This is to certify that the
dissertation entitled

TEACHING SELF-EFFICACY OF GENERAL AND SPECIAL EDUCATION PRESERVICE TEACHERS

presented by

Carrie Anna Courtad

has been accepted towards fulfillment
of the requirements for the

Ph.D. degree in Special Education

Major Professor's Signature

7-7-09

Date

TEACHING SELF-EFFICACY OF GENERAL AND SPECIAL EDUCATION PRESERVICE TEACHERS

By

Carrie Anna Courtad

A DISSERATION

Submitted to
Michigan State University
in partial fulfillment of the requirement
for the degree of

DOCTOR OF PHILOSOPHY

Special Education

2009

ABSTRACT

TEACHING SELF-EFFICACY OF GENERAL AND SPECIAL EDUCATION PRESERVICE TEACHERS

By

Carrie Anna Courtad

The benefits of higher teaching self-efficacy have been documented in a variety of studies (Armor et al., 1976; Gibson & Dembo, 1984; Henson, 2001; Hoy & Woolfolk, 1990; Simmons et al., 1998; Tschannen-Moran et al., 1998, 2001). Ross (1994) found robust correlations between teacher self-efficacy and use of effective teaching practices which, in turn, are beneficial for students with disabilities (Chester & Beaudin, 1996; Bender & Ukeje, 1989; Gibson & Dembo, 1984; Soodak & Podell, 1993). Studies (Bender & Ukase, 1989) have found a positive correlation between teacher use of effective instructional practices and high teaching efficacy. Teachers with high teaching self-efficacy are particularly effective with students who may not do well in general education classrooms, such as low-achieving students and students with disabilities. Teachers with high efficacy persist at the task of teaching, even when they encounter obstacles and are less likely to refer students to special education programs, and are more likely to accept responsibility for student learning (Soodak & Podell, 1994).

However the literature base is limited in the comparative studies between general education student teachers and special education student teachers (Pugach, 2005) especially in the area of teaching self-efficacy (Brownell & Pajares, 1999). Tschannen-Moran and Woolfolk Hoy (1998) proposed what they termed an "integrated model of teacher efficacy" (p. 227) that unites three theoretical frameworks with new conceptual

dimensions in the context and consideration of teacher tasks defining teaching efficacy as "the teacher's belief in his or her capability to organize and execute course of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). This study used Tschannen-Moran & Woolfolk Hoy's conceptual model and compared the teaching self-efficacy of two different groups of preservice teachers (n=73) as they completed 16 weeks of student teaching. A survey was administered 3 times through the semester and included the measurement of teaching self-efficacy by the Teaching Self-Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) and open ended questions at each survey wave.

Over the course of a semester, there was no statistically significant difference in the TSES sum scores between the interns preparing to be general educators and those preparing to be special educators on any of the three measurement waves. The means of teaching self-efficacy scores, as measured by the TSES, increased over the semester. Information from the open ended survey questions revealed that field instructors' feedback plays a critical for the student teachers self-efficacy judgments until the mid-semester when the feedback tends to come from student performance. Profiles of interns with the top and lowest teaching self-efficacy scores indicated that those student teachers in the lower group had a tendency to stay in the lower group for the whole semester, had higher GPAs, reported less teaching time and were enrolled in the general education preparation programs.

This is dedicated to my family:

My husband, Jim, this work could never have been completed without your inspiration support and encouragement, I am truly blessed to have you by my side, I love you.

To my amazing sons, J.C. and Jack, who have patiently waited while mommy worked and never doubted that this was what I was meant to do.

I hope I will inspire you as you have me, I love you.

My parents, Faith and John Wooden, who always taught me I could do whatever I put my mind to and always reminded me that just because my friends jump off a cliff doesn't mean I have to do the same.

ACKNOWLDGEMENTS

I would like to thank my advisor and chair Dr. Cynthia M. Okolo. Dr. Okolo provided me with guidance and assistance through my whole doctoral career. I was not always an easy student but due to her dedication, commitment, and extensive feedback multiple times, I produced this body of work. I thank her for her assistance. Additionally I would like to acknowledge:

- My committee members: Drs. Emily C. Bouck, Troy V. Mariage, Cheryl L. Rosaen, and Gary A. Troia for their support, suggestions and overall assistance during the dissertation process.
- The other professors with whom I have had the opportunity to learn and work and who have shaped me during my doctoral career especially Drs. Carol Sue Englert, Matthew K. Burns, Puyna Mishra, Michael Pressley, Susan Peters, Rand J. Spiro, Janine L. Certo, and Steve Weiland.
- The interns, instructors, field instructors and cooperating teachers for their participation and access especially, Edna Felmlee, Cindy Covell, Gina Garner, Rebecca Norman and Shannon Sweeny.
- My colleagues, who have pushed me to grow, supported me through program milestones and have encouraged me through your friendship. I look forward to collaborating with you in future projects.
- My friends and family who supported me with their continued friendship, understanding and aiding in life's practical situations.

TABLE OF CONTENTS

LIST OF TABLES ix

LIST OF FIGURES x

CHAPTER ONE INTRODUCTION 1
Statement of Purpose 5
Research Questions 5

CHAPTER TWO REVIEW OF THE LITERATURE 7
Social Learning Theory 8
Attribution Theory 10
Social Cognitive Theory 11
Integrated Framework for Teacher Self-Efficacy 17
Frameworks for Previous Teacher Self-Efficacy Research 19
Studies Using Locus of Control 20
Combined Frameworks of Attribution and LRC 22
Self-Efficacy Studies 23
Benefits of High Teacher Self-Efficacy 26
Malleability of Preservice Teacher Self-Efficacy 32
Comparison Studies 34

CHAPTER THREE METHOD 39
Participants 39
Procedures 41
Instrumentation 42
Data Analysis 50
Teachers' Self-Efficacy Scale 50
Wave analysis 54
Groups of High TSES Scores and Low TSES Scores 54
Information Interns Used for Judgments 54

CHAPTER FOUR RESULTS 62
Differences between Special Education and General Education 62
Changes of Teaching Self-Efficacy 64
Factors Influencing Teaching Self-Efficacy 64
Bias of Non-responders 65
Groups of High TSES Scores and Low TSES Scores 67
Averages and Placement within High and Low groups 67
Grade Point and Credit Hours 70
Difficulties and effort in lesson presentation and planning 75
Agreement 77

CHAPTER FIVE DISCUSSION 78
Differences in Preparation Groups 79

Changes in Teaching Self-Efficacy 80
Factors Influencing Teaching Self-efficacy 82
Profiles of those with High and Low Teaching Efficacy 83
Information Interns Considered for Perceptions of Success 89
Agreement with Supervising Personnel 93
Effort and Difficulty in Lesson Planning 94

Appendix A 100

Appendix B 105

Appendix C 111

References 113

LIST OF TABLES

Table 3.1. Participant Response Rates.....47

Table 3.2. Interns' GPA and Class Composition.....49

Table 3.3. School Classification of Placement.....49

Table 3.4. TSES scores of SPED Interns by Placement.....51

Table 3.5. ANOVA for SPED Interns.....52

Table 4.1. Sum Means and Standard Deviations of All Interns.....63

Table 4.2. Pairwise Comparisons Means of Sum Scores.....64

Table 4.3. Multiple Regression Chart.....65

Table 4.4. Comparative Means of Low and High Groups.....68

LIST OF FIGURES

Figure 2.1.Bandura's conception reciprocal determinism.....12

Figure 2.2. Tshcannen-Moran et al.'s model of the cyclical nature of teaching self-efficacy.....18

Figure 4.1. Percentage of interns (rounded) in low and high group at each wave.....69

Figure 4.2. GPA by high and low groups at each wave.....70

Figure 4.3. Credit hours by high and low groups at each wave.....71

Figure 4.4. Reported teaching time at each wave of high and low groups.....72

Figure 4.5. Perceived success of observation.....73

Figure 4.6. Information Interns' used to make judgments about the performance.....74

Table 4.7. Interns' perception of difficulty in lesson presentation.....76

Figure 4.8. Perception of effort in preparing lesson.....76

CHAPTER ONE

INTRODUCTION

"Teaching was the hardest work I had ever done, and it remains the hardest work I have done to date." Ann Richards, 1992

Ann Richards was the Governor of Texas—a difficult job indeed—when she made this statement. Governor Richards was a teacher for only a year in 1956, when classrooms were much less diverse then they are now (Lewis, 2000). When preservice teachers graduate today, they will encounter even more situations that increase the complexity of teaching, including the wide diversity of learners in their class. As they work to achieve professional certification, they will find that the number of children with disabilities in general education classrooms has increased from previous years (U.S. Department of Education, 2004). On average, students with disabilities currently receive their education in the general education classroom approximately 80% of the time that they are in school (U.S. Department of Education).

While attempting to fulfill the needs of diverse learners, new teachers will also face the stringent accountability policies requiring their students to attain minimum test scores, which sometimes serve as teachers' only form of performance feedback. As they struggle to serve their students, they will face the "conflict between the reality of their role as teachers and the expectation that others place upon them in that role" (Brown & Nagel, 2004, p. 36). Current laws such as the No Child Left Behind Act (NCLB; 2002) and the Individuals with Disabilities Education Improvement Act (IDEA; 2004) add to this challenge by imposing requirements that affect not only special educators and but also general educators and all students.

As they work within the complexities of teaching, those who feel capable of performing the tasks of teaching usually maintain more effective teaching behaviors. General education teachers who perceive that their preparation program was strong and consider themselves prepared feel better equipped to work with students with special needs (Brownell & Pajares, 1999), are more amenable to including students with disabilities in their classrooms, and have higher *teaching self-efficacy* (Chester & Beaudin,1996). Teaching self-efficacy is the belief that one has the prerequisites to have an effect on student outcomes (Bandura, 1977; Brownell & Pajares, 1999; Buell, 1999; Dembo & Gibson, 1985; Leyser, 2002). While there are many relational studies indicating high self-efficacious teachers usually employ positive teaching behaviors, teaching self-efficacy is not without it is critics. Over the years there has been debate regarding the construct of self-efficacy, such as, how to measure teaching self-efficacy, and which factors are encompassed in the concept of teaching self-efficacy (Tshannen-Moran, Woolfolk, & Hoy, 1998). Chapter 2 provides an in-depth discussion of these issues.

Gibson and Dembo (1984) found that teachers who have high teaching self-efficacy engage in instructional practices beneficial to students such as giving support and feedback to students and using flexible grouping (Baker, Gersten, Haager, & Dingle, 2005; Stanovich & Jordan, 1998). Teachers with high self-efficacy tend to persist in aiding learners who struggle to keep pace with the general class whereas teachers with low self-efficacy tend to give up on these students (Bender & Ukeje, 1989; Gibson & Dembo). Pajares (1996) noted that teachers who have low self-efficacy are more prone to

depression, have a narrow perspective on problem solving, and believe that their situation is more challenging than do teachers with higher self-efficacy all of which foster stress.

High teaching self-efficacy is not only positively related to good instructional behaviors by teachers but also higher student achievement (Ashton & Webb, 1986). Students taught by teachers with high teaching self-efficacy tend to perform better in academic subjects including math (Ashton & Webb) and reading (Armour et al., 1976). Student taught by teachers with high teaching self-efficacy tend to have a stronger belief in their success (Midgley, Feldlaufer, & Eccles1989), increased motivation (Ashton & Webb, 1986), and increased self-direction (Rose & Medway, 1981).

Teachers with high teaching self-efficacy are particularly effective with students who may not do well in general education classrooms, such as low-achieving students and students with disabilities. Teachers with high efficacy persist at the task of teaching, even when they encounter obstacles. Low-achieving students are more likely to believe in their own abilities when taught by a teacher with high teaching self-efficacy (Midgley et al, 1989). Teachers with high teaching self-efficacy appear to provide more individual instruction for students who are unable to learn at the pace of the entire class (Gibson & Dembo, 1984), are less likely to refer students to special education programs, and are more likely to accept responsibility for student learning (Soodak & Podell, 1994).

Teaching Self-Efficacy of Preservice Teachers

The aforementioned studies explored the teaching self-efficacy of practicing teachers, or those that have more than three years experience in the classroom, often referred to as in-service teachers. When one considers the teaching efficacy of preservice teachers, those who have not yet had classroom experience, it appears that the teaching

self-efficacy does not remain constant. The self-efficacy of preservice and novice teachers (less than three years) has been found more malleable than that of in-service teachers and experienced teachers (Henson, 2001; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998; Woolfolk & Hoy, 1990). In one study, Hoy and Woolfolk (1990) found that preservice teachers began their student teaching semester with a high and "unrealistic" sense of self-efficacy. In their study, Chester and Beaudin (1996) found that new teachers who felt a high degree of congeniality within the school culture and personal influence on the school environment experienced increases in self-efficacy from the fall to spring semester.

Teaching Self-Efficacy of Special Educators

Research on the self-efficacy of preservice special educators has included studies of teaching self-efficacy when working with a specific type of student, such as limited English proficiency (LEP) students (Paneque & Barbetta, 2006) or special education students in rural schools (Brown, 2003). Few studies have compared the self-efficacy of preservice general educators to preservice special educators (Pugach, 2007). The results of existing studies are difficult to generalize to a larger population of preservice special educators because of their small sample sizes. For example, Portman and Pontius (2000) conducted research on only a small sample of special education preservice teachers (n = 6) but on a large sample of general education preservice teachers (n = 56). Other studies are difficult to generalize to the American educational system because they had been conducted outside of the United States (Lyser, 2002).

Pugach (2005) discussed the dilemmas created by a lack of research on the preparation of general educators working with students with disabilities and a shortage of

studies comparing preservice general educators to preservice special educators. This investigation will attempt to fill the gaps in the research identified Brownell and Pajares (1999), who suggested that there is a great need to identify differences in special education preservice preparation and general education preservice preparation and the "relationship of various program elements to general education teachers' efficacy beliefs" (p. 7).

Statement of Purpose

This study compared the teaching self-efficacy of two different groups of preservice teachers (hereafter referred to as *interns*) as they completed 16 weeks of student teaching. Interns from two different programs, the general education and special education, were the target population. This study examined the teaching self-efficacy of the interns, differences in teaching self-efficacy between the two groups of interns, and changes in the teaching self-efficacy of the interns during a 16-week period. It also examined other factors that influence teaching self-efficacy, such as feedback received from supervision personnel, the demographics of the classroom, the school population, and the intern.

Research Questions

The following research questions guided the study:

1. What is the teaching self-efficacy of the elementary interns in general education and special education?
    a. In what way does the teaching self-efficacy differ between general education interns and special education interns?
2. How does the teaching self-efficacy of interns change over a semester?

a. How does the teaching self-efficacy change between general education interns?

b. How does the teaching self-efficacy change among special education interns?

c. Is there a difference in the change across teaching self-efficacy of these two groups?

3. How do certain situational factors influence the judgment of the interns' self efficacy? Consideration of these factors included; interns grade point average, class size in the intern's placement classroom, the number of students with disabilities in a class, the time of administration of the measurement scale in the semester, they classification of the school, and the amount of reported teaching time by the intern.

Four additional chapters follow this document. Chapter 2, which provides a review of the literature that helped guide the development of the study, describes the theoretical framework of self-efficacy, teaching self-efficacy, and preservice teacher self-efficacy. Chapter 3 describes the research design of the study, including the participants, data sources, and analytical methods for examining the data. Chapter 4 includes the results of the study and Chapter 5 contains the discussion and implications of the study.

CHAPTER TWO

REVIEW OF THE LITERATURE

Bandura (1997) defined *self-efficacy* as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (p. 3). *Teaching self-efficacy* refers to the extent to which teachers believe their actions will have a positive effect on student outcomes. As a construct, self-efficacy, which has its roots in social learning, social cognitive theories and attribution theory, has been studied for approximately 3 decades. Self-efficacy scholars generally use one of three conceptual frameworks when situating self-efficacy (Knoblauch, & Hoy, 2008; Woolfolk & Hoy, 1990). This chapter discusses the history of social learning and social cognitive theories as they relate to self-efficacy and the importance of examining the impact of teacher self-efficacy on teaching before proposing a study that will further investigate teaching self-efficacy.

Conceptually Situating Self-efficacy

Self-efficacy is often difficult to separate from other belief constructs, such as motivation, attribution of success and failure, expectancy value, and goal setting (Pajares, 1996; Tschannen-Moran, Hoy, & Hoy, 1998). Because of this difficulty, there is an overlap between self-efficacy and other theories of human attainment and motivation. However, this should not imply that self-efficacy should be neglected as an area of study because "self-efficacy beliefs are strong determinants and predictors of the level of accomplishment that individuals finally attain" (Pajares, p. 545). Pajares explained that although individual self-perception of competence, motivation, and behavior are core components of various expectancy theories, self-efficacy is different from other

conceptual frameworks because it is more precisely defined and related to task situations, and therefore more specific than generic self-perception and motivation.

A plethora of studies has investigated self-efficacy in teaching (Armor et al., 1976; Gibson & Dembo, 1984; Henson, 2001; Hoy & Woolfolk, 1990; Simmons et al., 1998; Tschannen-Moran et al., 1998, 2001). Much of the criticism surrounding the construct of self-efficacy has arisen from researchers neglecting to situate self-efficacy generally or teacher self-efficacy specifically within a proper theoretical framework (Hoy & Woolfolk; Pajares, 1996; Tschannen-Moran et al., 1998). For this reason, the following section discusses three of the most common theoretical frameworks, social learning theory, attribution theory and social cognitive theory and the conceptual framework that will serve as the foundation for this investigation.

Social Learning Theory

Social learning theory emerged "out of the behaviorist tradition from which it borrows a central premise, the principle that human action is a response to environmental stimuli" (Howell, 2005, p. 162). Social learning theory attempts to maintain the scientific rigor from which behaviorism benefited as it examines the human behaviors that behaviorism has traditionally ignored, such as individual internal thought (Pajares & Schunk, 2002). In his seminal *Social Learning and Clinical Psychology*, Rotter (1954) explained that social learning theory assumes that the study of personality must focus upon the study of the environment and behavior. Rotter's assumption was backed by Heider (1958) in his equally influential *The Psychology of Interpersonal Relations*. These social learning theorists asserted that the study of individual internal thought was essential to the understanding of motivation and its relationship to success and failure.

Their continued research into the conceptual framework of social learning theory led them to develop the *locus of control theory* and *attribution theory.*

Locus of Control

Ross (1992) traced the concept of *teacher self-efficacy* back to Rotter's (1954) locus of control theory, from which it developed. Rotter (1990) explained that according to locus of control theory, sometimes referred to as *locus of control of reinforcement* (LCR) theory,

> the reinforcement or outcome of behavior is contingent on [a person's] own behavior or personal characteristics versus the degree to which a person expects that the reinforcement or outcome is a function of chance, luck, or fate or under the control of others or is unpredictable. (p. 489)

The foundation of LCR theory is that behavior is reinforced through contingencies that lead individuals to maintain beliefs about what causes the reinforcement of behavior. In turn, these contingencies develop individual belief and shape the attitude that the individual chooses to adopt.

