benefit from professional development programs. Many individuals' self-efficacy can be strengthened of their own accord, while others need guidance to do so. The high efficacy group of teachers tended to believe that self-efficacy modifications are difficult, although not impossible. The high efficacy teachers believed that mentoring programs and induction programs would benefit teachers at the onset of their professional career.

#### *Professional Development Experiences*

What types of professional development experiences are considered to be most worthwhile for improving self-efficacy

from teachers' perspectives? Again, no strong, distinct pattern emerged for either group of teachers, leading to inconclusive results. Both groups had an equal number of participants who believed that all professional development experiences should be relevant to the classroom and allow teachers to gain confidence from the experience that what they are doing in the classroom is appropriate for improved student learning. Additionally, teachers from both groups felt that professional development experiences should include content that provide teachers with a sensitivity toward students and allow teachers to look at the uniqueness of each student and provide tailored instruction.

The only distinct difference regarding professional development experiences was that four of the five teachers of the high efficacy group stated that they are encouraged to enroll in classes such as master-level courses held outside of the district provisions. Only one of the four teachers of the low efficacy group identified outside programs as a source of teachers' professional development.

#### *Leadership that Promotes Teachers' Self-Efficacy*

What types of school leadership promote self-efficacy from teachers' perspectives? Yet again, no clear pattern emerged from teachers' responses between the high efficacy and

low efficacy teacher groups. The majority of responses were very similar between the groups.

When asked what characteristics are exemplified by their principal(s), both high and low efficacy groups expressed the principals' support/encouragement for their teachers' continual professional learning, whether it is in-house or outside coursework. A second characteristic identified by both groups of teachers was principal support. This support could take the form of backing for what teachers do or want to do in the classroom regarding creativity and flexibility, as well as support for teachers when meeting with parents.

When asked what characteristics of the principal negatively affect teachers, the majority of respondents agreed that they do not perceive their principal(s) to negatively impact their perception of self-efficacy.

### *Summary of Interviews*

After teachers of the schools identified as high efficacy and low efficacy were interviewed regarding their beliefs of self-efficacy, professional development, and school leadership, it was apparent that no strong categories emerged within each group. Compounding this situation were responses that were shared between the groups identified as high efficacy and low efficacy. For this reason, results in each

category were inconclusive. However, implications can be made until the influence of leadership and professional development on self-efficacy can be studied in greater depth.

### Implications and Recommendations

This section discusses the results of the study and what those results mean for practicing principals and teachers.

#### *Implications of the Study*

Based on a review of the literature and the results of this study, several implications for further consideration were made:

1. Teachers' perceptions of self-efficacy exist in varying degrees. Yet, the range of these degrees is narrow rather than widely dispersed. Teachers perceive themselves to have some degree of self-efficacy, and feel that their efficaciousness, to a degree, helps students achieve. A limited number of individuals would label themselves as possessing low self-efficacy or as inefficacious.
2. Professional development experiences need to be tailored to the advancement and needs of all teachers, regardless of their perception of self-efficacy. Those who perceive themselves to have a high self-efficacy will benefit from these

experiences in that they are kept current and provided with more ideas and methods to implement in the classroom. In some instances, the professional development experience provides these teachers with an opportunity to affirm their already strong self-efficacy beliefs. Those with a low perception of self-efficacy will benefit in that they are being equipped with new ideas to implement in the classroom in an effort to improve student achievement and with each new success, improve their perception of self-efficacy.

3. Teachers with strong self-efficacy do not necessarily always rely on the principal for guidance regarding the learning atmosphere. These teachers with a high level of efficaciousness rely more heavily on their own judgements, motivation, self-reflection, capability, experience, and collegial relationships/associations to affect student learning. For this reason, the impact of leadership on these teachers' self-efficacy may be minimal.
4. Some teachers (such as those who possess strong self-efficacy beliefs) are able to manage and maintain their strong beliefs of efficacy, often by means of professional development experiences or coursework

that extend outside of the school district. (80% of the teachers from the high teachers' self-efficacy group were encouraged to enroll in outside courses.) Those possessing a weaker self-efficacy rely more heavily on leadership and the support and feedback that comes from leadership when professional development experiences do not fulfill the needs or wants of the teachers.

Some rural schools do not have the financial means to provide teachers with relevant, practical experiences by knowledgeable presenters. For this reason, these schools tend to foster a lower (weaker) self-efficacy belief in the teachers. In return, the teachers look for professional support and gratification that comes from the school leader.

#### *Recommendations for Future Study*

With the growing number of studies that have shown self-efficacy to be a powerful variable in instructional effectiveness, it is important to thoroughly investigate the many variables within the context of the school that are able to impact that efficacy. Recommendations for further study are as follows:

1. A benefit to the knowledge of self-efficacy would be to conduct a study of teachers' perceived self-efficacy and the influence of leadership on that efficacy in relationship to other contextual factors. These factors might include collegial relationships, parental involvement, and departmental school organization. This would provide needed data on such factors that may affect teachers' perception of efficacy along with leadership.
2. A mixed-method study of teachers' perception of self-efficacy, the principal's perceived self-efficacy, and the perceived impact that the principal's efficacy has on the faculty would provide additional data for understanding the impact of leadership on teachers' self-efficacy. Interviews and shadowing would provide additional information as to how the principal provides teachers with means of strengthening that efficacy. Comparative information through interviews of both teachers and principal would show if the thoughts, logic, and benefits stemming from the principal's choices of self-efficacy promotion are perceived the same between the principal and teachers.

3. Replication of this study in urban and suburban school districts would provide data from school districts comprised of different demographics. Additional studies would provide comparative information as well as a larger area for which findings can be generalized.
4. To better understand the impact of leadership and professional development on rural schools, a more comprehensive, longitudinal study, with a larger sample population would be appropriate. Tracking professional development experiences that teachers are exposed to - based on the financial advantages of the school district - would provide addition details into the strength of teachers' perceived self-efficacy resulting form leadership and professional development. Including more schools in the study would allow for greater generalizability.

A more specific guideline for selection of rural school participation (such as average class size and socio-economic status) would ensure that rural schools are closely aligned, rather than falling into a general category based solely on the population size of the community, school and square mile.

### Final Thought

"What people think, believe, and feel affects how they behave. The natural and extrinsic effects of their actions, in turn, partly determine their thought patterns and affective reactions" (Bandura, 1986, p. 25).

As studies have shown, teachers' personal beliefs regarding their ability to affect student achievement may be responsible for the variance in teacher effectiveness (Armor, et al., 1976; Berman & McLaughlin, 1977). For this reason, teachers' must possess a strong self-efficacy that will allow them to lead students to academic gains. While some teachers may acquire a strong self-efficacy during their teacher preparatory programs, others may not realize their self-efficacy until they have their own classroom. Even still, others will enter with a weak self-efficacy.

Teachers must be provided with opportunities to experience success, feel that they are supported, and be knowledgeable of the latest instructional strategies and tools. This opportunity will allow those who already feel efficacious to validate that belief. Those who need guidance to strengthen their self-efficacy will be able to use the opportunities to do just that.

Teachers who believe in their personal efficacy will nurture students capable of great academic strides. In the

words of Warren G. Bennis, "Great things are accomplished by talented people who believe they will accomplish them"

(Bennis, 2005). Teachers, believe!

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APPENDICES

Appendix A

TEACHER EFFICACY SCALE

## ELEMENTARY SCHOOL – TEACHER SURVEY

## Teacher Efficacy Scale (Short Form)\*

A number of statements about organizations, people, and teaching are presented below. The purpose is to gather information regarding the actual attitudes of educators concerning these statements. There are no correct or incorrect answers. We are interested only in your frank opinions. Your responses will remain **confidential**.