Rotter incorporated aspects of *expectancy-value theory*, and argued that the strength of motivation is determined by the value of the reinforcement one receives and the expectancy of achieving a certain goal, into the framework of LCR theory (Weiner, 1990). Rotter proposed that there is a general expectancy of control of reinforcement based upon how individuals attribute their success or failure. These attributions could be termed *internal,* as are attributions to individual effort or ability, or *external*, such as are attributions to environmental factors (Ross, 1994). As regards teachers, LCR theory

explains how teachers attribute the success and failure of their performance and that of their student's performance.

Attribution Theory

Attribution theory's roots are social psychology and attempts to explain social perception, phenomenal causality, and stresses the interaction of perceptual and cognitive processes in attribution (Weary, Stanley, & Harvey, 1989). An attribution is an inference about why an event occurred or about a person's disposition or other psychological states (Weary et al., 1989, p. 3). However, there is no monolithic philosophy or body of work in attribution theory that ties the work together (Weary et al., 1989) and therefore makes it difficult to situate the theory neatly into a larger framework of *social learning theory* or *social cognitive theory* but still has a visible part in self-efficacy studies.

Influenced by Rotter and Heider, Weiner's view of (1985, 1990) attribution theory, particularly his notion that individuals emphasize other properties of causality in addition to locus when explaining failure or success. Weiner expanded Rotter's work to identify three dimensions of attribution theory: *locus of causality, stability,* and *controllability*. Locus of causality is similar to LCR in that it identifies whether success or failure is attributed to factors internal or external to the self (Weiner, 1990). Stability describes how internal and external causal factors, such as mood and fatigue, can change from moment to moment. Controllability describes how attributions are impacted by the perception that outcomes are within individual control, such as the effort put forth to accomplish a task, or not within individual control, such as aptitude.

Weiner's early work in attribution theory (1985, 1990) posited that four factors influence motivation: the ability of the learner, the difficulty of the task, the effort the

learner is willing to invest in the task, and luck. Each of these factors is viewed in conjunction with the three dimensions of attribution of success or failure. Ability is considered an internal, stable factor over which the learner does not always have control. Task difficulty is considered an external and stable factor beyond the control of the learner whereas effort, an internal factor, and luck, an external factor, are both unstable. Attribution theory asserts that individuals have great control over effort but very little control over luck and that individuals are highly likely to make attributions in such a way that allows them to maintain a positive self-image.

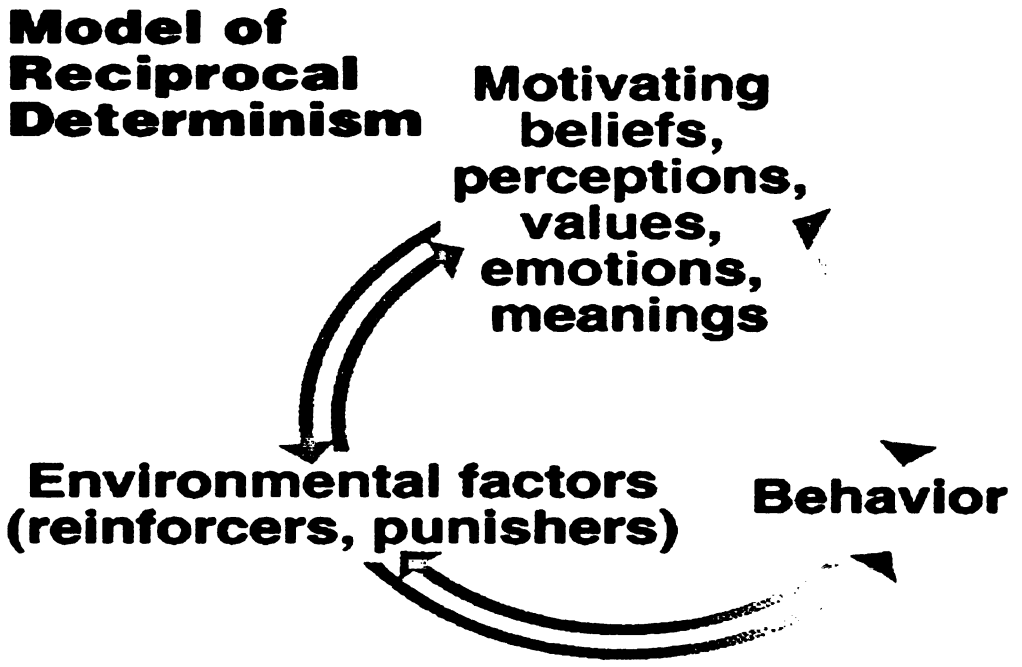
Students who are perceived as having expended effort are rewarded more by teachers when they succeed and punished less when they fail than are students perceived as having expended little effort (Weiner, 1992). Individual perceptions and attributions of success and/or failure determine the amount of effort the individual applies in the future. Weiner (1990) speculated that a motivation sequence is activated after an individual interprets an outcome as a success or failure whereby the individual begins a causal search to determine why it had occurred. Various conditions and antecedents aid the individual in interpreting the causal attributions.

Social Cognitive Theory

The third conceptual framework in which to situate self-efficacy is *social cognitive theory*. In studies of self-efficacy, this conceptual framework is most commonly used. Bandura (1989) developed *social cognitive theory* to further address and explain human thought and motivation. Bandura was not satisfied with social learning theory because it regarded human behavior as guided by one-sided determinism, implying human cognition did not affect behavior. Bandura (1997) explained that *agency*, a trait

that only humans possess, induces individuals to make decisions based upon their beliefs about their abilities and examine the outcomes of their efforts to determine what they will attend to or what course of action they will pursue. His framework consists of a triadic model of *reciprocal determinism* that Pajares (1996) described as consisting of "(a) personal factors in the form of cognition, affect, and biological events; (b) behavior; and (c) environmental influences create interactions that result in a triadic reciprocally" (p. 544).

Figure 2.1. Bandura's conception of reciprocal determinism



From *Longman's Visuals for Learning.*

Bandura (1997) explained that reciprocal determinism does not imply that all factors or points are of equal strength but rather that their influence varies based upon the circumstances. As a means of explaining the complexity of and motivations behind

human behavior, reciprocal determinism was the basis for Bandura's development of the concept of self-efficacy.

Self-efficacy beliefs determine how individuals feel, think, motivate themselves, and behave (Pajares, 1997). Bandura's (1997) conception of *teaching self-efficacy*, which he defined as the judgment of one's ability to complete future actions necessary to the task of teaching, is based upon his general conception of self-efficacy. Specifically, he described teaching self-efficacy as a teacher's belief that he or she has the capacity to organize and execute the course of action required to produce student learning.

Sources of Self-Efficacy

Bandura (1986) proposed that self-efficacy is informed through four sources: *mastery experiences, vicarious experiences and modeling, physiological and emotional arousal,* and *social persuasion.* Mastery experiences, which result from successfully performing tasks similar to the task in question, are indicators of the capacity to complete the task. The perception that similar performances or experiences had been successful in the past increases efficacy beliefs, and is therefore the most powerful source informing self-efficacy (Bandura, 1997). However, not all mastery experiences encourage self-efficacy, especially if the individual perceives the performance as a failure, only achieves success late in the experience or with much external assistance, or perceives the task as unimportant (Tschannen-Moran et al., 1998). For teachers, acts of teaching serve as mastery experiences. As teachers gain experience, they develop beliefs about their ability to organize and complete teaching tasks so that their students can learn.

Vicarious experiences are the experiences gained by watching another person who would be modeling the behavior. Vicarious experience informs self-efficacy by

communicating capability through viewing others or comparing others to oneself (Bandura, 1986). Vicarious experiences include such events as watching other teachers teach, either as a student in the classroom, or viewing teachers in college coursework, or as comparing oneself to other teachers (Tshannen-Moran et al., 1998). Vicarious experiences increase self-efficacy as a person views someone successful at given task and then compares himself or herself to that person. Vicarious experiences have a more powerful impact when individuals observe others who are similar to them modeling an action or behavior (Bandura, 1997).

Physiological and emotional arousal result in physical symptoms that inform self-efficacy. Specifically, the manner in which individuals interpret the physical signs of stress such as sweaty palms or nausea is related to self-efficacy; those who feel that these physical signs are not associated with ability possess high self-efficacy (Bandura, 1986). When these sources are positively experienced in conjunction with a mastery experience, they strengthen the impact of the experience. The feeling of "butterflies" in the stomach can be either positive or negative, depending upon the circumstances and the individual's history and overall arousal (Bandura, 1997).

Social persuasion is a source of self-efficacy in that others may be able to convince an individual that he or she is competent to complete a task. Although possibly powerful, it is not a consistent means of increasing self-efficacy, especially if the feedback provided is not realistic (Bandura, 1986). If the feedback in this source is negative or unrealistic, it will decrease self-efficacy. It is easier to decrease self-efficacy using this source than use it to achieve lasting increases in self-efficacy. For a new

teacher, social persuasion often takes the form of supervisors or professors conveying their judgment of the new teacher's ability.

Interpretation of the Sources through Processes

The above sources of self-efficacy are not directly transformed into judgments of competence. Individuals interpret the results of events, and these interpretations provide the information on which judgments are based. The types of information people attend to and use to make efficacy judgments, and the rules they employ for weighting and integrating them, form the basis for such interpretations (Bandura, 1994). The four types of processes for the interpretations that govern Bandura's (1994) self-efficacy theory are: *cognitive, motivational, affective, and selective processes*. Cognitive processes, defined as thoughts that can enhance or undermine self-efficacy, are usually embodied in actions such as goal setting or conceptions such as anticipatory performance. Specifically, cognitive processes are those internal actions by which individuals gain and organize the use of information. In the context of teaching, Tshannen-Moran et al. (1998) explained, "Cognitive processing determines how the sources of information will be weighed and how they will influence the analysis of teaching task and personal teaching competence" (p. 230). Individuals' beliefs in their capabilities influences their goal setting; the stronger their perceived self-efficacy, the higher the goals they set for themselves and the firmer their commitment to their goals (Bandura, 1994). This relationship suggests that teachers with higher self-efficacy set higher goals for themselves and their students and persist at these goals, even when confronted with adversity or initial failure.

Motivational processes address self-motivation and the regulators of behavior. Motivation, which is the result of forces that activate and direct behavior, is reflected in

the choice of course of action and the intensity and persistence of effort (Bandura, 1997). Motivation links self-efficacy theory to three other cognitive theories: *attribution theory, expectancy value theory,* and *goal theory* (Bandura, 1994). Motivation is linked to attribution theory because both describe how individuals assign failure or success through such factors as effort or ability (Ross, 1994). Individuals with higher self-efficacy will attribute their successes to insufficient effort as opposed to low ability. Expectancy value is linked to motivation because both describe how individual beliefs influence a desired outcome. Goal theory is linked to motivation because it asserts that motivation is related to the outcome of present as opposed to future goals. Therefore, individuals adjust the goal according to their performance.

Under Bandura's motivation process, attribution theory provides information that influences the goals that individuals set, the amount of effort they dedicate to those goals, and how long they persist in achieving those goals in the face of difficulties (Bandura, 1994). Individuals with lower self-efficacy either readjust or give up their goal when they encounter failure. The motivational process suggests that teachers with high self-efficacy are more willing to take responsibility for student achievement; they believe that specific teaching strategies will produce the desired outcome and work to achieve small, attainable goals (Ross, 1994).

Affective processes regulate emotional states and produce emotional reactions. As they relate to efficacy, they are, along with the aforementioned motivation process, an individual's belief of how well he or she can cope with stress and depression arising from difficult situations (Bandura, 1994). These processes, which relate to stress and the ability

to cope with that stress, are based upon the assumption that the higher a teacher's self-efficacy, the stronger his or her belief that he or she can cope with stress.

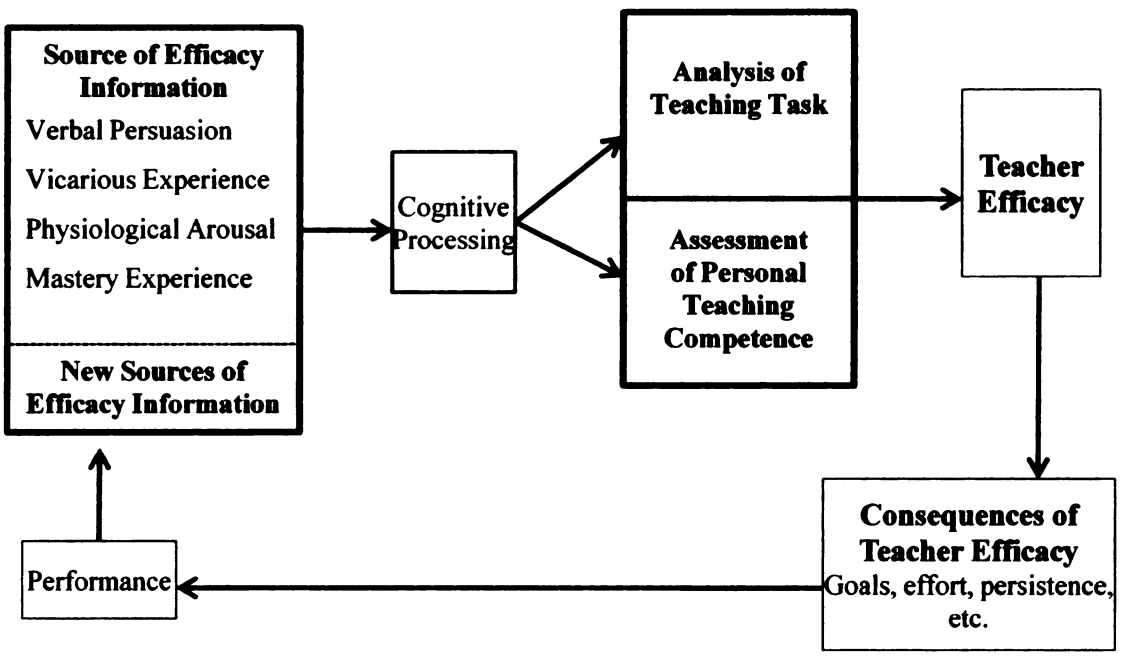
Selective processes is the theory that one makes selections in which they feel they have the capability to achieve. The conception of selective processes is based upon the assumption that those who have high self-efficacy in a particular area are more likely to seek challenges or experiences in that area than in areas in which they do not have high self-efficacy. Just as perceptions of self-efficacy result in selective processes that shape the course of one's life by influencing the activities and environments one chooses, perceptions of self-efficacy result in selective processes that determine the subject or grade that teachers choose to teach (Bandura, 1994, Tschannen-Moran et al., 1998).

Integrated Framework for Teacher Self-Efficacy

Tschannen-Moran et al. (1998) proposed what they termed an "integrated model of teacher efficacy" (p. 227) that unites the theoretical frameworks previously discussed with new conceptual dimensions in the context and consideration of teacher tasks. Their work led them to further define teaching efficacy as "the teacher's belief in his or her capability to organize and execute course of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). The integrated model posits that cognitive processes strongly influence how teachers attend to the information they receive through the four sources of self-efficacy and that how they view sources of efficacy depends upon the types of attributions they make about their performance. In addition, when judging their personal competence of ability, they regard how it relates to a particular task.

Tschannen-Moran et al. (1998) described teaching efficacy as cyclical in nature and likely to heavily influence teachers' perceptions of their ability to achieve future outcomes. Teachers' perception of their performance creates a new mastery experience that provides new information that contributes to their analysis of the teaching task and their self-perception of teaching competence, influencing how they attribute and attend to the mastery experience (see Figure 2.2).

Figure 2.2. Tschannen-Moran et al.'s model of the cyclical nature of teaching self-efficacy.



From Teacher Efficacy: Its Meaning and Measure by Tschannen-Moran et al., 1998, p. 228.

The four sources of efficacy and the manner in which teachers interprets the performances all complete a picture of teachers' self-efficacy. Over time, perceptions of competency stabilize into a set of past and future efficacy beliefs. For the purpose of this

study, teacher self-efficacy will be situated within the framework of the integrated model of teacher self-efficacy developed by Tschannen-Moran et al.

This model brings together the aforementioned theories into one conceptual framework for viewing teachers' self-efficacy. This model includes the major influences of the sources of self-efficacy posed by Bandura (1986, 1997). This model addresses the specificity of teaching context and tasks unlike previous models and addresses the idea that one must assess their strengths and weakness as related to the task. The interpretations of the sources of self-efficacy are also addressed in this model through cognitive processes. Cognitive processes are a regulatory process in which "individuals attend to factors that might have been overlooked or to weight the importance of factors differently" (Tschannen-Moran et al., 1998, p. 231). This model allows teachers to reflect on their teaching experience and make attributions to their success or failure through the self-perception of teaching competence "while the judgment concerning the resources and constraints in a particular teaching context is the analysis of the teaching task" (Tschannen-Moran et al., 1998, p. 231).

Frameworks for Previous Teacher Self-Efficacy Research

Of the aforementioned theoretical frameworks of teacher self-efficacy, the majority of researchers (Bender & Ukeje, 1989; Brownell, & Pajares, 1999; Gibson & Dembo, 1984; Hoy & Woolfolk, 1990) use Bandura's (1977) construct of self-efficacy as the foundation of their research (Ross, 1994). However, several prominent researchers work within an attribution or locus of control framework for understanding teacher self-efficacy. Guskey (1981; Guskey & Passaro, 1994) equated teacher self-efficacy with a willingness to take responsibility for student success and failure. Other researchers have

attempted to incorporate the two theoretical frameworks in their research on teacher self-efficacy. The majority of teacher self-efficacy studies are measures with a self-administered questionnaire and are mostly correlational thus proving to be difficult in assuring the direction of influence of teacher self-efficacy (Ross, 1994).

Studies Using Locus of Control

In 1976, the RAND Corporation commissioned a study of a reading program for minority elementary schools (n=20) in Los Angeles (Armor et al., 1976). This study, which asked teachers (n=83) two questions regarding their perceptions of the influence that they had on student motivation and learning, was the first attempt to measure teaching efficacy and evaluate teacher perceptions of internal or external influences on students (Ross, 1994; Tschannen-Moran et al., 2001). Assuming that student motivation and achievement are significant reinforcements for teacher behavior, the researchers of the RAND study attempted to determine whether teachers' control of reinforcement lay within themselves or the environment (Tschannen-Moran et al., 1998). By summing the scores of the two questions, the researchers obtained a participant teaching efficacy score that they found to be a significant positive predictor of reading achievement for minority students ($\alpha = .81$ $t = 2.54$ $p. = .05$) and a strong predictor of the continuation of instructional programs after formal funding had been depleted (Ashton, Olejnik, Crocker, & McAuliffe, 1982).