**INSTRUCTIONS:** Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

**KEY:** 1 = Strongly Agree 2 = Moderately Agree 3 = Agree slightly more than disagree  
4 = Disagree slightly more than agree 5 = Moderately Disagree 6 = Strongly Disagree

1. The amount a student can learn is primarily related to family background. 1 2 3 4 5 6
2. If students aren't disciplined at home, they aren't likely to accept any discipline 1 2 3 4 5 6
3. When I really try, I can get through to most difficult students. 1 2 3 4 5 6
4. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement. 1 2 3 4 5 6
5. If parents would do more for their children, I could do more. 1 2 3 4 5 6
6. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson. 1 2 3 4 5 6
7. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly. 1 2 3 4 5 6
8. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty. 1 2 3 4 5 6
9. If I really try hard, I can get through to even the most difficult or unmotivated students. 1 2 3 4 5 6
10. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment. 1 2 3 4 5 6

\* In Hoy, W.K. & Woolfolk, A.E. (1993). Teacher's sense of efficacy and the organizational health of schools. *The Elementary School Journal* 93, 356-372.

## These items concern Demographic Information

Please circle your responses.

11. Gender:                    Male                    Female
12. Age:                      20-29                    30-39                    40-49                    50 or above
13. Grade(s) and subjects **currently** teaching : \_\_\_\_\_
14. Years of *full-time* teaching with this district: \_\_\_\_\_
15. Certification areas (Circle all that apply to you.)
- early childhood                    secondary (state subject area) \_\_\_\_\_
- elementary    K-12 (subject) \_\_\_\_\_
- middle school                    other (please specify) \_\_\_\_\_
16. State(s) where certified \_\_\_\_\_
17. College or university where graduated from \_\_\_\_\_
18. Highest degree earned \_\_\_\_\_
19. My average class size this year: Fewer than 20, 20-25, 26-30, More than 30
20. The socioeconomic standing of *most* of our school families would be considered:
- Low                    Low-Middle                    Middle                    Upper-Middle    Upper

Feel free to add additional comments to the bottom of this page, or e-mail me at [heidis@zoominternet.net](mailto:heidis@zoominternet.net).

*Please complete this survey and return it to the manila, self-addressed, stamped envelope by **April 23, 2004.***

**Thank you**

Appendix B

PERMISSION TO USE SURVEY

From: [AWOOLFOLK@AOL.com](mailto:AWOOLFOLK@AOL.com)  
To: Heidi Sandzimier  
Date: Saturday - October 4, 2003 10:07 AM  
Subject: Re: Permission to use Woolfolk-Hoy Teacher  
Efficacy Scale

In a message dated 10/3/03 1:47:00 PM,  
[sandzimierh@southmoreland.net](mailto:sandzimierh@southmoreland.net) writes:

I am requesting permission to use the Woolfolk-Hoy Teacher Efficacy Scale in my doctoral dissertation at Indiana University of Pennsylvania. My dissertation topic is the principal's ability to improve teachers' self-efficacy through professional development. I believe that your scale is most appropriate for my study.

You have my permission to use the scale in your dissertation - best wishes and send me a summary of your findings.

Anita Woolfolk Hoy, Professor  
Psychological Studies in Education  
School of Educational Policy and Leadership  
The Ohio State University  
Columbus, OH 43210

phone: 614-488-5064  
fax: 614-2927900  
e-mail: [awoolfolk@aol.com](mailto:awoolfolk@aol.com)

<http://www.coe.ohio-state.edu/ahoy>

Appendix C

NATURE OF SCHOOL LEADERSHIP

## NATURE OF SCHOOL LEADERSHIP

The following statements are descriptions of leadership that may or may not reflect leadership practices in your school. Indicate the extent which you agree that the statement describes leadership practices in your school by circling the number that best reflects your opinion. The response options range from 1 = Strongly Disagree through 5 = Strongly Agree. Use "NA" (Not Applicable) response if the item does not apply to you or you don't know.