The first question in the RAND study, which assessed external factors in motivation, asked the teachers whether they agreed or disagreed with the statement, "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." The

second question, which measured the teachers' belief in their ability to overcome situations that make it difficult for students to learn (i.e., their internal motivation), asked teachers to agree or disagree with the statement, "If I try really hard I can get through to even the most difficult or unmotivated students." These items were based on Rotter's locus of control theory (Ashton et al., 1982; Tshcannen-Moran et al., 2001).

Studies Situated in Attribution Theory

In the early 1980s, several researchers (Guskey 1982, 1988; Rose & Medway, 1981) used attribution as a framework to conceptualize teacher efficacy as teachers' belief that they have the capacity to affect student performance (Guskey, 1987). Guskey (1981) developed the *responsibility for student achievement* (RSA) scale based on the four attributions for success or failure in Weiner's (1979) attribution theory: *ability, effort, task,* and *luck.* The RSA was administered to 215 elementary and secondary school teachers. Two common factorial model accounts for 60.9% of the variance in the RSA item responses. Guskey concluded that the RSA was assessing two different factors and closely related to distinction between responsibility for student success (R+) and responsibility for student failure (R-) (1981). The RSA score indicated a strong positive correlation (an r between .72 and .81) between overall responsibility and positive responsibility but a much weaker positive correlation (r = .20) between student failure and efficacy. These results suggest that positive student performance has a stronger impact on a teachers' efficacy than negative student performance, especially at the group level as opposed to a single student. Teachers were also more confident in their ability to achieve positive outcomes then prevent negatives outcomes.

Combined Frameworks of Attribution and LRC

Rose and Medway (1981) situated their study of the manner by which teachers' casual perceptions influence the achievement of their students in both Rotter's LCR theory and attribution theory. To measure *teacher locus of control* (TLC), the authors developed the *TLC scale*, which used forced choice items to assess teachers' perception of control in the classroom. The TLC contained 14 items that described negative or failure situations and 14 items that described positive or success situations. The TLC generated separate scores for internal responsibility for student success (*I*+) and failure (*I*-).

Rose and Medway (1981) found that teachers' use of discipline, accountability in holding students responsible for performance, and engagement in instructional activity was correlated with TLC. They administered the TLC and Rotter's I-E scale, which measures the individual differences in causal perceptions, to 89 female fourth grade teachers from a 50,000-student school district. Based on the TLC scale, they found that highly internal teachers for student success gave fewer disciplinary commands as observed by independent raters during four separation occasions during a math class ($r = -.68, p < .02$), had a lower rate of inappropriate student behavior ($r = -.49, p < .09$), and maintained classrooms with a higher rate of student self-direction ($r = .49, p < .01$). Their findings led the authors to conclude that teachers who scored high in internal responsibility for student success used better educational practices than did teachers scoring high in external responsibility for student success.

In a similar study, Greenwood, Olejnik, and Parkay (1990) surveyed 321 teachers in 18 schools to examine the relationship between self-efficacy and locus of control. In

addition to administering the TLC scale, the two teaching-efficacy items on the RAND study were also administered. The authors categorized teacher self-efficacy beliefs into one of four patterns: I can motivate students and other teachers can motivate students, I cannot motivate students and other teachers cannot motivate students, other teachers can motivate students but I cannot motivate students, or I can motivate students but other teachers cannot motivate students. Their results indicated that teachers who believed that they could motivate students and other teachers can motivate students scored higher in TLC than teachers who believed that they could not motivate nor could other teacher motivate ($D^2 = .518$, $F = 9.314$, $p < .0002$). The authors concluded that teachers with high teaching efficacy tended to score higher in internal locus of control, indicating that teachers who felt a high sense of efficacy also felt a strong sense of internal locus of control toward the act of teaching.

Self-Efficacy Studies

Researchers who have based the conceptual underpinning of their studies upon Bandura's theory have identified two types of teaching self-efficacy (Ross, 1994). Although research has consistently identified these two factors in the construct of teaching self-efficacy, researchers have disagreed over their meaning (Tschannen-Moran et al., 1998). The majority of teacher efficacy studies conducted over the past 3 decades have used Gibson and Dembo's (1984) *teacher efficacy scale* (TES), which is based on Bandura's construct of self-efficacy (Henson, Krogan & Vacha-Haas, 2001; Ross, 1994; Woolfolk & Hoy, 1990). The TES has 2 subscales, *personal teaching efficacy* (PTE) and *general teaching efficacy* (GTE). Although widely accepted as a research tool, there has been some criticism of this scale.

Personal teaching efficacy (PTE) is a teacher's belief in his or her personal ability to overcome factors that make student learning difficult. On the other hand, *general teaching efficacy* (GTE) is a teacher's overall belief in the power of teaching in general; in other words, his or her belief that teachers in general have an impact on student achievement in spite of external influences such as motivation and home environment (Dembo & Gibson, 1985; Henson et al., 2001; Tschannen-Moran et al., 1998, 2001; Woolfolk & Hoy, 1990).

Researchers agree that PTE is closely related to Bandura's theory of self-efficacy because it addresses the manner by which an individual's feeling of competence as a teacher is conveyed in his or her belief that he or she will be able to perform actions that lead to student learning (Tschannen-Moran et al., 2001). However, researchers disagree over the conceptual underpinnings of GTE. Whereas Emmer and Hickman (1990) speculated that GTE is actually a construct addressing external factors, others (Ashton & Webb, 1986; Gibson & Dembo, 1984; Riggs & Enochs, 1990; Soodak & Podell, 1996) categorized GTE as an *outcome expectancy*, a belief that an action will lead to learning. In personal communication with Bandura, Woolfolk and Hoy (1990) disagreed with the translation of the GTE as outcome expectancy construct (1990). Bandura argued that "outcome expectation is a judgment of the likely consequence of an action, whereas efficacy expectation is the judgment about ability to perform an action" (as cited in Woolfolk & Hoy, 1990, p. 82).

Bandura (1977) suggested that because *outcome expectation* and *efficacy expectation* are both influenced by motivation, the two expectations are interrelated but not the same. Bandura's theory of self-efficacy posits that efficacy expectation concerns

the ability to organize the actions necessary to accomplish a specific task at a desired level whereas outcome expectation concerns the consequences of accomplishing a given task at the desired level (Tschannen-Moran et al., 1998). Gibson and Dembo (1984) agreed that outcome and efficacy are different; although individuals may believe that certain behaviors will produce certain outcomes in general, they may not initiate those behaviors or persevere if they initiate those behaviors if they do not believe that they can produce those behaviors.

Gibson and Dembo (1984) conducted a three-phase study in which they measured teacher self-efficacy using a self-created scale; compared their measurements to other measurements of self-efficacy; and conducted classroom observations to review the behaviors of teachers in terms of academic focus, feedback, and persistence in failure situations. After surveying 208 teachers using their scale, the authors identified 2 factors that they labeled *personal teaching efficacy* (PTE) and *general teaching efficacy* (GTE). They found an alpha coefficient of .78 for PTE, an alpha coefficient of .75 for GTE, and a total coefficient of .79 for all 16 items. In their discussion of the study, they asserted that the two factors are applicable to Bandura's constructs of self-efficacy.

During the second phase of their study, Gibson and Dembo (1984) administered an open-ended and close-ended assessment of teacher self-efficacy to 55 teachers. Then the authors picked a subset of teacher and measured their verbal ability and flexibility through the Teacher Aptitude battery of the *Beginning Teacher Evaluation Study, Phase2 (*Ekstrom, 1975 as cited in Gibson & Dembo*)*. They found a positive correlation ($r = .42$, $p < .001$) between efficacy and combined scores of verbal ability and flexibility. For the last phase of their study, a follow-up study of a limited sample of teachers ($n = 8$), they

further studied 4 teachers who had scored high on the efficacy scale and 4 teachers who had scored low during the first phase of the study. In classroom observations, they defined persistence by the ratio of feedback interaction in which a teacher repeated the question, provided a clue, or asked a new question following an incorrect student response. They found that teachers with high teaching self-efficacy tend to persist in providing necessary support for learners who are not keeping pace with the other students whereas teachers with low teaching self-efficacy tend to give up on these students. Gibson and Dembo also found that teachers who had low teaching self-efficacy were more likely to provide feedback in the form of criticism to students who answered incorrectly [t (6) = 5.17, $p < .01$].

Benefits of High Teacher Self-Efficacy

Over the past 30 years, researchers have conducted many studies in their efforts to understand the influence of self-efficacy. Their studies have investigated efficacy in such academic subjects as math (Chen & Zimmerman, 2007), science (Dalgety, & Coll, 2006), and literacy (Massengill-Shaw, Dvorak, & Bates, 2007), as well as in the teaching of science (Smolleck, Zembal-Saul, & Yoder, 2006) and the self-efficacy of students with disabilities (Klassen, & Lynch, 2007). Regardless of the conceptual underpinning of their research, they have found a high correlation between teacher self-efficacy and student outcomes. Teachers with high self-efficacy tend to work longer with students to assist them in learning material (Ashton & Webb, 1986), engage in positive and effective instructional practices (Bender & Ukeje, 1989), and enhance student motivation (Rose & Medway, 1981), all of which tend to lead to greater student achievement.

In their multiphase study of teacher self-efficacy, Ashton and Webb (1986) administered six different process product measures to 48 basic skills teachers at the high school level and observed each participant in the classroom at least twice within a period of 2 months. They found a significant relationship between math teacher self-efficacy and student math achievement ($r = .78, p < .003$) and a significant relationship between communication teacher self-efficacy and student language skills scores ($r = .83, p < .02$). They also found that teachers with a stronger belief in teaching self-efficacy were more likely to hold students responsible for performance. Also, teachers who had higher GTE were more likely to maintain a warmer classroom environment whereas teachers who had lower GTE had a tendency to use harsher methods of control in the classroom (Ashton & Webb, 1986).

Similar studies have also found a positive correlation between teacher use of effective instructional practices and high personal teaching efficacy as measured by the TSE scale. Bender and Ukeje (1989) surveyed 50 teachers using the TSE scale and the Bender Classroom Structure Questionnaire (BCSQ), a "Likert-type scale listing research-proven instructional strategies" (p. 25). They found that general educators who had higher PTE were more likely to engage in successful instructional strategies ($r = .59$) when working with students with disabilities than were their counterparts with lower PTE ($r = -.28$). This finding indicates that general education teachers with higher personal teaching self-efficacy tend to use research-based instructional strategies that are difficult but effective and to produce positive outcomes for all students (Stanovich & Jordan, 1998).

Several studies have indicated that teachers with higher teacher self-efficacy tend to accept responsibility for students with disabilities. In one study, Soodak and Podell (1994) instructed 110 elementary teachers to read a case study about a male student 2 years below grade level and living in a single-parent household answer. They then asked the teachers open-ended questions about how to teach this student before administering the TES to measure their efficacy. They found that teachers who had higher PTE were more likely to suggest using effective classroom-based effective strategies, indicating that they felt a responsibility to help the student. They also found that teachers with lower PTE had a tendency of not considering the general education classroom as an appropriate placement for underperforming students from a lower social economic status.

Many studies have found robust correlations between teacher self-efficacy and use of effective teaching practices (Ross, 1994), which in turn is very beneficial to student with disabilities. Landrum and Kaufman (1992) found that colleagues of general education teachers with high self-efficacy judged them as more competent when working with students with disabilities. Past studies have shown that teachers with high self-efficacy appear to sustain instruction longer with students who are unable to move at the pace of the entire class (Gibson & Dembo, 1984; Massengill-Shaw, Dvorak, & Bates, 2007).

In 1996, Minke, Bear, Deemer, and Griffin compared the PTE of general educators participating in coteaching classrooms, special educators participating in coteaching classrooms, and general educators not participating in coteaching classrooms. They found that general educators participating in coteaching classrooms had higher PTE than did general educators not participating in coteaching classrooms and PTE similar to

that of special educators. The general educators not participating in the coteaching classrooms rated the general educators participating in the coteaching classrooms as more effective in working with students with disabilities. In addition, the general educators not participating in the coteaching classrooms scored lower in their belief in the feasibility of offering modification to students with disabilities and reported using fewer adaptations. Although this study, as with most of the correlation studies, was unable to determine the causal direction of these scores, it is assumed that access to information and collaboration with a special education teacher could lead a general education teacher to higher PTE. It is also possible that teachers who tend to exhibit high self-efficacy traits also possess traits seen as beneficial to students with disabilities, and are therefore more likely to be assigned to work in coteaching classrooms.

A teacher's teaching self-efficacy appears to have an impact on his or her students' self-efficacy. In 1989, Midgely, Feldlaufer, and Eccles measured the self-efficacy of over 1,300 students and their teachers teaching self-efficacy as the students transitioned from sixth to seventh grade. The researchers found that students who had a 6^{th}-grade teacher with a higher teaching efficacy score had higher expectations of how well they would do in seventh grade whereas students who had 6^{th}-grade teachers with a lower teaching self-efficacy score had lower expectations of how well they would do in seventh grade. These findings, which were more robust for low-achieving students, indicate that teacher self-efficacy can affect students' beliefs regarding their achievement, especially students who have a history of low achievement and students with disabilities.

A large-scale effort to review the preparation of special educators included a measure of a special educators teaching self-efficacy. Researchers, based on responses to

national surveys found that special education teachers tend to report higher teaching self-efficacy for certain teaching tasks. The Study of Personnel Needs in Special Education (SPeNSE), was conducted to provide nationally representative data on teachers who work with students with disabilities (n=8,061). Carlson, Brauen, Klein, Schroll, and Willig-Westat (2002) found that special educators reported higher self-efficacy, especially in the area of planning effective lessons and monitoring students and less teaching self-efficacy in accommodating culturally and linguistically diverse students' learning needs, using professional literature to address problems, and using technology in instruction. Another interesting finding is that a larger percentage of urban special educators strongly agreed with the statement "your students are not capable of learning the material you are supposed to teach them" compared with suburban or rural educators. This indicates that urban special educators had less belief in the general teaching efficacy domain that the suburban or rural special educators.

Smylie (1988) found there was a correlation between the number of low-performing students in a teacher's classroom and the teacher's PTE ($r = -.2684$). This finding leads to the consideration of whether responsibility for teaching students with disabilities results in decreased PTE after a certain amount of teachers experience and interaction with these students. Smylie (1988) also found that PTE was a significant indicator of change (path coefficient of .2996) in classroom practices; the higher a teacher's PTE score, the greater the likelihood that the teacher would initiate an innovative change in an instructional program. Bandura's social cognitive theory (1974) described the cyclical nature of self-efficacy, as self-efficacy is impacted by both past successes and failures. The finding that a teachers self-efficacy scores tend to decrease

when they regularly work with students who have difficulty learning has implications for general education classroom teachers who will encounter more children with disabilities in the general education classroom.

Preservice Teachers and Teacher Self-Efficacy

Preservice teachers who have higher self-efficacy have similar instructional behaviors to those of in-service teachers who have more experience. Teacher level of satisfaction with support and preparation during the internship year of teaching is an indicator of higher teaching self-efficacy (Hoy & Spero, 2005). General education student teachers who believe that they have the knowledge, skills, and ability to perform the tasks required to teach students tend to have high teaching efficacy; indeed, "efficacy beliefs of novice [first-year] teachers are related . . . to satisfaction of support and preparation" (Tschannen-Moran et al., 1998, p. 236).

Knoblauch et al. (2008) measured the teaching self-efficacy of 102 preservice student teachers within rural, suburban, and urban settings to determine whether the school setting influenced teacher self-efficacy. The authors found that the teaching self-efficacy scores of all the preservice teachers increased significantly, after they had engaged in student teaching, leading them to conclude that setting was not a significant factor in preservice teaching self-efficacy. The authors also assessed the self-efficacy of the cooperating teachers as perceived by the student teachers, i.e. the student teachers completed the survey about their cooperating teachers' self-efficacy. They found a moderately strong correlation ($r = .52, p < .001$) between student teaching self-efficacy and the perceived teaching self-efficacy of the cooperating teacher. The authors suggested that perception and vicarious experiences play an important role in preservice

teachers' views of efficacy; if student teachers perceive their cooperating teachers as having high teaching self-efficacy, they are more likely to have high teaching self-efficacy themselves.

Malleability of Preservice Teacher Self-Efficacy

Preservice teacher teaching self-efficacy appears to change during the course of student teaching, which Tschannen-Moran et al. (1998) hypothesized is related to the acquisition of mastery experiences. More specifically, preservice teachers acquire first-time mastery experiences that contribute to their expectancy of future performance (Bandura, 1997). However, this does not imply that teaching efficacy cannot change for in-service teachers; however, it does imply that changes in efficacy are usually due to the context of the task or situation rather than personal development (Tschannen-Moran et al., 1998).

In their study of 191 undergraduate students, Hoy and Woolfolk (1990) compared three groups of students: students participating in their student teaching semester ($n = 59$) in a university preparation program, students enrolled in a methods course for the completion of certification requirements ($n = 66$), and students taking a developmental psychology course who were not enrolled in the teacher education program ($n = 66$). The researchers found that students participating in student teaching began the semester with higher GTE; at the end of the student teaching semester, their GTE had decreased [$t(58) = 1.74, p < .05$] but their PTE had increased significantly [$t(57) = 5.74, p < .01$]. In contrast, the GTE of the students in the education methods course showed no significant change. Although the study results were disappointing in that the student teachers' decrease in

GTE indicated a decrease in their belief that education can overcome external environments, their increase in PTE indicated an increase in their belief in their abilities.

Chester and Beaudin (1996) studied 173 newly hired teachers in the nine largest school districts in Connecticut to test their hypothesis that changes in self-efficacy are related to resources, school practices, and teacher characteristics. Newly hired teachers were those who had not been employed by the district in the previous year. This resulted in two groups of teachers, novice teachers who were newly hired in the district, or experienced teachers but newly hired in the district. Their results indicated that new teachers in urban schools who were novice teachers experienced a small decrease in general teaching self-efficacy over their first year of teaching whereas teachers who were experienced teachers but new to the district reported a significant increase in general teaching self-efficacy. Thus, the increase in teaching self-efficacy appeared to be mediated by the experience of teaching. Common school practices, such as more than five visits from a supervisor, positively influenced the teaching self-efficacy of new teachers. The authors concluded that increasing and improving teacher instructional feedback contributes to an increase in teacher efficacy.

Masengill-Shaw, Dvorak, and Bates (2007) administered the Theoretical Orientation to Reading Profile (TORP) and Teachers' Sense of Efficacy for Literacy Instruction Scale (TSELS) and a researcher created knowledge test to 52 preservice teachers during their senior year of study. The participants took all measurement scales prior to completing the required fieldwork and again after completing the fieldwork. The presurvey mean score was 6.45, indicating that they possessed *some degree* to *quite a bit* of teaching self-efficacy as it related to literacy instruction. Their postsurvey mean score

was 7.48, indicating that they possessed *quite a bit* to *very much*, which represented a statistically significant increase (t [51] = 6.21, $p < .00$). The preservice teachers increased their knowledge and increased their efficacy according to the TSELS. The authors concluded that acquiring formal knowledge through the teacher preparation class had positively affected the teachers' beliefs in their teaching self-efficacy. In effect, they found that preservice teachers came to their literacy methods class with high teaching efficacy and left with even higher teaching efficacy after engaging in practicum experiences.

Comparison Studies

A plethora of studies of teaching self-efficacy indicate that teachers who have higher teaching self-efficacy sustain instruction for a longer period with students unable to maintain the pace of the rest of the class (Gibson & Dembo, 1984) and are more confident in their ability to influence student performance (Tschannen-Moran et al., 1998). In general, teachers who have higher teaching self-efficacy are more likely to engage in successful instructional strategies than are those who have lower teaching self-efficacy (Bender & Ukeje, 1989; Gibson & Dembo, 1984). Teachers who have higher teaching self-efficacy take responsibility for student successes and are more willing to implement innovations and stay in the field (Guskey, 1982).

Studies of student teachers and interns have consistently found that personal teaching efficacy increases during student teaching (Hoy & Woolfolk, 1990). Student teaching is influential in the development of teaching self-efficacy, partly due to its provision of the factors identified by Bandura (1986), such the acquisition of mastery experiences. According to Tshcannen-Moran et al. (1998), student teachers must analyze

the teaching task before they judge their ability to perform it and consider other factors, including student motivation, student characteristics, and resources available to the new teacher. Teaching self-efficacy is a cyclical process; after teachers accomplish teaching tasks, they view the sources through the cognitive processes.

Unfortunately, only a handful of researchers have investigated changes in the teaching self-efficacy of special education student teachers or compared the teaching self-efficacy of student teachers from different programs. The studies that do exist compared the teaching efficacy of a small sample of preservice general educators to preservice special educators; it is difficult to generalize their findings to a larger population. Portman and Pontius (2000) compared the PTE and GTE of four groups of preservice teachers: elementary school teachers (n = 56), middle school teachers (n = 9), secondary school teachers (n = 33), and special education teachers (n = 6). They found that the PTE of elementary and secondary school student teachers increased significantly (p = .05) after they had engaged in student teaching, with elementary having higher PTE overall. Although all groups experienced an increase in PTE, three of the groups did have a decrease in GTE however, it was not statistically significant.

Freytag (2001) studied general education and special education in-service teachers in his study. Based on the TES (Gibson & Dembo 1984), Freytag found statistically significant differences between the PTE and GTE scores (F= 4.291, p = .046, η^2 = .115) of the two groups of teachers, 36 general educators and 12 special educators. Specifically, they found that the special education teachers had both higher PTE and GTE means.

Another study that examined the teaching self-efficacy of both general educators and special educators was completed by Jordan, Stanovich, and Roach (1997). They found that both general education and special education teachers teaching outside a large city in Canada who had higher teaching self-efficacy (F= 22.60, β = .57, p =.001) had more quality instructional interactions. These interactions were defined by the authors as an engaged individual conversation about concepts and content with students who had been labeled with a disability. While the results did indicate that those teachers with higher self-efficacy did engage in a higher level of the five levels defined by the researchers, there was not a direct comparison of teachers in different teaching fields. Jordan et al, investigated the presences of a special educator in the classroom predicted higher levels of instructional interactions.

In his study directly comparing the teaching self-efficacy of in-service general educators to in-service special educators in Israel (n = 699), Leyser (2002) found that the mean PTE of the special educators (n = 139) was significantly higher than that of the general educators (n = 560; t =2.046, p = .041). Although this study directly compared the teaching self-efficacy of a large sample of teachers in different fields, it was conducted outside of the United States, making it difficult to generalize its results to the American school system.

According to Pugach (2005), the research base on general educators' preparation for working with students in special education in the general education classroom is very small. Brownell and Pajares (1999) recommended research to "identify differences in special education preservice preparation for general educators and the relationship of various program elements to general education teachers' efficacy beliefs" (p. 7). Because

research indicates that a high teaching self-efficacy is a strong predictor of various positive outcomes listed above therefore benefiting all students investigating the differences of teaching self-efficacy in novice teachers in different preparation strands can lead to a better understanding of the changes that occur between groups through the student teaching experience.

Current Study

As previously discussed, few studies have compared the self-efficacy of American general education teachers and special education teachers. This study adds to the literature by measuring and comparing the teaching self-efficacy of both preservice teacher populations, which has limited studies and identified the differences among programs as possible variables in teaching self-efficacy. This study used repeated measures at three time points throughout the semester, unlike many other studies. The majority of the teaching self-efficacy studies discussed above employed a pre/post survey design. This study also included a third measurement time to aiding to the understanding the malleability of student interns teaching self-efficacy.

Using the Tschannen-Moran et al., (1998) model of teacher self-efficacy for this study provided a defined theoretical framework for the teaching self-efficacy as opposed to previous studies. As indicated earlier the majority of the studies use Bandura's (1997) framework for self-efficacy studies however, there is some debate in the research community about the one dimension of the teacher self-efficacy, specifically general teaching efficacy. However using Tschannen-Moran et al.'s (1998) model gives credence to the construct of teaching self-efficacy because it specific enough for teachers yet not so specific that it renders its power as a predictive measure. The model includes the notion

that a teachers' self-efficacy considers assessment of personal competence and the analysis of the teaching task.

In addition, this study provided insight to other potential factors that influence the change of teaching self-efficacy. Other than preparation program, this study viewed the impact other factors have on the teaching self-efficacy of student interns, including, the amount of time a student teacher engages in teaching type behavior, the number of students in a class and the number of students with disabilities in a general education class and previous achievement of the student intern.

Study Procedure

This study measured the teaching efficacy of preservice general educators and preservice special educators during the fall semester of their student teacher internship year. Preservice teachers completed a survey three times during the semester to identify changes in teaching efficacy and to compare the teaching efficacy of general education student teachers and special education student teachers. It also investigated the relationship of the student teacher and the impact of the classroom demographics, and school population on the student teacher's teaching efficacy.

CHAPTER THREE

METHOD

Participants

Preservice student teachers were recruited from a large Midwestern university serving over 35,000 students. The teacher preparation program at this university requires 5 years of education to gain teaching certification. After students complete 4 years of required classes, they earn a bachelor's degree but are not yet certified. After successfully completing 32 weeks (a fifth full year, or 12 credits) of a student teaching internship, general education preservice teachers receive certification in general education. Special education preservice teachers have two placement positions in the 32-week internship, one in general education (16 weeks) and the other in special education (16 weeks). Special education preservice teachers receive both general and special education certification. Depending on the level of certification, special education interns pursue certification that will allow them to teach in either an elementary or secondary general education classroom. They also receive a special education endorsement in either learning disabilities or hearing impairment which allows them to teach in an elementary or secondary special education classroom.

The population for this study was general education interns and special education interns completing an internship in learning disability (hereafter referred to as either GEN interns and SPED interns). The internship requires the students to enroll in 12 student teaching credits in the 5th year. Along with 12 student teaching credits, interns are also enrolled in 4 graduate level classes for 12 more credits for the year. These classes

traditionally meet on Fridays on the university campus during the school year, with some meetings taking place at the interns' placement school.

To aid in the recruitment of participants, incentives were used. The participants who had successfully completed the study, defined as those who had taken the survey three times and turned in a report of cumulative GPA and total credit hours completed at graduation, were eligible for the incentives. At the on campus classroom meetings at the start of the school year, the researcher explained to the interns that their complete participation in this study was considered part of a larger program of professional development that could be described on their resumes. Certificates stating the professional development were also given to the participants. The researcher offered free consultation during the second semester of the internship year, whether by telephone, e-mail, or a personal meeting, to provide advice on students with disabilities in the classroom. The third incentive was enrollment in a raffle. Four students were randomly picked to receive a $50 gift certificate from a large superstore.

During fall 2008 there were five sections of the required general education intern seminar classes grouped together by geographical location. The total enrollment of these five sections consisted of 128 potential participants. Approximately 90% of these potential participants were females. The researcher entered all five seminar classes to recruit participants. A short presentation was given about the nature of the study along with an explanation of the incentives for participation. Consents were passed to all the interns in those classes. The researcher asked them to either sign or not and collected both the blank and completed consents in order to protect participants privacy. The consent forms asked for the student's name and email address.

Through this procedure, 90 consents were collected out of 128 potential participants; 84 females and 6 males with 1% listing their ethnicity as Hispanic, 1% Asian, 1% Native American and 97% as white. The same procedure occurred for the special education interns. The researcher visited the special education intern seminar class of those students who were completing the LD certification. There were 58 potential special education participants, 47 special education interns consented to participate; 44 females and 3 males. Students described their ethnicity as follows: 6% African American, 2% Asian, 6% did not answer the question, and 85% white.

Procedures

Interns were asked to complete a survey three times during the fall semester of 2008. The first survey, wave one, was administered the week of September 7, 2008. The public schools in the state where this study occurred had a common start date of September 2, 2008. Interns reported for their internship when each district required teachers to report, typically 4 days prior to the start of the school year. Therefore, the participants took the first survey shortly after they had met their new students and became familiar with typical classroom and building procedures.

The second survey, wave two, was administered the week of October 27, 2008, chosen to coincide with the target dates in which an intern was expected to complete a lead-teaching experience in their internship classroom. A lead teaching experience is when the intern collaborates with the cooperating teacher to plan and implement lesson plans. This week preceded parent-teacher conferences for most districts and followed the administration of state achievement tests to students. The third survey, wave three, was

administered the week of December 8, 2008, which was close to the last full instructional week for the majority of school districts prior to winter break.

Instrumentation

The survey contained 20 questions and took approximately 25 minutes to complete via on online commercial survey software. The survey was administered in three waves and was the same survey at each wave. The first four question of the survey asked for emails and identifying information. The next 8 questions asked about the interns' preparation, placement, grade level, number of students in their classes and how many hours the engage in teacher type behavior. They are listed below:

- *After receiving your certification, which of the following best describes what type of employment you will seek: A general education teacher, a special education teacher, school personnel other than a teacher, none of the above?*
- *Please list the school where you are completing your internship.*
- *How would you best describe the school of your placement: Inner city, suburban, rural, I don't know?*
- *In the fall semester, list the grade below in which you are completing your internship:*
- *List how many students are in the classroom where you are completing your internship*
- *List how many students are in your general education classroom internship (fall 2008) that have an IEP or are receiving some type of special education services*
- *Including yourself and your cooperating teacher, please list how many adults are in the classroom helping during the school day*

- *Approximately how many hours during a typical school day do you engage in teacher-like behaviors (e.g., tutoring students, grading, presenting a lesson, writing lesson plans, following up with parents or other school professionals, or conferencing with students)?One, less than 1 hour, 1–2 hours, 2–3 hours, 3–4 hours,4–5 hours, 5–6 hours, 6–7 hours, more than 7 hours*

The above part of the survey was followed by the Teachers' Sense of Efficacy Scale (TSES) (Tschannen-Moran et al, 1998), which is described in the following section.

Teachers' Sense of Efficacy Scale (TSES)

Pajares (1996) warned, "There is a lot of mismeasurement in the area of self-efficacy" (p. 547). As discussed in chapter two, because judgments of self-efficacy are task and domain specific, "global or inappropriately defined self-efficacy assessments weaken effects" (p. 547). Therefore, it is important that measurements be task and situation specific when investigating self-efficacy. To address these concerns, this study used the Teachers' Sense of Efficacy Scale (TSES) created by Tschannen-Moran, Woolfolk- Hoy (2001) (see Appendix A). This scale is based on the Teachers' Efficacy Scale (TES) developed by Hoy and Woolfolk (1990) and the Teacher Efficacy Scale developed by Gibson and Dembo (1984). As discussed previously, the TSES is domain and task specific and based on the integrated model of teaching self-efficacy. Tschannen-Moran et al. (2001) described the advantages of the TSES as follows:

> It is superior to previous measures of teacher efficacy in that it has a unified and a stable factor structure and assesses a broad range of capabilities that teachers consider important to good teaching, without being so specific as to render it

useless for comparisons of teachers across context levels and subjects. (pp. 801–802)

The TSES consists of 24 items on a 9-point Likert scale ranging from *not at all certain* to *a great deal of certainty.* Tschannen-Moran identified three moderately correlated factors TSES for in-service teachers: self-efficacy for classroom management, self-efficacy for instructional strategies, and self-efficacy for student engagement. For all three dimensions of efficacy, the higher the score of the participant, the greater the teaching self-efficacy of the participant. Sample items from each subscale are:

Efficacy for Classroom Management:

- *How certain do feel that you can control disruptive behavior in the classroom?*
- *How certain do feel that you can make your expectations clear about student behavior?*

Efficacy for Instructional Strategies

- *How certain do feel that you can provide an alternative explanation or example when students are confused?*
- *How certain do feel that you can craft good questions for your students?*

Efficacy for Student Engagement

- *How certain do feel that you can motivate students who show low interest in school work?*
- *How certain do feel that you can get through to the most difficult students?*

Researchers have argued that the three factor solution is not appropriate for preservice teachers (Fives & Buehl, 2008). Several authors (Fives & Buehl, 2008; Flood, 2007; Henson, 2002; Tsigilis, Grammatikopoulos, & Koustelios, 2007) and the creators of the TSES (Tschannen-Moran & Woolfolk-Hoy, 2001) noted that the factor structure is less distinct for preservice teachers than in-service teachers and recommend using a one factor solution when using the instrument with preservice teachers.

The TSES has been widely used and reported to be technically adequate based on quality indicators of research (Gersten, Fuchs, Compton, Coyne, Greenwood, & Innocenti, 2005; Odom, Brantlinger, Gersten, Horner, Thompson, & Harris, 2005). The construct validity was examined by Tshcannen-Moran and Woolfolk-Hoy (2001) who concluded that the TSES was, "positively related to the Rand items (r=.18 and 0.53, p<.001) as well as to both the personal teaching efficacy (PTE) factor of the Gibson and Dembo measure (r= 0.64, p. <0.01) and general teacher efficacy (GTE) factor (r=.16, p<0.01)" (p.801). The strongest correlation occurred with the measures that assessed PTE. Although it was found to be less strongly correlated with GTE, this may be due to previous studies failing to correctly identifying GTE (Pajares, 1996; Tschannen-Moran et al., 1998, 2001).

Information Interns Considered

There were seven open-ended question included at the end of the survey. These questions attempted to gather information interns used to make their judgments of their teaching self-efficacy. The questions asked interns to identify if they felt successful during their teaching, what information they used in that judgment and if supervising personnel had an effect on that judgment. Also questions asked about the perceived

difficulties and effort interns experienced during teaching observations. They read as follows:

Think back to your most recent visit from your university field instructor—that is, the instructor from MSU who visited you and provided feedback about your field experience. Please answer the following questions with the most recent visit in mind.

1. You may have some impressions (good and bad) on how well you completed your goals (for example: teaching students a learning objective, tutoring a student, managing the classroom or other teacher type tasks) during that observation. Please explain what your most significant impression was of that observation (successful or unsuccessful) and why.

2. How difficult was this lesson or activity for you to teach and why?

3. How much effort did you put into planning this lesson or activity? Please explain.

4. Please describe the specific feedback you received from your university field instructor.

5. Did you agree or disagree with the feedback, why and why not?

Think back to the most recent feedback you received from your cooperating/collaborating teacher, either through formal or informal observations, or through casual conversations.

7. Please describe specific feedback you most recently have received from your cooperating teacher.

8. Did you agree or disagree with the feedback, why or why not?

Data Collection

The participants were sent an e-mail containing a link to the survey and asked to complete it within two weeks for each wave of the survey. The researcher sent an e-mail reminder to the interns who had not responded several days following the initial request for each wave of the survey.

Out of 186 students enrolled in both the general education and special education seminars, 137 consents were received and three email addresses were not valid addresses (see table 3.1). During the first wave 134 invitations were sent and 121 responses were returned resulting in a 90% return rate for the first wave. In the second wave 114 invites were sent out, due to some participants opting out between wave one and wave two. Of those 114 invites, 89 were returned for wave two resulting in 77% return rate. For the third wave 89 potential participants were emailed, and 83 participants returned a survey for a rate of 93%.

Table 3.1

Participant Response Rates

	Total potential participants	Informed consent	Complete surveys Wave 1	Complete surveys Wave 2	Complete surveys Wave 3	Final completed surveys
Total Invites			134	114	89	83
Opted out			16	11	0	
General Ed	128	90	78	58	54	48
Special Ed	58	47	43	31	27	25
Total	186	137	121	89	83	73

Table 3.1 Continued

Total potential participants	Informed consent	Complete surveys Wave 1	Complete surveys Wave 2	Complete surveys Wave 3	Final completed surveys	Total potential participants
Wave Return			90%	77%	93%	
Rate from Initial			90%	66%	62%	54%

Participant data was included in the study if all three surveys had been completed. Occasionally participants would sign onto the survey and not complete the survey rendering their participation null. This resulted in a final sample of 73 participants: 25 special education interns and 48 general education interns. There were only four male participants; all were in the general education program. The self-reported grade point averages and credit hours at the time of graduation with the Bachelor's were similar among the two groups. All participants had an average GPA of 3.47 with special education interns having an average of 3.43 and general education interns having an average GPA of 3.49. Credit hours and the number of students in the intern placement class were very similar with a group average of 130 credit hours and 25 students in classes. Special education interns reported more students with an IEP in the classroom then the whole group. The average GPA, credit hours taken, the number of students in the placement class and the number of IEPs in classroom along with standard deviations can be found on table 3.2.

Table 3.2

Interns' GPA and Class Composition

		GPA	Credit Hours	Students in Class	Students with IEPs
SPED	Mean	3.43	129.52	25.72	6.32
	SD	.280	14.31	7.70	3.21
GEN	Mean	3.49	131.41	25.55	4.06
	SD	.311	18.269	11.80	2.29
TOTAL	Mean	3.47	130.78	25.61	4.84
	SD	.300	16.968	10.504	2.833

The majority of the placements (56%) for interns were in suburban schools. Twenty-nine percent were placed in an urban setting and only 15% were placed in a rural setting for their fall semester (see table 3.3).

Table 3.3

School Classification of Placement

	Sped Intern Placement	Gen Intern Placement	Total	%
Urban	7	14	21	29
Suburban	11	30	41	56
Rural	7	4	11	15

Data Analysis

Teachers' Self-Efficacy Scale

Before examining the relationship between the reported teaching self-efficacy of general and special education interns, the researcher examined the factor structure of the Teaching Self-Efficacy Scale (TSES, Tschannen-Moran, Woolfolk-Hoy, 2001). When reviewing the pattern matrix of the factor analysis, a best fit solution recommendation of four factors appeared. Further examination of the pattern matrix of a three-factor loading showed that the three factors did not load consistently on the matrix. To test the appropriateness of using the full TSES, a principal components analysis was completed and all three factors loaded onto a single factor structure and accounted for 51% of the variance. For the purpose of this data analysis, the dependent variable is the summed score at each wave point of the 24 items on the TSES with the minimum score of 24 and the maximum score of 216.