<i>To what extent do you agree that the person(s) providing Leadership in your school:</i>						Strongly Disagree						Strongly Agree
1. Shows respect for the staff by treating us as professionals.	1	2	3	4	5	NA						
2. Delegates leadership for activities critical for achieving school goals.	1	2	3	4	5	NA						
3. Takes my opinion into consideration when initiating actions that affect my work.	1	2	3	4	5	NA						
4. Is a source of new ideas for my professional development.	1	2	3	4	5	NA						
5. Has high expectations for us as professionals.	1	2	3	4	5	NA						
6. Gives us a sense of overall purpose.	1	2	3	4	5	NA						
7. Sets a respectful tone for interaction with students	1	2	3	4	5	NA						
8. Distributes leadership broadly among the staff, representing various viewpoints in leadership positions.	1	2	3	4	5	NA						
9. Is aware of my unique needs and expertise	1	2	3	4	5	NA						
10. Stimulates me to think about what I am doing for my students	1	2	3	4	5	NA						
11. Helps clarify the specific meaning of the school's mission in terms of its practical implications for programs and instruction.	1	2	3	4	5	NA						
12. Demonstrates a willingness to change own practices in light of new understandings.	1	2	3	4	5	NA						
13. Ensures that we have adequate involvement in decision making related to programs and instruction.	1	2	3	4	5	NA						
14. Encourages me to pursue my own goals for professional learning.	1	2	3	4	5	NA						
15. Holds high expectations for students.	1	2	3	4	5	NA						
16. Communicates school mission to staff and students.	1	2	3	4	5	NA						

17. Models problem-solving techniques that I can readily adapt for work with colleagues and students.	1	2	3	4	5	NA
18. Supports and effective community structure for decision making.	1	2	3	4	5	NA
19. Is inclusive, does not show favoritism toward individuals or groups.	1	2	3	4	5	NA
20. Encourages us to develop / review individual professional growth goals consistent with school goals and priorities.	1	2	3	4	5	NA
21. Encourages the development of school norms supporting openness to change.	1	2	3	4	5	NA
22. Promotes an atmosphere of caring and trust among staff.	1	2	3	4	5	NA
23. Facilitates effective communication among staff.	1	2	3	4	5	NA
24. Provides moral support by making me feel appreciated for my contributions to the school.	1	2	3	4	5	NA
25. Encourages us to evaluate our practices and refine them as needed.	1	2	3	4	5	NA
26. Helps us understand the relationship between our school's mission and district initiatives.	1	2	3	4	5	NA
27. Symbolizes success and accomplishment within our profession.	1	2	3	4	5	NA
28. Provides an appropriate level of autonomy for us in our own decision making.	1	2	3	4	5	NA
29. Encourages me to try new practices consistent with my own interests.	1	2	3	4	5	NA
30. Expects us to be effective innovators.	1	2	3	4	5	NA
31. Works toward whole staff consensus in establishing priorities for school goals.	1	2	3	4	5	NA
32. Facilitates opportunities for staff to learn from each other.	1	2	3	4	5	NA

**Thank you for your participation!**

Briefly respond to each question in the space provided.

1. Describe the professional development experiences in which you have participated during the last three years.
2. To which professional organizations do you belong?
3. List the professional journals to which you subscribe.

Appendix D

PERMISSION TO USE SURVEY

From: "Kenneth Leithwood" <kleithwood@oise.utoronto.ca>  
To: Heidi Sandzimier  
Date: Monday - November 23, 2003 1:39 PM  
Subject: Re: Nature of Leadership Survey Permission

"Heidi Sandzimier" [sandzimierh@southmoreland.net](mailto:sandzimierh@southmoreland.net) writes:  
November 24, 2003

Dear Professor Leithwood,

I am requesting permission to use the Nature of Leadership Survey in my doctoral dissertation at Indiana University of Pennsylvania. My topic is school factors that affect teachers' self-efficacy. I'm looking primarily at the impact of professional development and leadership on self-efficacy.

Thank you for this consideration.

Respectfully,  
K. Heidi Sandzimier

You are welcome to use the survey. I would appreciate knowing what you learn.

Appendix E

LETTER REQUESTING SCHOOL

DISTRICT PARTICIPATION

January 2004

Name of Superintendent  
Name of School District  
Address

Re: Doctoral Study Participation Permission Request

Dear Superintendent:

I am currently a doctoral student at Indiana University of Pennsylvania in the area of Curriculum and Instruction. I am conducting a research study dealing with perceived teacher efficacy in Rural Pennsylvania schools, and need your assistance. Please consider having your district participate in the study. The following information is provided in order to help you make an informed decision.