The researcher compared two different teacher programs and two different types of internships. Because special education interns become dually certified, they participate in both a general education internship for 16 weeks and a special education internship for 16 weeks On the other hand, general education interns participate in one general education internship for 32 weeks. While both interns are completing their internship they are also enrolled in classes.

Prior to the internship general educator interns complete classes in the Teacher Education department. These classes are taken by both special educators and general educators. The Teacher Education department follows an infused model, where special education content is immersed within the curriculum. Students preparing to be special

educators also enroll for classes in the Special Education department where they take classes related to special content only.

Because SPED interns have two different classroom placements throughout the year, a preliminary analysis was conducted to compare the means on the TSES of special education student interns who could be in one of two types of placement in the fall 2008. The special education interns from the final full data set were separated into two sub groups, participants who were interning in a special education placement in the fall 2008 (SPEDinSPED) (n=9) and special education interns in a general education placement in fall of 2008 (SPEDinGenplace) (n=16). The means for the SPED interns are reported in table 3.4. There was no significance difference between the placement types of special education interns as indicated by table 3.5.

Table 3.4

TSES scores of SPED Interns by Placement

	Placement	Mean	Std. Deviation	N
Wave One Sum	SPEDplace	147.89	29.67	9
	GENplace	151.25	27.88	16
	Total	150.04	27.97	25
Wave Two Sum	SPEDplace	158.11	30.78	9
	GENplace	156.75	17.62	16
	Total	157.24	22.58	25

Table 3.4.
Continued

	Placement	Mean	Std. Deviation	N
Wave Three Sum	SPEDplace	166.56	22.90	9
	GENplace	169.31	21.69	16
	Total	168.32	21.70	25

Table 3.5

ANOVA for SPED Interns

		Sum of Squares	df	Mean Square	F	Sig.
TM1SUM	Between Groups	65.07	1	65.07	.080	.780
	Within Groups	18705.89	23	813.30		
	Total	18770.96	24			
TM2SUM	Between Groups	10.67	1	10.67	.020	.889
	Within Groups	12233.89	23	531.91		
	Total	12244.56	24			
TM3SUM	Between Groups	43.78	1	43.78	.089	.768
	Within Groups	11253.66	23	489.29		
	Total	11297.44	24			

(n=25) was used in further analyses. Data were examined to ensure assumptions of normality, homogeneity of variances, sphericity, and linearity were met, and when assumptions were not met, non-parametric equivalents were used to evaluate the data.

To discover of the differences between the reported teaching self-efficacy of general education interns and special education interns, as reported on the TSES, repeated measure ANOVA was used to compare the means of the preparation groups at three wave points in the fall semester. This analysis allowed the researcher to identify main effects of preparation program and the interaction of group x time. When significance was detected for time but not for program type, a pairwise t- test was employed to discover how the teaching self-efficacy of interns change over a semester therefore addressing the second research question how does the teaching self-efficacy change over the course of a semester.

A forward stepwise multiple regression analysis was used to answer the question—Over the course of a semester, which factors influence interns' teaching self-efficacy? The dependent variable was the sum of the TSES score at the third wave (TM3SUM), the independent variables were entered as follows: sum score on TSES at wave one (TM1Sum), sum score on the TSES at wave two (TM2SUM), school type of either urban, suburban, rural (schooltype), number of hours an intern reported in engaging in teacher like behaviors at time 3 (hours3), number of students with IEPs in intern placement (IEP), interns' grade point average (GPA), number of credit hours the intern obtained for bachelor degree (credit), type of program in which the intern is enrolled(prep).

Wave analysis

To investigate a potential bias that non-responders present, a wave analysis was completed, as recommended by Kano, Franke, Afifi, and Bourque (2008). Information used in the analysis included the preparation program, and sum scores between wave one and wave two and again between wave two and wave three. These means and range of the scores were compared to the participants to see if those interns dropping out of the study appeared share a unique characteristic that might indicate why they dropped such as low teaching self-efficacy.

Groups of High TSES Scores and Low TSES Scores

In order to investigate if there were differences in the characteristics of interns who had the lowest teaching self-efficacy and those who had highest teaching self-efficacy two groups were formed. At each wave of administration 20% of the total participants or 10% of the top and 10% of the bottom (the top eight and bottom eight participants determined by the sum score on the TSES), were separated from the larger data set for separate analysis. The two groups were labeled high TSES and low TSES. The two groups at each wave were compared to determine the stability of the groups at each wave. The GPA and credit hours reported at the time of graduation, the reported teaching time, composition of the interns' classroom and school were also examined for individuals in the low and high groups by reviewing and comparing descriptive statistics.

Information Interns Used for Judgments

In order to identify the information interns use to make their judgments of their teaching self-efficacy, the survey included eight open-ended questions at the end. Only seven of the eight questions were included in the analysis as the last question was

optional and did not include information directly related to the study. The questions were completed at each wave point and were the same at each administration. The overarching research question was "What information do interns identify in helping make their judgment about their teaching self-efficacy?"

Using a modified version of the Grounded Theory (Glaser & Strauss, 1967) all answers were read at each wave point and coded in a broad format looking for emergent themes (Dick, 2005). Each open-ended question was reviewed and coded (n=73) at each wave of the survey. As the codebook was revised, responses to the seven questions fell into three topic areas and some of the topic areas had subcategories. The three major topics area were; "success or failure and why", "difficulty and effort", and "agreement with supervisors". The first question of the survey contributed to the first topic area "success or failure and why" and was further broken down into two subcategories. The survey question asked for the interns' perception of their performance in the classroom (e.g. were you successful) and the information they used to make the judgment (e.g., why, whose comments, actions, or outcomes provided information about their performance). Survey questions two and three contributed to the "difficulty and effort" topic area and were broken down into two subcategories, difficulty of lesson presentation and effort in planning for the lesson. Questions four through seven contributed to the topic area of "agreement with supervisors" and had two subcategories of agreement with field supervisor and agreement with cooperating teacher.

The codebook was completed for each of the three areas. A graduate student was employed and trained to conduct inter rater reliability checks by reviewing seven open ended survey questions of the three topic areas. For training purposes only five samples

for each topic area were scored with a chance for the graduate student and the researcher to discuss any discrepancies. After the training, 25% of randomly chosen intern responses were scored by both the researcher and graduate student. The researcher and the graduate student achieved an overall 94 % agreement for all three topic areas combine and for each topic area the reliability was 93% for "success or failure and why", 92% agreement for "difficulty and effort", and 100% for "agreement with supervisor". The rate was calculated by adding the total number of agreements and disagreement and dividing by the agreements. Responses were counted for each category and are discussed in Chapter Four.

Success or failure and why. The first topic area for the study resulted in two subcategories success or not and why. In the first subcategory interns identified their performance as *successful, unsuccessful, somewhat successful*, or *no response*. Interns' answers that included a positive perception of their observation, or their report indicated that they felt successful were scored as indicating they felt successful. An example of this included: "It was successful because I completed my lesson feeling confident that the students learned about the /k/ sound." Those interns who felt less successful, had a negative perception of an observation, or declared they were unsuccessful, were scored as interns feeling like they were unsuccessful during observation. These included such reactions as, "I felt that I was very unsuccessful with my goals and objectives because I was not able to keep the lesson flow up because I was having major difficulties with my materials and different things," "I felt (it)[sic] went poorly," " It felt like I was creating more confusion than clarification." Those responses that were scored as somewhat successful indicated the interns were not clear regarding their observations. They

included comments that fell into both the positive and negative feedback categories. Examples included: "So, all in all, I felt okay about my lesson; one student continually acted out and disrupted the class, so that made me feel as if the lesson was less successful." The responses that scored *no response* indicated the interns did not understand the question or had not been formally observed. Examples included: "I have not yet been observed," "my field instructor really hasn't seen me actually teach in the classroom yet," "The only time that she has come in has been when my CT has been teaching and I have been interacting around the classroom," "At this point, I can't thoroughly answer this question." The last category was *unscorable,* suggesting the intern gave no indication about how the observation went or answered the question out of the context of what was asked. An example of this category is, "I agreed with everything she said, both the good and the bad."

The subcategory of the topic area "success or failure and why" was viewed as the information the interns reported about why they deemed their performance successful or unsuccessful. Six types of information emerged from the interns' responses and were labeled as, *field instructor* (FI), *cooperating teacher* (CT), *student feedback, management, instructional,* and *engagement.* Responses could be coded in more than one type of answer if the response mentioned more than one aforementioned area.

When interns directly related the judgment of their performance to feedback from the university field supervisor, it was counted as *field instructor* (FI). An example was: "My field instructor told me that I looked like I was enjoying myself, and that I showed great confidence. This made the most impression on me because I have been questioning my teaching lately." When an intern indicated the classroom cooperating teacher

contributed to the intern's decision about their success or failure in their performance the response was categorized as *cooperating teacher* (CT). An example of this category: "My CT observed me and thought it went well." Sometimes interns would mention feedback from both the cooperating teacher and the field instructor. In those cases, that answer would be classified in both categories.

Student performance was another category in which the interns considered when making judgments' about their success. Answers coded in the *student performance* category included: "During the past couple weeks I have been teaching the children various writing techniques. During this time I have been able to observe the students' progress increase dramatically in comparison to the beginning of the year. This was significant because I felt like I had accomplished my learning goals and impacted the students in a positive way." The *instructional* category included items where the intern discussed specific instructional strategies or teaching a specific objective as information in determining the success of the observation: "I have reached my goal of explainin [sic] borrowing and carrying during addition and subtraction of two digit numbers," "I thought it went well because a variety of (instructional) methods were used." Interns included judgments of their students' engagement during their observation and these were categorized under the category of *engagement*. The following is an example of the *engagement* category: "I think that the observation went well because students were engaged," "Teaching a lesson on moon phases went very well, the 5th graders were attentive and engaged." *Management* involved interns' comments that they felt successful or unsuccessful because of classroom management issues and included answers such as: "So far, I have not done a very good job with my classroom

management," "Successful because the lesson went well and I managed the students well," "Unsuccessful at managing the class." The question was read and coded from the revised codebook and counted for total responses.

Difficulty and effort. The second and third question of the survey resulted in a second topic area of "difficulty and effort" and encompassed the interns' perception regarding the difficulty of the lesson and the amount of effort exerted in the planning process for a recent lesson. Responses for the difficulty subcategory were coded as *easy, somewhat, hard,* or *no response.* Responses scored as *easy* indicated the intern felt the lesson was easy to present. Examples of the *easy* category were as follows: "The lesson was fairly easy to teach," "...it was not difficult because the lesson was about acrostic poems and the students had an idea on how to write one." A response of *somewhat* indicated the intern's response fell somewhere along the continuum. Examples were: "It was slightly difficult," "It was somewhat difficult." The *difficult* category was coded when the answer indicated that the lesson was difficult to teach. Examples included: "Something that was abstract was difficult to teach," "The lesson was extremely difficult." The category no response indicated that either the intern did not answer the question or that the intern had not had a formal observation and felt that this question did not pertain to that survey time point.

Effort asked about the intern's perception of effort they put forth for the lesson in which they were observed. Answer categories included *little ,moderate, substantial, no perception stated (N.P)* and *no response. Little* was the category coded when the interns indicated they did not exert much effort on the lesson planning and included answers such as: "Little effort was needed," "I did not have to put much effort into the lesson."

The *moderate* category was for interns who wrote that it was that indicated a middle effort occurred in the planning of the lesson. Examples of answers in this category were: "A mixture," "I put in some," "it took some effort to think about how I was going to model." Similarly, if interns indicated they had exerted a large amount of effort, it was categorized as *substantial*. Examples are: "I put a lot of effort into planning; A lot; I took time to plan out what exactly we are doing and what the goals are." If interns wrote about how many hours they spent on their planning, but did not include a perception of how much effort this was for them, the answer was coded *no perception stated (N.P.)*. Interns did not always reveal their judgment about the amount of effort exerted toward the planning of the lesson but wrote about what they did to plan for the lesson. Examples of answers in this category include: "One of the lessons I taught (math) that was successful with classroom management took me about 40 minutes to plan and create a Smartboard presentation," "I spent about two hours planning this lesson." Both responses describe the amount of time the intern planned for the lesson but do not indicate if the intern felt this was an extraordinary amount of time or if it was rather a little amount of time. Therefore these answers were coded as *N.P.* indicating that they answered the question but gave no judgment of the effort exerted. The category *no response* indicated that either the interns did not answer the question or that they had not had a formal observation and felt that this question did not pertain to that survey time point.

Agreement with supervisors. The third and final topic area was, "agreement with supervisors," and asked interns about their agreement or disagreement with feedback from their supervising personnel (i.e., university field supervisor and cooperating

teacher). The survey had four questions and asked if the intern agreed or disagreed with the feedback given to the intern by field instructor and cooperating teacher. There was four answers for both sections of this area, *agreement, disagreement, somewhat agree/disagree* and *unscorable*. *Agreement* indicated that the intern agreed with supervisor, (i.e. "I agree"), the *disagreement* indicated that the intern disagreed with the supervisors feedback (i.e. "I disagree" or "No I don't"), *somewhat* indicated that intern agreed with parts but also disagreed too. An examples of this category is: "Yes and No" or "sort of". *Unscorable* meant that the intern either left the questions blank, or did not directly answer the question.

CHAPTER FOUR

RESULTS

This chapter discusses the results of the analysis completed on the data at three wave points and is divided into three major sections. The first section reviews the results of statistic methods on the sum scores of the TSES by two different groups at each wave point. The second section reviews the participants who scored in the highest 10% and the lowest 10% of the TSES sum scores at each wave. The final section looks at the responses interns wrote about in the open-ended questions.

Differences between Special Education and General Education

The first research question investigated if there were significant differences between the reported teaching self-efficacy of general education interns (GEN) and special education interns (SPED) over the semester. The sum of each of the participants' (n=73) mean scores from the TSES scale were compared at wave one (TM1), wave two (TM2), or wave three (TM3). A two group (SPED or GEN) by three (time of survey administration: TM1, TM2, TM3) repeated measures ANOVA was used to investigate differences between the reported teaching self-efficacy of general education interns and special education interns. Mauchly's Test of Sphericity proved to be significant p=.005 indicating that that sphericity assumption was not met. To minimize the potential for Type II errors, a Huynh-Feldt correction was used (Field, 2009).

The means (with standard deviation in parentheses) for special education interns (n=25) at each time point measuring teaching self-efficacy were as follows: 150.04 (*SD* 27.97), 157.24 (*SD* 22.59), and 168.32 (*SD* 21.70). Means (with standard deviations in

parentheses) for general education interns (n=48) were as follows: 147.25(*SD* 24.07), 150.40 (*SD* 23.71), and 159.13 (*SD* 23.50) (see table 4.1).

Table 4.1

Sum Means and Standard Deviations of All Interns

		N	Mean	*SD*
Wave one	SPED	25.00	150.04	27.97
	GEN	48.00	147.25	24.07
	Total	73.00	148.21	25.31
Wave two	SPED	25.00	157.24	22.59
	GEN	48.00	150.40	23.71
	Total	73.00	152.74	23.40
Wave three	SPED	25.00	168.32	21.70
	GEN	48.00	159.13	23.50
	Total	73.00	162.27	23.17

The repeated measures ANOVA indicated that the main effect for wave was significant, F=19.448, *p.* =.000, with a Huynh-Feldt correction and an observed power of 1.00. However, time x group interaction was not significant with the Huynh-Feldt correction, F=.870, *p.* =.413 and an observed power of .19. This analysis showed that there was a significant change of reported teaching self-efficacy over the semester with no statistically significant differences between intern groups. Due to a lack of a statistically significant difference between the special education and general education

interns the analysis for the following research questions were conducted as one group (n=73).

Changes of Teaching Self-Efficacy

To investigate how the TSES varied from wave 1 to wave 2, from wave 1 to wave 3, and from wave 2 to wave 3, a one-sample t-test was implemented. The means (μ) for the participants (n=73) were as follows: μ=148.21 wave one (*SD* 25.31); μ= 152.74 (*SD* 23.40) wave two; and μ=162.27 (*SD* 23.16) wave three. The results showed that there was a significant difference between wave one and wave three (TM1Sum, TM3Sum) and between wave two and wave three (TM2Sum and TM3Sum) with α = .05. However the difference between wave one and wave two (TM1 Sum and TM2Sum) with α =.05 was not significant (see table 4.2). The means increased at each wave point indicating a rise in teaching self-efficacy scores.

Table 4.2

Pairwise Comparisons Means of Sum Scores

	Mean	SD	Std. Error Mean	t	df	Sig. (2-tailed)
TM1SUM - TM2SUM	-4.53	20.39	2.39	1.90	72	.061
TM1SUM - TM3SUM	-14.07	22.72	2.66	5.29	72	.000
TM2SUM - TM3SUM	-9.53	16.02	1.88	5.09	72	.000

Factors Influencing Teaching Self-Efficacy

A stepwise multiple regression analysis was employed to answer the research question-"Over the course of a semester, which factors influence interns' teaching self-

efficacy at the final wave of collection?"- a stepwise multiple regression analysis was employed. The sum score at the second measurement of the TSES (TM2SUM) and the number of hours that students reported engaging in teacher-like behaviors (Hours3) at the third measurement were the two variables that significantly contributed to the variance of sum score of the TSES at the third wave (see table 4.3).The sum of the second wave (TM2SUM) variable explained 57% of the variance on the dependent variable and hours engaging in teacher-like behaviors at the third measurement only accounted for an additional 3% of the variance (r^2 of . 601) of the sum of the TSES at the third collection.

Table 4.3

Multiple Regression Chart

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	46.980	12.118		3.877	.000
	TM2SUM	.753	.078	.762	9.619	.000
2	(Constant)	29.325	13.906		2.109	.039
	TM2SUM	.752	.076	.761	9.935	.000
	Hours Teaching TM3	2.487	1.054	.181	2.361	.021

Bias of Non-responders

There is a possibility that interns who choose not to participate had a very low or high score. The implications of those who dropped out were investigated in order to

investigate this potential bias. A wave analysis was completed with the information available at each wave point. The analysis reviewed information of the interns who left the study from wave one to wave two and from wave two to wave three.

In the first to second wave, 33 interns dropped from study. The mean sum score on the TSES of this group was 145.58 (*SD* 21.43) very close to the mean sum score of the total participants at wave one 148.21 (*SD* 25.31). To limit a concern that those with lower teaching self-efficacies would drop out of the study, the individual wave one averages of the sum of the TSES were calculated. Next, all respondents at that wave were divided into the top half and bottom half of the TSES sum scores. This revealed that of those who dropped from the study, 17 of the 33 interns were in the bottom half and 16 were in the top half. Again, these numbers indicate that interns who had higher and lower scores dropped out from the study almost equally. Twelve of the participants or 36% who did not complete the study were special education interns and 21 or 64% were general education participants. Those participants who dropped out had an average of 24.5 children in class and 5.1 of those students had IEPs. When compared to analysis of the participants who remained in the survey, the analysis of those who dropped out is very similar.

Between the second wave and the third wave, only nine interns dropped out. According to the sum scores at wave two, they averaged 153.6, (*SD* 30.64) just slightly higher than the mean for the total survey participants of 152.7(*SD 23.40*). The nine who dropped had an 82-point range from, 115 to 197. The interns who dropped out had an average of 23.4 students in their class and 5.8 of those students had IEPs. Again, at both wave one and wave two, the participants were who dropped where similar to those who

remained in the study. The findings revealed that those who dropped out of the study had sum scores that were equally distributed indicating that those who dropped out did not cluster at either the top or bottom scores. There did not appear to be any systematic bias between those who dropped and those who remained in the study. This alleviated some of the concern that a bias might be present in the sample.

Groups of High TSES Scores and Low TSES Scores

Averages and Placement within High and Low groups

In order to examine different characteristics of interns who scored lower or higher on the TSES, 20% of the participants were parsed from both the lowest (10%) sum scores and the highest (10%) sum scores. This was completed for each wave of survey administration with the complete dataset (n=73) and resulted in choosing the top eight and bottom eight as determined by the score on the TSES. The group named High TSES consisted of the top eight scores on the TSES at each wave.

The High TSES group at wave one had an average TSES sum score 188.75 and this group scored between 208-177 producing a range of 31 points on the TSES scale. Wave two high participants had an average TSES sum score of 191.5 and scored between 201-184, producing a range of 17 points on the scale. Wave three for the high group had an average of 198.25 TSES sum score, a range of 214-186 producing a range of 28 points. The sum TSES scores of the 9th participant (the cutoff point) at each wave point were 176, 183, and 186. The standard deviations for the high group appear to stay consistent through all three waves.

The Low TSES group consisted of the eight lowest scores at each wave point. The Low TSES at wave one had an average of 105.13 and scored between 97-110 with a

range of 13 points, wave two had an average of 109.1 and scored between 88-123 with a range of 35 points, wave three scores had an average of 117.63 and scored between 60-138 with a range of 78 points. The large range in the third wave of the low TSES group was due to the difference between the lowest two scores of 60 and 113 (55 points). The sum scores of the 9th participant in the Low TSES group (the cutoff point) at each wave were 111,126, and 143. The standard deviations for the this group also increase at each wave with the third wave with more than twice of the high group (see table 4.4).

Table 4.4

Comparative Means of Low and High Groups

	Wave 1			Wave 2			Wave 3		
	Mean	*SD*	Range	Mean	*SD*	Range	Mean	*SD*	Range
Low TSES Group	105.13	4.97	97-110	109.13	11.66	88-123	117.625	24.64	60-138
High TSES Group	188.75	10.02	177-208	191.5	6.41	184-201	198.25	10.99	186-214

When examining each of the interns who occupied a position in the low or the high group, the interns in the high group did not have tend to stay in the high rank for all three waves whereas those in the low group had a higher tendency to stay in low group for all three waves. In the low TSES group there were four interns (out of 8 possible positions) who were ranked in the bottom score at all three waves, whereas in the high TSES group there only two interns (out of 8 possible positions) ranked in the high group for all three waves. More interns shared the top 10% then those in the lower group, while

interns who scored in the lowest 10% had a tendency to stay in the lowest group (see figure 4.1).

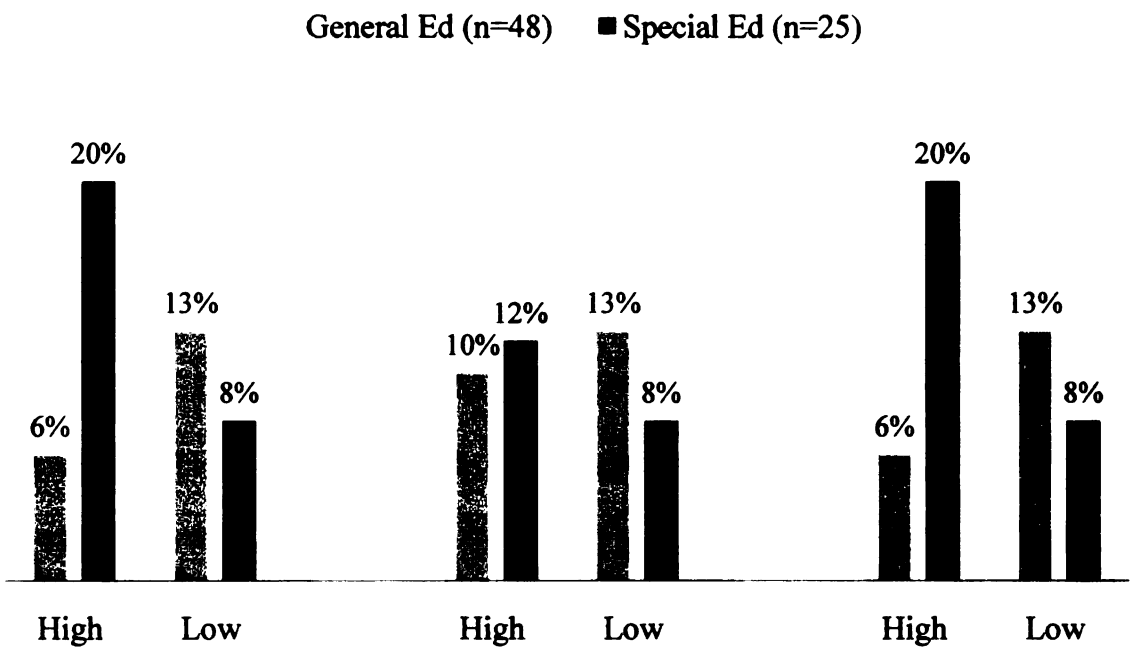


Figure 4.1. Percentage of interns (rounded) in low and high group at each wave.

More general education interns were in the low TSES group than the higher TSES group. This could also be a function of those who were in the lower group tending to stay in the lower group for all three waves. Figure 4.1 shows the percentage of general education and special education interns that were in each group. At the first and third time points, three (6.3%) of general education interns (n=43) and five (20%) of special education interns (n=25) were in the high group whereas, in the low group there were six (12.5%) general education interns (n=43) and two (8%) special education interns (n=25) out of eight possible positions. During the second time period, the composition of the low group did not change; however the high group did change, having five (10.4%) general educators and three (12%) special educators in the high group. These differences however, were not tested for statistical differences.

Grade Point and Credit Hours

The next two figures compare the grade point average (GPA) and credit hours reported by interns in the low and high scoring groups. At the start of the study, interns reported their GPA and credit hours they had attained with their bachelor degree immediately prior to starting their internship. At each wave point the lower group reported a higher GPA however they also attempted less credit hours. The difference between high and low groups at each wave point was wave one .29, wave two .09, and wave three .28. The comparison of the interns GPA by high and low group is represented in figure 4.2. The differences in credit hours between the high and low group for wave one was 7.36 credit hours, wave two 9.18 credit hours, and wave three 5.29 credit hours. The majority of classes in the teacher education program are 3 credit hours. Figure 4.3 compares the high TSES to the low TSES reported credit hours at the time of graduation from the university.

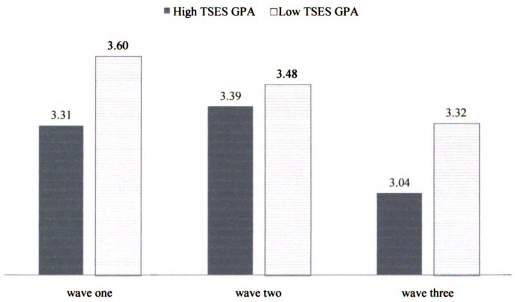


Figure 4.2. GPA by high and low groups at each wave.

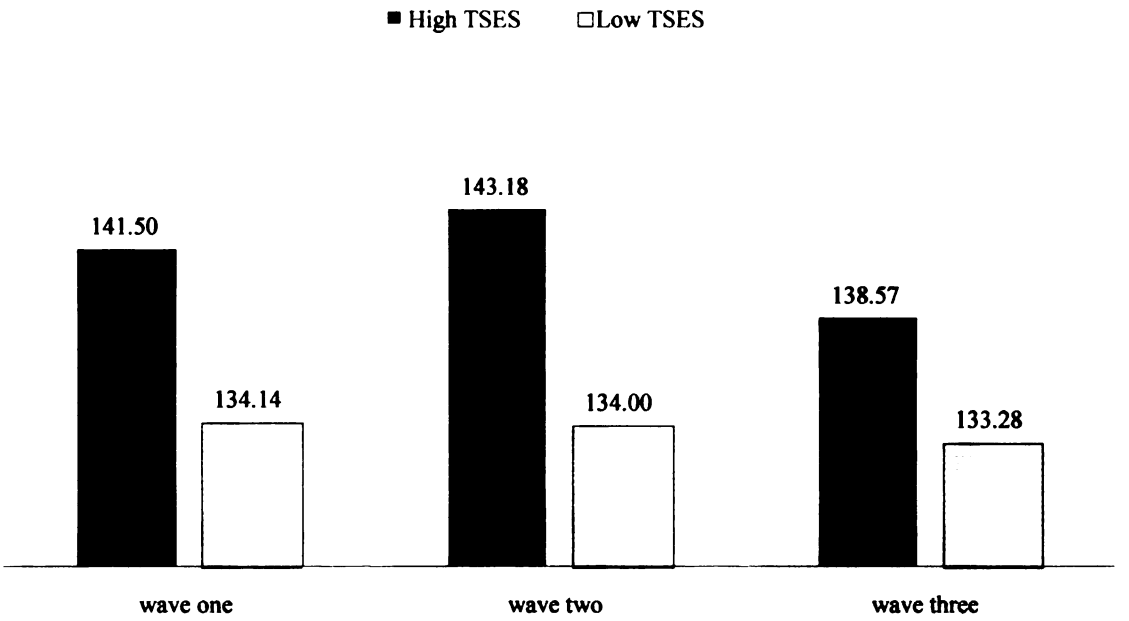


Figure 4.3. Credit hours by high and low groups at each wave.

Interns at each survey administration were asked approximately how many hours a day they engaged in teacher-like behaviors, which included tutoring students, grading, presenting a lesson, writing lesson plans, following up with parents or other school professional, conferencing with students. These hours were reported in ranges and assigned a score according to the reported time by the intern. These scores were then averaged to estimate the reported teaching hours range for the low and high groups. The range of time was given to the intern to pick and followed by the score assigned by the researcher were as follows, (a) none =1, (b) under one hour=2, (c) one to two hours=3, (d) two to three hours=4, (e) three to four hours=5, (f) four to five hours=6, (g) five to six hours=7, (h) six to seven hours=8, and (i) more than seven= 9.

At all wave points, the interns in the high TSES reported more teaching time. At the first time point, the higher group scored an average of 6.75 which is the range of 4 to 6 hours of teaching time each day, with an estimation of 5.5 hours a day. In contrast, the

lower group scored an average of 4.38, indicating a range of 2 to 4 hours, an estimation being closer to 3 hours of teaching time. At the second point, the high and low groups appeared to be closer in averages score of teaching time, being only .50 apart; but the higher group reported more teaching time. At the third point, however, there appears to be a large difference in reported teaching time, with the higher group scoring an average of 8.13 which is estimated a range of 6 to 7 hours of teaching time whereas the lower group scored an average of 6 which translates to the range of 4 to 5 hours of engagement in teaching behavior (see figure 4.4).

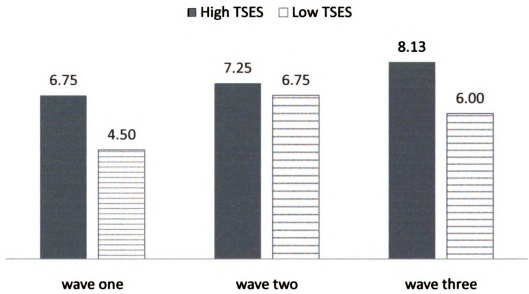


Figure 4.4. Reported teaching time at each wave of high and low groups.

Information Interns Considered in Their Judgments about Observations

The coding and inter rater reliability were completed on the open ended questions and then answers were tallied for the three topic areas. The first area discussed addresses the

interns' perception of success or failure of their observation and why, the second area will discuss the perception of difficulties and effort in preparing the lesson and the third area will discuss the agreement of feedback from supervising personnel.

Success or failure and why

The majority of the interns' reported feeling successful at waves two and three, with more than half the responses indicating success. In wave one the highest response was no response, because a number of the interns reported not having an observation at the time they took the first survey and therefore responded with such. The highest "unsuccessful" occurred in the second wave with 10 responses indicating they felt unsuccessful (see figure 4.5).

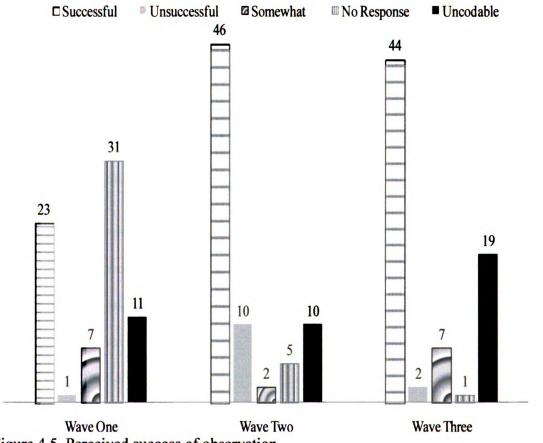


Figure 4.5. Perceived success of observation.

The second part of the question asked interns why they judged their performance as successful or unsuccessful. When an intern answered the "why" question, the response it fell into one of the six categories described in Chapter Three. Responses could be scored for more than one category. In the first wave there were only 29 responses, in the second wave there were 79 responses and in the final wave there were 93 responses.

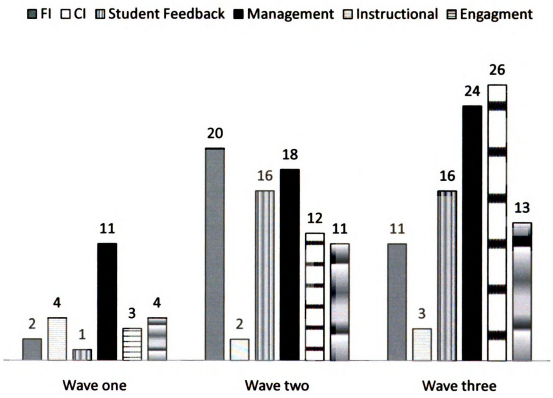


Figure 4.6. Information Interns' used to make judgments about the performance.

As the semester progressed interns were more detailed about the information they used to make judgments about their teaching performance and often mentioned more than category of information. In the first wave the highest feedback category mentioned for making judgments about the interns performance was management with 11 responses, in the second wave, interns indicated feedback from the field instructor was most often used

to make judgments of their performance, with 20 responses scoring in that category. In the third wave the category most often mentioned as to where interns gathered information to make a judgments of their performance was in the instructional category with 26 responses scoring in that category. The second highest category for both wave two and wave three was management (see figure 4.6).

Difficulties and effort in lesson presentation and planning

The second topic area of the open ended questions asked interns to reflect on the perceptions of the difficulties in presenting the lessons and the effort the interns perceived they put forth in the preparing for their lessons. In wave one the highest count (33) was no response, with the second highest count at 17 responses indicating the interns felt the lesson was easy to present. In wave two and three, easy was the highest category each wave with 32 and 29 indications that the lesson was easy to present, with the second highest category for wave two and three being "difficult" indicating that there 20 and 21 responses felt it was difficult to present the lesson (see table 4.7).

The next open-ended question for the second topic area asked for the interns' perception of effort expended in preparing the lesson. For wave one of administration the highest response was no response because a large number had not been formally observed and therefore left the question blank. However in wave two and wave three 26 and 31 of the interns' responses indicated that they had put forth a substantial amount of effort and the second highest for both of those wave were "no perception" with 23 and 28 of the responses tallied for that category. This indicates that the most of the interns felt they had put a substantial effort or a judgment of the effort was not clearly indicated in the response (see figure 4.8).

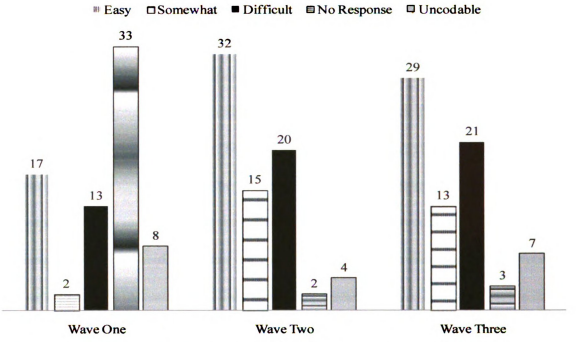


Table 4.7. Interns' perception of difficulty in lesson presentation.

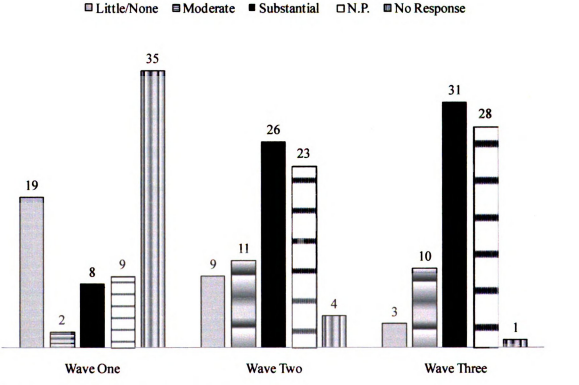


Figure 4.8. Perception of effort in preparing lesson

Agreement

The "agreement" question grouping examined the degree to which interns agreed with feedback given by supervising personnel. The overwhelming majority of the interns in all three waves agreed with the feedback given to them by either the university field instructor or the cooperating teacher. None of the 69 respondents in the first wave disagreed with their supervisors. In the second wave of survey collection, there were three responses (4%) indicating that they somewhat agreed/disagreed and one response (< 1%) disagreed with the field instructor out of 72 responses. In the third wave, there were three responses (4%) indicating that they somewhat agreed/disagreed with the feedback out of 71 statements, and no responses indicated that they disagreed with the field instructor.

Seldom did interns write about disagreements with their cooperating teacher. In the first wave, 1% of the interns' statements somewhat agreed/disagreed and 4% disagreed out of 68 statements. Wave two had 7% of the statements indicating that the interns somewhat agreed/disagreed and 3% disagreed out of 76 statements. In wave three, of 71 statements, 4% of the statements only somewhat agreed/disagreed with the feedback given by the cooperating teacher.