The purpose of this study is to gain information regarding rural teachers' perceived self-efficacy and factors within the school system that contribute to the perceived efficacy. While it is known that there is a correlation between teachers' self-efficacy and student achievement, the information gained in the study may help us to better understand specific characteristics within the school system that "drive" efficacy.

I am enclosing the instruments that will be used in this study. Your principals and teachers will be asked to complete a 10-point Likert Scale survey and several demographic questions. The survey should take about five minutes to complete. Many schools will have completed their participation upon return of the initial survey. However, after data has been analyzed, six schools will be asked to participate in a follow-up mail survey, Nature of School Leadership. Again, this instrument is a 32-point Likert Scale survey regarding leadership practices within the school and should take about ten minutes for completion. Finally, from these follow-up surveys, two teachers and the building principal will be invited to participate in the Final Phase Interview. The interview will consist of non-leading, open-ended questions that give participants an opportunity to

discuss their professional development, leadership and attitudes in more detail.

Your school district's participation in this study is completely voluntary, but encouraged. Should you choose to participate, all information will be kept confidential and no individual will be identifiable from the final report. Responses will be considered only in conjunction with other participants. Should any information obtained be published in a scholarly journal, confidentiality will be maintained.

**I would greatly appreciate your willingness to participate in this study.** If so, please complete the consent form by **April 9, 2004** and return it to me in the self-addressed, stamped envelope. I will forward study information and surveys to building principals upon receipt of your consent.

Respectfully,

Karen Heidi Sandzimier  
Principal Investigator  
726 Stauffer Avenue  
Scottsdale, PA 15683  
724.887.0689  
[heidis@zoominternet.net](mailto:heidis@zoominternet.net)

George R. Bieger, Ph.D.  
Faculty Sponsor  
Davis Hall, IUP  
Indiana, PA 15705  
724.357.2400  
[grbieger@iup.edu](mailto:grbieger@iup.edu)

Enclosures:      Consent form  
                    Sample teacher and principal letters  
                    Sample questionnaire  
                    Sample focus group questions  
                    Return envelope

Appendix F

VOLUNTARY CONSENT FORM

Voluntary Consent Form

I grant Karen Heidi Sandzimier, Doctoral Candidate at Indiana University of Pennsylvania, permission to distribute surveys to elementary principals and teachers, and to carry out principal/teacher interviews during the 2003-2004 school year as part of her dissertation research. I understand that participation is voluntary, we can withdraw at any time, and that data will not be linked to any specific teacher, school or school district. I have received an unsigned copy of this form to keep in my possession.

NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

SCHOOL DISTRICT \_\_\_\_\_

POSITION \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_ Please check here if you would like a complimentary copy of the study results.

Karen Heidi Sandzimier  
Principal Investigator  
726 Stauffer Avenue  
Scottsdale, PA 15683  
724.887.0689  
[heidis@zoominternet.net](mailto:heidis@zoominternet.net)

George R. Bieger, Ph.D.  
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Appendix G

COVER LETTER TO PRINCIPALS

February 2004

Dear Principal:

I am currently a fifth grade teacher, as well as a Doctoral Candidate at Indiana University of Pennsylvania. I am conducting a research study dealing with perceived teacher efficacy, and am asking for your help. Please consider having yourself and the teachers in your building participate in the study. The following information is provided in order to help you make an informed decision. I have mailed this information to you upon written consent from your Superintendent.