CHAPTER FIVE

DISCUSSION

The benefits of higher teaching self-efficacy have been documented in a variety of studies (Armor et al., 1976; Gibson & Dembo, 1984; Henson, 2001; Hoy & Woolfolk, 1990; Simmons et al., 1998; Tschannen-Moran et al., 1998, 2001). Ross (1994) found robust correlations between teacher self-efficacy and use of effective teaching practices which, in turn, are beneficial for students with disabilities (Chester & Beaudin, 1996; Bender & Ukeje, 1989; Gibson & Dembo, 1984; Soodak & Podell, 1993). Studies (Bender & Ukase, 1989) have found a positive correlation between teacher use of effective instructional practices and high teaching efficacy. For example, teachers with higher teaching self-efficacy are less critical of mistakes (Gibson & Dembo), they persist in the task of teaching even when faced with failure (Gibson & Dembo), are less likely to refer to students to special education (Soodak & Podell), and positively affect students' self-efficacy (Midgely, Feldlaufer, & Eccles, 1989).

Preservice teachers who have higher self-efficacy have similar instructional behaviors to those of in-service teachers who have more experience. Teacher level of satisfaction with support and preparation during the internship year of teaching is an indicator of higher teaching self-efficacy (Hoy & Spero, 2005). General education student teachers who believe that they have the knowledge, skills, and ability to perform the tasks required to teach students tend to have high teaching efficacy;" (Tschannen-Moran et al., 1998). Research also shows that preservice teachers' teaching self- efficacy is more malleable during times of inexperience (Chester & Beaudin, 1996) and formal knowledge can have an effect on preservice teachers' efficacy (Masengill-Shaw, Dvorak,

& Bates, 2007). It also appears that preservice teachers' teaching self-efficacy can be influenced by contextual factors or sources of self-efficacy than in-service teachers (Tschannen-Moran & Woolfolk Hoy, 2007).

The purpose of this study was to compare the teaching self-efficacy of two groups of interns at three points in time over the semester using an integrated model of teaching efficacy as a conceptual framework. The goal of this research was to understand more about the teaching self-efficacy of interns and to provide more information regarding the changes in and comparison of teaching self-efficacy profiles of interns in two different preparation programs, general and special education. It was also an endeavor to answer a call by Pugach (2001) and Brownell & Pajares (1999) to broaden the literature base of comparative studies between preservice special educators and general educators.

Differences in Preparation Groups

The first question asked if there was a difference in teaching self-efficacy between general and special education preservice teachers. Over the course of a semester, there were no statistically significant differences in the TSES sum scores between the interns preparing to be general educators and those preparing to be special educators on any of the three measurement waves. This indicates that general education and special education interns teaching self-efficacy changed in similar ways. In addition, it did not matter whether the special education interns were in their special education or general education placement. The scores of special education interns in the two different placements were not statistically significantly different nor were they statistically significantly different from the general education interns.

It appears that no matter which preparation program or placement option (special education interns had two different placements); the two groups of interns did not have statistically significant differences in their teaching self-efficacy. Interns in both preparation programs at this university will have another semester of internship and, therefore, differences may appear later in the internship. However, differences did not appear in the first semester. These results suggest that, at least within this sample, that placement and preparation program are not significant factors in the development of teaching self-efficacy. The placement did not affect the developing TSES scores as general and special education placements developed over the semester in the same manner. The placement in type of school (urban, suburban and rural) was also not a determining factor of the development of TSES along with the type of preparation program.

Changes in Teaching Self-Efficacy

How teaching self-efficacy changes over the course of one semester of student teaching was the second question investigated. Tschannen-Moran et al. (1998) found that preservice teachers teaching self-efficacy increases during the course of student teaching. The increase in teaching self-efficacy through the semester, as Tschannen-Moran et al. (1998) hypothesized, might be related to the acquisition of mastery experiences along with vicarious experiences and verbal persuasion that informs preservice teachers' judgments about their teaching self-efficacy.

The means of teaching self-efficacy scores, as measured by the TSES, increased from an average of 149 to 162. A pairwise comparison indicated there was a significant difference in the means from wave one to wave three and from wave two to

wave three. This shows that changes in teaching self-efficacy occurred primarily after the second wave of administration. The change of teaching self-efficacy was typical of other studies (Knoblauch & Woolfolk Hoy, 2008) in which researchers also found an increase from pre to post survey. However, it appears that for this sample the changes occur about half way into the first semester of the internship. Hoy and Woolfolk (1999) found that preservice teachers entered the student teaching experience with a higher sense of General Teaching Efficacy (GTE) than when they finished the experience. Conversely preservice teachers Personal Teaching Efficacy (PTE) increased from before student teaching to post student teaching. Interns, in this study, steadily increased what over the semester, mirroring the results of PTE construct in the Hoy and Woolfolk study.

One major factor explaining the differences between the Hoy and Woolfolk study and this study is Hoy and Woolfolk measured teaching self-efficacy using the Gibson and Dembo (1984) instrument. This instrument situated the concept of self-efficacy with two constructs, GTE and PTE, and within those constructs GTE was the less defined of the two and many disagrees over the conceptual underpinnings of GTE. Emmer and Hickman (1990) speculated that GTE is actually a construct addressing external factors, others (Ashton & Webb, 1986; Gibson & Dembo, 1984; Riggs & Enochs, 1990; Soodak & Podell, 1996) categorized GTE as an *outcome expectancy*, a belief that an action will lead to learning. In personal communication with Bandura, Woolfolk and Hoy (1990) disagreed with the translation of the GTE as outcome expectancy construct (1990). Bandura argued that "outcome expectation is a judgment of the likely consequence of an action, whereas efficacy expectation is the judgment about ability to perform an action" (as cited in Woolfolk & Hoy, 1990, p. 82). The TSES appears to represent the PTE

construct as in both studies the teaching self-efficacy increased over the course of a semester.

Factors Influencing Teaching Self-efficacy

The third research question asked about factors influencing teaching self-efficacy. A multiple regression model was used in an attempt to isolate factors that contributed to self-efficacy scores in the third wave. The sum of the second wave was the highest predictor of the sum of the third wave. The only other variable that was significant in the multiple regression analysis was the reported amount of teaching time measured at the third wave and it only accounted for 3% of the variance. Unfortunately, this type analysis cannot determine whether or not hours of teaching during the internship are causally related to self-efficacy. Nor does the analysis suggest which came first, whether an intern has a higher teaching self-efficacy therefore engages in more teacher-like behaviors, or if the experience of engaging in teacher-like behaviors increases teaching self-efficacy.

None of the other variables, such as grade point average, credit hours or students in the class, predicted the sum score in the third wave. Nor did school type (urban, suburban, or rural) have an influence on preservice teaching self-efficacy. This is similar to Knoblauch et al. (2008) finding that individual teaching self-efficacy scores of preservice teachers increased significantly after they engage in student teaching, regardless of the type of placement of the school. This result led the authors to conclude that setting was not a significant factor in preservice teaching self-efficacy, which seems to be the case in this study

Profiles of those with High and Low Teaching Efficacy

To learn more about the profiles of the interns who scored either the lowest scores or the highest scores according to the TSES, 20% of the participants from the total data set (10% from the high group and 10% from the low group) were examined to determine if distinctive or universal qualities for these group. There were three low groups and three high groups to represent each wave of the survey. There were some notable differences and similarities between the high and low groups.

Differences

The first difference between the groups was that those in the lower group had a tendency to stay in the lower group at all three waves, whereas those in the higher group moved out of the top eight positions more often. In the low group there were four interns (50%) who stayed in the low position for all three waves, whereas in the high group there were only two interns (25%) who stayed in the high position for all three waves. This appears to confirm that those who score themselves lower on teaching efficacy may be more at risk than others for eventually developing into classroom teachers who have a lower teaching self-efficacy. The lower group appears to be less malleable than the higher group in terms of teaching self-efficacy. The standard deviation for the lower group consistently increases and in the third wave appears to be twice as large as the high group, possibly indicating those who scored in the higher group had scores that tended to cluster together than the lower group.

More special education interns were in the high group than were general education interns at each wave point. At the first and third time points, three of general education interns (n=43) and five special education interns (n=25) were in the high group

(8 possible positions) whereas, in the low group there were six general education interns (n=43) and two special education interns (n=25) out of eight possible positions. During the second time period, the composition of the low group did not change; however the high group did change, having five general educators and three special educators in the high group. As a group, special educators more often were among the top 10% of the high teaching self-efficacy groups, meaning that rated themselves higher more often than the general education counterparts. There were fewer special education intern participants than general education interns yet they occupied more of the spots in the higher group. This could also indicate that more of the special education interns were near the higher 10%.

However, the lack of progress from the low group could be a function of the interns with lower scores tending not to increase their teaching self-efficacy therefore staying in the low group as opposed to those individuals in the higher group. Those with lower teaching self-efficacy may have more difficulty increasing their teaching self-efficacy due to the cyclical nature of self-efficacy and if they have negative experiences due to lack of self-efficacy those experiences feed in to future expectations of teaching performance and continue to create a lower self-efficacy.

Pajares (1996) discussed characteristics of people with higher self-efficacy, stating they have a tendency to persist in a task and have more resilience whereas people with lower self-efficacy have a tendency to perceive situations as more difficult than those who have a higher self-efficacy (1996). This study suggests that there appears to be some relation of the characteristics of people who have a general higher self-efficacy and those who have higher teaching self-efficacy. Bandura (1977) suggests that teacher's

self-efficacy beliefs are related to the goals they set, the time they invest in teaching, and their ability to persevere in the face of setbacks (Tschannen-Moran et al., 1998). It is also suggested that "teachers who do not expect to be successful with certain students are likely to put forth less effort in preparation and deliver of instruction and give up easily at first sign of difficulty" (Tscannen-Moran & Hoy, 2007, p.945).

The interns who scored in the high TSES group consistently reported more teaching hours in the placement class. The high group could have more teaching hours due to their high self-efficacy and, therefore, choosing to invest more time into teaching or willing to risk more (i.e. not make a mistake) and, therefore, teach more. Or, perhaps the reverse is true, i.e., they had higher self-efficacy because the coopering teacher (CT) or field instructor (FI) allowed the intern more opportunities to engage in teacher-like behavior, which, in turn, fed an intern's teaching efficacy and increased it. It is impossible from this study to determine if a preservice teacher teaches more in the CTs' classes because they have higher self-efficacy, or if the time allotted by the CT for the student intern to teach has informed the intern's self-efficacy by giving them more mastery experiences.

High TSES group of interns also reported taking more credit hours for their degree, and having lower GPAs then those in the low TSES group. Perhaps higher self-efficacy ratings translated to preservice teachers via the lower GPA but have the resiliency and risk to take more credit hours. This could partially explain why those with higher teaching self-efficacy also engaged in more credit hours, i.e., they were willing to risk their GPA to take more credit hours. Future considerations for studying teaching

self-efficacy should be the impact grades have at the undergraduate years and how grades inform ones teaching self-efficacy.

Similarities

The demographics of the interns' placement classrooms were very similar in both the high and low groups. These classes were comparable in both class size and the number of students with individual education plans (IEP). Neither the number of students nor the number of students with IEPs had a remarkable influence on the outcome of the interns TSES score in terms of the highest group and lowest group. This could indicate that class size or diversity of the class does not negatively or positively affect the teaching self-efficacy of interns according to the TSES.

High and Low TSES Groups and Judgments of Performance

Because those with lower self-efficacy have a tendency to view their situation as tougher than those with higher self-efficacy, and possess a narrow vision of how to problem-solve (Pajares 1996) the researcher expected that this would be reflected in the eight open-ended survey questions from the low TSES group. The responses from the group of interns in the high and low TSES groups in term of "success or failure and why," "difficulty and effort," and "agreement with supervisors" were all similar.

One question at the end of the survey that was not analyzed for the whole group because it was not a mandatory question and asked if participants had anything else they wanted to share. It was in this response to this last question that the answers appeared to show a difference in demeanor of the interns in the high and low groups as the comments were likely to be more positive from those in the higher group. The high group and low group both responded to the question (it was optional) at the same rate however, the high

group had a tendency to express excitement for the process of student teaching. The following comments are two examples out of the four responses received in the first wave:

"I'm so enlightened to be learning so much about being a teaching [sic]. I'm looking forward to a successful year student teaching."

"I am loving my internship and am so glad that we will be well prepared after a whole year of teaching. I also recommend urban schools because you get to see everything that may present problems in your future teaching career and can learn about them before you have to deal with them on your own!"

The low group in the final question had two interns who voiced concern about entering the work force as a teacher: Both of these comments were from interns who were in the low group at wave one and only five of the eight interns answered the question. Both of these interns did not remain in the low group and their sum scores did increase as the semester increased.

"I feel frustrated because so much of the work so far has been labor intensive, but with nothing really showing for the work. I think it will get better, but right now it is really hard to view myself as a teacher who is actually effective and engaging."

"So far it is going pretty well, but exhausting. Going into this internship I wasn't fully sure of my decision to go into teaching, but I am starting to see myself in this role a bit more. I'm not sure if it will be my lifelong career, but I am enjoying it."

The initial wave of responses to the open ended optional question appears to be confirming previous studies about self-efficacy (Pajares, 1996) that those with lower self-efficacy appear to be more negative in general. However those in the low group, who

wrote about the concerns of entering the work force as teacher, were interns who did not stay in the low group. Bandura (1994) indicates that those with lower self-efficacy are less likely to persist in the task and either readjust or give up their goal. Perhaps, those interns readjusted their goal and moved out of the lower group.

The high and low group, at the second and third wave, respond to the optional question with noticeable differences. Those in the higher group answered the question more frequently (5 out of 8) and wrote longer responses (average word length 128 vs. 79) and less likely to include a negative statement with a positive statements. Two comments from the high TSES group are below.

"I am truly happy to be in a classroom where I have been allowed to teach the ELA curriculum since the second week of school. My CT has confidence in my abilities and skills and he relinquishes the reins completely when I'm teaching LA or science, observing and then giving me constructive criticism and feedback every few weeks. He wants me to be the best professional that I can and I take his feedback very seriously. He points out little things (like me re-voicing students' statements and questions) and asks me questions about how I think I'm being perceived and judged by others. I have heard from other interns that their CTs don't let them teach and/or do not communicate well with them. I know that my CT trusts my abilities and experience with children and he wants me to be the best that I can be."

"I am loving this experience, I have really enjoyed being able to sit in on parent teacher conferences with my CT because I have learned so much about my students from meeting and talking to their parents. I hope I am able to absorb this experience completely because sometimes everything is happening so fast that I feel I am just an observer.

Students have really started to open up, and they all noticed when I was present on a Thursday and not at my University classes. They are genuinely interested in learning and I just hope they are getting as much from me as I am getting from them."

Only three interns in the low TSES group at the second wave point, and four interns at the third wave point answered the optional question. The responses they wrote were shorter and expressed more doubt and concerned:

"I feel that it is difficult not to doubt yourself, because you have so many people observing and watching you."

"I think that things are going great. I am getting much more responsibilities now. I am still having problems with one student in particular with behavior issues. My CT, the principle [sic] of my school, and his previous teachers have no idea of how to handle him."

The two aforementioned comments from the interns in the high group at the second wave were not in the high group for all three waves, yet those aforementioned comments from the interns at the low group at the second wave were in the low group at all three waves. Perhaps at this point in the semester those with lower teaching efficacy are more likely to remain in the low group, unlike in the first wave, it appears that those who took the time to reflect did not increase their teaching self-efficacy.

Information Interns Considered for Perceptions of Success

In order to identify the information interns use to make judgments of their teaching self-efficacy, eight open-ended questions were included at the end of the survey while only seven were analyzed as mentioned earlier. Survey question one asked if an intern felt successful in their teaching and why they felt that way made up the first topic

area. During the first wave of questions, many interns did not classify their observations as successful because many had not had an observation at that point in time. In the second wave of administration, more responses 63% indicated more interns felt they had done well or had rated themselves as "successful" in their most recent observation and in the third wave 60% of the interns felt successful. Whereas, 13% of the responses felt they were unsuccessful in the second wave and 3% in the third wave. There appears to be a relation between feeling successful and the current observation schedule. The growth in the sum TSES score appeared after the second wave, which was scheduled in attempt to capture interns teaching self-efficacy after a formal observation occurred (wave two). Earlier statistics (t-tests) indicated that the differences between the sum scores appear from wave one and wave three and wave two and wave three. A change occurred from wave two and wave three with higher TSES score and more interns indicating that they felt successful. Chester and Beaudin (1996) studied newly-hired teachers and found that common school practices, such as more than five visits from a supervisor, positively influenced the teaching self-efficacy of new teachers. This finding may suggest that visits from a field instructor positively influence the sense of teaching self-efficacy of interns and, thereby, highlights the importance of those visits.

Other changes from wave two to wave three also included the information that interns used to make judgments about their performance. Interns considered their success based on feedback received from the field instructor, the cooperating teacher, and/or student performance. The interns wrote more in quantity and details about the information that informed their teaching self-efficacy judgments as the semester progressed. There were 73 participants but only 25 offered a response (responses left

blank or that did not answer the "why" question were not scored) in the first wave. However, this number jumped to 79 in the second wave of administration and 93 in the final wave). In the third wave, the responses had the most depth; often indicating more than one type of feedback was used in the judgment of the interns' success. Over the course of the semester, the interns' identification of the feedback grew in length with more details, as indicated by scoring in more than one category at the second and third wave. In the first wave, there was not much indication of why an intern felt successful.

Along with detailed and longer responses, the individual to whom the intern looked to for the feedback changed over the semester. The field instructor category was the largest in the second wave, with 25% of the responses indicating that information for judgment of the interns' teaching self- efficacy came from the field instructor. Only 3% of the responses indicated feedback from the cooperating teacher was used to make judgments about the interns' performance. This could be due to the survey question placement, as the question was asked immediately following a question that asked the intern about the most recent observation conducted by the field instructor. Other possibilities could be, because observations were a part of the university requirement, the cooperating teacher did not offer feedback to the intern on that occasion and, therefore, the intern did not consider it in his/her response or that the cooperating teacher did not provide formal feedback to the intern. Borko and Mayfield (1995) found that cooperating teachers believed the major source of feedback about an intern's teaching should not come from them but, rather, the experience of actually being in front of the classroom and engaging in teacher behaviors. Another consideration regarding the lack of cooperating teacher feedback to the intern is that the coopering teachers may not want to

potentially provide conflicting feedback and, therefore, do not offer much (Borko & Mayfield).

Earlier in the semester, interns relied more on their field instructors to tell them they had been successful. As the semester progressed, interns considered their students' feedback (both direct and indirect) in making judgments about their own teaching self-efficacy. Interns in the third wave were less likely to indicate they felt successful based on the direct influence of the field instructor (12% down from 25%), e.g., "I was successful because my FI said I did well." It is as if the interns begin to conceptually understand that teaching is less about a performance but more about students' learning. Tshannen-Moran et al. (1998) explained, "Cognitive processing determines how the sources of information will be weighed and how they will influence the analysis of teaching task and personal teaching competence" (p. 230). Interns in the third wave were more likely to respond the source of student feedback in terms of performance of the student to make their judgments of teaching self-efficacy. Under Bandura's (1994) construct of self-efficacy motivational process suggests that teachers with high self-efficacy are more willing to take responsibility for student achievement; they believe that specific teaching strategies will produce the desired outcome and work to achieve small, attainable goals (Bandura, 1994; Ross, 1994). Interns pointed to indicators such as student assessment results or other ways in which students demonstrated knowledge of what the interns were trying to teach.