The purpose of this study is to gain information regarding how professional development experiences, leadership characteristics and overall teacher attitudes affect Pennsylvania rural teachers' self-efficacy. Your teachers, as well as yourself, will be asked to complete a 10-point Likert Scale survey and several demographic questions. The survey should take about five minutes to complete. Many schools will have completed their participation upon return of the initial survey. However, after data has been analyzed, six schools will be asked to participate in a follow-up mail survey, Nature of School Leadership. Again, this instrument is a 32-point Likert Scale survey regarding leadership practices within the school and should take about ten minutes to complete. Finally, from these follow-up surveys, two teachers and the building principal will be invited to participate in the Final Phase Interview. The interview will consist of non-leading, open-ended questions that give participants an opportunity to discuss their professional development, leadership and attitudes in more detail. Teachers will be interviewed separately from the principals. Interviews will be audio-taped for accuracy, however, no identifiable information will be recorded.

While it is known that there is a correlation between teacher self-efficacy and student achievement, the information gained in the study may help us to better understand specific school factors and characteristics within the school system that affect efficacy. Since the information gained in this study may be useful to your school district, a copy of the results will be mailed to your superintendent upon request.

Your participation in this study is completely voluntary, and will in no way affect your position within your school district. Should you choose to participate, all information will be kept confidential and no individual will be identifiable from the final report. Your responses will be considered only in conjunction with other participants. Should any information obtained be published in a scholarly journal, confidentiality will be protected.

**I would greatly appreciate your willingness to participate in this study.** If so, please complete the surveys by **April 23, 2004** and return them to me in the self-addressed, stamped envelope.

Respectfully,

Karen Heidi Sandzimier  
Doctoral Candidate  
726 Stauffer Avenue  
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Appendix H

COVER LETTER TO TEACHERS

April 2004

Dear Colleague:

I am currently a fifth grade teacher, as well as a Doctoral Candidate at Indiana University of Pennsylvania. I am conducting a research study regarding teachers' perceived self-efficacy and am asking for your help. Please consider participating in the study. The following information is provided in order to help you make an informed decision.

The purpose of this study is to gain information regarding how teachers' self-efficacy changes as a result of professional development experiences and leadership within the school. You will be asked to complete a 10-point Likert Scale survey and several demographic questions. The survey should take about five minutes to complete. Many schools will have completed their participation upon return of the initial survey. However, after data has been analyzed, several schools will be asked to complete a follow-up survey. Please note, that the cover page of the survey asks for your name. This is necessary so that I am able to assign a code number to your survey. After a master list is completed, I will remove your name from the survey and destroy it. **Your confidentiality will be protected.**

While it is known that there is a correlation between self-efficacy and achievement, the information gained in the study may help us to better understand the types of professional development experiences and principal characteristics that improve teachers' self-efficacy, ultimately improving student achievement.

Your participation in this study is completely voluntary, and will in no way affect your position within your school district. Should you choose to participate, all information will be kept confidential and no individual will be identifiable from the final report. Your responses will be considered only in conjunction with other participants. Should any information obtained be published in a scholarly journal, confidentiality will be protected.

**I would greatly appreciate your willingness to participate in this study.** Please complete the survey by **April 23, 2004**, and return it in the enclosed self-addressed, stamped envelope. Should you have any questions or concerns, please feel free to contact me. If you choose not to participate, please discard the survey. "Thank you!"

Respectfully,

Karen Heidi Sandzimier  
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Appendix I

TEACHER INTERVIEW QUESTIONS

### Teacher Interview Questions

Goal: To stimulate a conversation between teachers that allows them to talk and voice their perspectives.

Question 1: In what way does your perception of self-efficacy affect your teaching behaviors?

Question 2: How do you think your perceptions of self-efficacy influence your students' achievement?

Question 3: What two characteristics does your school leader exhibit that makes you feel more able to affect students' learning outcomes?  
(Your response may relate to the professional development experience or the idea of self-efficacy.)

Question 4: What does your school leader do to support teachers in their work?

Question 5: What characteristics of the school leader negatively affect your teaching?

Question 6: How difficult is it to contribute to, or shape, a teacher's self-efficacy belief once it is Developed?

Question 7: Briefly describe the school-wide professional development activities that you have participated in.

Question 8: How have professional development experiences affected you throughout your career?

Question 9: What three things throughout the professional development experience have most likely affected the way you approach your classroom instruction?

Chapter 10: What characteristics must be present in a quality Professional development experience?