This increase in responses about the student feedback as the semester progresses could potentially be a sign that a change is occurring within the interns regarding their confidence, belief, and attention to the act of teaching. In the second wave the student

feedback often listed was in the management category, 32%. Interns would indicate the observation went well with the exception of something they felt was a class- management issue. In the third wave, interns still wrote about management however instructional strategies had an increase (from 21% to 33%) in feedback. By the second wave of administration, more interns identified student feedback (both direct and indirect) as reasons for feeling successful or not. This was true for the third wave of administration as well. The number of responses and the shift in focus of the feedback was less on the responsibility of the field instructor and more on the students. This shift was seen in the interns' consideration of the information utilized to make their judgments about their teaching self-efficacy.

Agreement with Supervising Personnel

At all three waves, the majority of the interns agreed with the feedback given by either the field instructor or the cooperating teacher. If the interns did disagree with supervisors' feedback, which was rare to begin with, it was more often that the intern disagreed with the coopering teacher (CT) rather than the field instructor The disagreements that occurred happened in the second wave and out of 73 responses only out three disagreed and two out of three were disagreements with the cooperating teaching. A possible explanation for this finding is that student teaching is generally meant to encourage interns; therefore, there is a "high priority on being positive in the [supervisors] interaction with student teachers to build their confidence" (Borko & Mayfield, 1995, p. 516). Interns wrote that often feedback from their field instructors was more about their disposition and less about how they taught. (i.e. "The last lesson my field instructor observed, the most significant impression she left with me was that my

having a generally calm personality translated to the children and how they worked in calm matter.") This response was typical of the feedback from the field instructor that the interns wrote about, suggesting that the significant impressions from their observation were usually positive in nature and therefore more difficult to disagree with the feedback.

Effort and Difficulty in Lesson Planning

Perceptions of effort and lesson difficulty remained somewhat constant through each of the three waves of the survey. The responses indicated the majority of the interns felt presenting their lesson was easy, with the exception of the first wave, where interns indicated it was not an applicable question because they had yet to have an observation. When viewing perception of effort more of the interns indicated that their perception of teaching the lesson was easy (44%) in wave two and (40%) in wave three. However, perception of the effort extended for the lesson observed was reported as substantial (36%) and (42%) for waves two and three respectively. It could be the case that the lesson was considered easy to teach because of the large amount of effort expended in preparation. For example, one intern reported that, "The lesson was easy because I was prepared." However, occasionally they would say it was easy because it was routine (a classroom procedure) and not a "real" lesson.

While coding for perceptions of effort there were responses from interns that did not address effort exerted in planning therefore making it difficult for the researcher to quantify the perception of the effort extended. The category was titled "*N.P.*" for "no perception" and, as discussed in the previous chapter, meant the intern never indicated if the effort extended was a substantial amount or a small amount. Interns would write about the amount of time they took to prepare the lesson, whether it was hours of

research, meeting with their cooperating teacher, or preparing the materials; however, sometimes they failed to indicate if they considered this to be a little effort or a large amount of effort. This made it impossible to judge the intern's perception of effort extended. It was unfortunate that the intern did not provide a "judgment" of the effort because this "N.P." category became the second largest response in the second (n=23) and third (n=28) waves.

Limitations

There are several limitations of this study. First, as is true of other research about self-efficacy, all data collected in this study were self-report data. Responses might be influenced by a social desirability bias, that is, participants tend to report what they believe a researcher wants to hear and in a manner that reflects positively on their abilities (Cook & Campbell, 1979). Another potential limitation, inherent in survey research, is selection bias. Perhaps those interns who have a higher teaching self-efficacy are also the ones who respond to a request for a survey whereas those who do not respond might have a lower teaching self-efficacy. This would skew the results in favor of those who have higher teaching self-efficacies. If this is the case, this study presents a very limited view, especially when comparing the high teaching self-efficacy group versus the low teaching self-efficacy group because there would be less of an opportunity to study those who might have had lower teaching self-efficacy than the participants. However, the analysis of interns who left who left the study from wave one to wave two and from wave two to wave three, as discussed earlier, suggests that this was not the case. Those participants who dropped out of the study had a wide range of sum scores and did not cluster around the lower end of the scores.

The ability to generalize to a larger population due to other factors is also a limitation. The sample was drawn from one university whose student teaching internship requires one year of participation, rather than 16 weeks, as do most traditional preparation programs. The participants were mostly white middle-class females, as are most students enrolled in the program, limits the ability to compare to a more diverse group of interns. Also the nature of the field placements, the nature of the cooperating teacher, and the number of observations are all very specific to the study and this limits ability to generalize.

Implications and Future Directions

Student interns at this institution have similar teaching self-efficacy, no matter which program they complete. During the fall semester of their internship there is an increase in their sense of teaching self-efficacy between the beginning and the end of the first semester. The information interns use to make judgments of successful teaching experiences change from field-instructor feedback to more student-centered information. This study appears to have captured a glimpse of a transformative passage for interns as they progress through the internship. When they start the internship, these preservice teachers have a lower self-efficacy and seldom report information used to make judgments about the success of their observations. From wave one to wave two there was not a statistically significant increase in the TSES scores, nor were there many responses from the interns indicating the information they used for judgments of success. However, from wave two to wave three there is a significant increase in scores along with more responses from the interns indicting that information from the field instructor helped shaped their judgments about a successful observation. The field instructor is a person

who helps shape the judgments the interns make about themselves. It wasn't until after a formal observation (wave two) that the interns' self-efficacy increased indicating that the act of being formally observed may play a very important part of the intern experience.

These results demonstrate that the preservice teachers at this institution developed a higher teaching self-efficacy as the semester progressed, without any regression over the course of the semester. Thus, it may be the case that teaching self-efficacy will continue to increase as the internship progresses in the spring semester. If this is the case, it might be possible to speculate that programs such as this one, are preparing a new work force that have a high teaching self-efficacy and, perhaps, the effective teaching behaviors associated with high teaching self-efficacy. Self-efficacy researchers would benefit from more long term studies to see how preservice teachers' self-efficacy translates into their classroom when they enter the workforce.

Other teaching self-efficacy studies indicate that teachers with a higher teaching self-efficacy possess a higher level of satisfaction with their support and preparation during the internship year (Woolfolk Hoy, & Burke Spero, 2005). If interns in the first semester of student teaching develop a higher teaching self-efficacy as the semester progresses there is possibility that they will carry that into first year of teaching and feel well prepared by the institution.. The preparation institution will benefit because the new teacher will act as an ambassador of sorts and promote the good will and preparation of having been prepared at their institutions through the first year of teaching.

For teacher educators, a lower teaching self-efficacy score may be of concern as interns enter the classroom. In this sample, the lower 10% scores appear relatively constant. If lower scores are harder to increase then interns might enter into the

workforce with lower teaching self-efficacy. Teachers in their first year of teaching with low self-efficacy may not use instructional practice that are as effective (Bender & Ukeje, 1989), and may be less likely to improve his/her self-efficacy. Pajares (1996) noted that teachers who have low self-efficacy are more prone to depression, have a narrow perspective on problem-solving, and believe their situation is more challenging than it truly is, all of which foster stress and in turn increases teacher burnout (Pajares, 1996). Ways to improve low self-efficacy for the preservice teachers is an area that needs to be examined in future research.

While this study began to look at the feedback an intern used to make judgments about their performance during their student teaching experience more research needs to be conducted to tease out the effect of different sources that inform teaching self-efficacy. Empirical evidence is nonexistent when examining how sources contribute to teaching self-efficacy (Henson, 2001). This study touched on the importance and transformative journey that occurs for interns however, it is difficult to sort out what has the most impact to the interns' teaching self-efficacy. Understanding more about the effects of sources on teaching self-efficacy would allow educators to emphasize sources that produce the biggest impact. Since teaching self-efficacy is related to many positive attributes in the classroom information about how to affect the change and nurture the development of teaching self-efficacy should begin the next generation of investigations.

Appendices

Appendix A

Survey Instrument

Please answer the following questions.

1. After your receive your certification will you seek employment as:

General Education Teacher
Special Education Teacher
school employee other than a teacher
None of the above

2. How would you best describe the school of your placement?

Inner City
Suburban
Rural

3. List the grade where you will be completing your fall 2008 internship.

4. List the number of students in your class (Fall 2008) where you are completing your internship?

6. How many students do you have in your general education classroom internship (fall 2008) that have an IEP or are receiving some type of special education services?

7. Has your placement changed since you last took the survey?

8. If the answer is yes above, please list the name of the new school and address.

9. Including yourself and your cooperating teacher how many adults are in the general education classroom helping during the day. If you are in a special education internship please write: SPED

10. Approximately, how many hours of typical school day do you engage in teacher like behaviors (e.g. tutoring students, grading, presenting a lesson, writing lesson plans, following up with parents or other school professional, conferencing with students)

none
under one hour
one to two hours
two to three hours
three to four hours
four to five hours
five to six hours
six to seven hours

more than seven hours

11. Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teacher interns. Please indicate your opinion about each of the statements below keeping in mind the students in your classroom where the majority of your internship takes place.

	Not at All		A Little Certain		Somewhat Certain		Mostly Certain		Very Certain
a) How certain do you feel that you can get through to the most difficult students?	1	2	3	4	5	6	7	8	9
b) How certain do you feel that you can help your students think critically?	1	2	3	4	5	6	7	8	9
c) How certain do you feel that you can control disruptive behavior in the classroom?	1	2	3	4	5	6	7	8	9
d) How certain do you feel that you can motivate students who show low interest in school work?	1	2	3	4	5	6	7	8	9
e) How certain do you feel that you can make your expectations clear about student behavior?	1	2	3	4	5	6	7	8	9
f) How certain do you feel that you can get students to believe they can do well in school work?	1	2	3	4	5	6	7	8	9
h) How certain do you feel that you can respond to difficult questions from your students?	1	2	3	4	5	6	7	8	9

12. Please continue to rate the statements below.

	Not at All		A Little Certain		Somewhat Certain		Mostly Certain		Very Certain
a) How certain do you feel that	1	2	3	4	5	6	7	8	9

you can establish routines to keep activities running smoothly?									
b) How certain do you feel that you can help your students' value learning?	1	2	3	4	5	6	7	8	9
c) How certain do you feel that you can gage student comprehension of what you have taught?	1	2	3	4	5	6	7	8	9
d)How certain do you feel that you can craft good questions for your students?	1	2	3	4	5	6	7	8	9
e) How certain do you feel that you can foster student creativity?	1	2	3	4	5	6	7	8	9
f) How certain do you feel that you can get children to follow classroom rules?	1	2	3	4	5	6	7	8	9
g) How certain do you feel that you can improve the understanding of a student who is failing?	1	2	3	4	5	6	7	8	9
h) How certain do you feel that you can calm a student who is disruptive or noisy?	1	2	3	4	5	6	7	8	9
i) How certain do you feel that you can establish a classroom management system with each group of students?	1	2	3	4	5	6	7	8	9

13. Please continue to rate the statements below.

	Not at All		A Little Certain		Somewhat Certain		Mostly Certain		Very Certain
a)How certain do you feel that you can adjust your lessons to the proper level for individual students?	1	2	3	4	5	6	7	8	9
b)How certain do you feel that you can use a variety of assessment strategies?	1	2	3	4	5	6	7	8	9

c) How certain do you feel that you can keep a few problem students form ruining an entire lesson?	1	2	3	4	5	6	7	8	9
d) How certain do you feel that you can provide an alternative explanation or example when students are confused?	1	2	3	4	5	6	7	8	9
e) How certain do you feel that you can respond to defiant students?	1	2	3	4	5	6	7	8	9
f) How certain do you feel that you can assist families in helping their children do well in school?	1	2	3	4	5	6	7	8	9
g) How certain do you feel that you can implement alternative strategies in your classroom?	1	2	3	4	5	6	7	8	9
h) How certain do you feel that you can provide appropriate challenges for very capable students?	1	2	3	4	5	6	7	8	9

Think back to your most recent visit from your university field instructor—that is, the instructor from MSU who visited you and provided feedback about your field experience. Please answer the following questions with the most recent visit in mind.

14. You may have some impressions (good and bad) on how well you completed your goals (for example: teaching students a learning objective, tutoring a student, managing the classroom or other teacher type tasks) during that observation. Please explain what your most significant impression was of that observation (successful or unsuccessful) and why?

15. How difficult was this lesson or activity for you to teach and why?

16. How much effort did you put into planning this lesson or activity? Please explain.

17. Please describe the specific feedback you received from your university field instructor.

18. Did you agree or disagree with the feedback, why and why not?

Think back to the most recent feedback you received from your cooperating/collaborating teacher, either through formal or informal observations, or through casual conversations.

19. Please describe specific feedback you most recently have received from your cooperating/collaborating teacher.

20. Did you agree or disagree with the feedback, why and why not?

21. Is there anything else you care to share about your internship?

Thank you for your time and effort. If you have any questions or additional comments please email Carrie Anna Courtad at courtadc@msu.edu

Appendix B

Codebook Question Success/Why	
Categories	**Quotes –Not corrected**
NA=Means they didn't answer the questions because they haven't had an observation yet	*My field instructor really hasn't seen me actually teach in the classroom yet. The only time that she has come in has been when my CT has been teaching and I have been interacting around the classroom. At this point, I can't thoroughly answer this question.* *I have not yet taught a lesson on my own.*
Successful They say that their perception is positive , they felt successful .	*have reached my goal of explainin borrowing and carrying during addition and subtraction of two digit numbers. I was successful after two days of instruction because the students had began ton understand that borrowing from the tens place to get more ones was necessary.* *I think that the observation went well because students were engaged.* *I have only read a story to the students so far and I feel that they enjoyed it and were able to answer correctly when asked questions about the plot.* *It was successful because I completed my lesson feeling confident that the students learned about the /k/ sounnd.* *was very good at managing the class during a math group assignment. I kept circulating the room and helping student when needed! I also kept the noise level down to a tolerable level!* *I think I did well, I was able to engage*

	all students (to my surprise) and they really got into the lesson. I think it helped using computers with the graphics to not only make it more interesting but also to help students understand more clearly. *read to the students and my CT observed my and I thought it went well. I thought I read too fast and wasn't always sure how to respond to students when they answered questions, but overall it went well and I think I stopped at good times to check for understanding and predict.*
Not Successful They didn't feel successful Felt horrible	*The other day I gave a final spelling test, but not all the students had to take it if they had gotten a 100% on the pretest. It was very difficult keeping those students quiet and engaged in other work while the other students took the spelling test.* *My field instructor observed me working with a group of students during Guided Reading. I was slightly upset because some of the students were not following the classroom behaviors that they know are expected of them. After* *I feel like the lesson was unsuccessful.* *Unsuccessful at managing the class*
Somewhat They were not as clear as to how their observation when. They included both positive and negative feedback	*Overall my teaching of a basic spelling lesson went well. However the students did not listen as well as I wish they had. They definitely listen to my CT better than me. So far, I have not done a very good job with my classroom management. I have had a hard time getting students to stop talking and to listen to what I have to say, which in turn means they are not*

	learning everything they are supposed to. However, it has only been a week, and we are reviewing my lesson tomorrow, as well as getting stricter and enforcing our routines more in the classroom, which should help me with the management and I'll know more about whether or not I have been able to complete my lesson objective from the review. *feel I am learning a lot of different strategies from my CT and my FI is seeing me implement some of these strategies...I am not sure if I feel that meeting with my FI can be labeled successful or unsuccessful, but rather fulfilling a requirement instead.*
BLANK/Unscorable No indication about how it went/out of context?	*I was told that I didn't meet all of my goals which was frustrating.* *I agreed with everything she said, both the good and the bad.*
Feedback by FI The intern directly attributes the success to something the FI has done or said	*my most significant impression was that I looked like I beling up in front of the students. Mt field instructor told be that I looked like I was enjoying myself, and that I showed great confidence. This made the most impression on me because I have been questioning my teaching lately.* *My FI could tell I was unprepared.* *I was really unsure of how my lesson would go or how my FI would feel about it, but she was actually really positive about what I did. She mentioned that my relationship with the student was obviously very positive, which made me feel good about my ability to gain trust with my students.*

Feedback by CI-The intern directly attribute the success or failure to something the CT has done or not done.	*read to the students and my CT observed my and I thought it went well. I thought I read too fast and wasn't always sure how to respond to students when they answered questions, but overall it went well and I think I stopped at good times to check for understanding and predict.* *feel I am learning a lot of different strategies from my CT and my FI is seeing me implement some of these strategies...I am not sure if I feel that meeting with my FI can be labeled successful or unsuccessful, but rather fulfilling a requirement instead.*

Feedback by Student performance	*The observation was successful in large part due to the lesson being recieved well by the students. They responded well, which provided the discussive environment that I had as a goal.*
Management	*Overall my teaching of a basic spelling lesson went well. However the students did not listen as well as I wish they had. They definitely listen to my CT better than me.* *So far, I have not done a very good job with my classroom management. I have had a hard time getting students to stop talking and to listen to what I have to say, which in turn means they are not learning everything they are supposed to. However, it has only been a week, and we are reviewing my lesson tomorrow, as well as getting stricter and enforcing our routines more in the classroom, which should help me with the management and I'll know more about whether or not I have been able to complete my lesson objective from the review.*

	My field instructor observed me working with a group of students during Guided Reading. I was slightly upset because some of the students were not following the classroom behaviors that they know are expected of them. After *Successful because the lesson went well and I managed the students well.* *Unsuccessful at managing the class* *was very good at managing the class during a math group assignment. I kept circulating the room and helping student when needed! I also kept the noise level down to a tolerable level!*
Engagement	*I think that the observation went well because students were engaged.* *Teaching a lesson on moon phases went very well, the 5th graders were attentive and engaged. I think they were particularly excited because they didn't get much hands on learning.* *The other day I gave a final spelling test, but not all the students had to take it if they had gotten a 100% on the pretest. It was very difficult keeping those students quiet and engaged in other work while the other students took the spelling test.* *was impressed with the students' engagement and the questions they were able to generate during discussion.* *There was an idea (or reasoning) that I was trying to get the students to come*

	to, but they just didn't get there. I wasn't sure how else to present it or push them and was not really able to get them to make the connections I wanted them to, partially because, in my opinion, the math ws above their heads. (This is these students' first year with EDM.)
Instructional	*have reached my goal of explainin borrowing and carrying during addition and subtraction of two digit numbers. I was successful after two days of instruction because the students had began ton understand that borrowing from the tens place to get more ones was necessary.* *It was successful because I completed my lesson feeling confident that the students learned about the /k/ sounnd.* *During the past couple weeks I have been teaching the children various writing techniques. During this time I have been able to observe the students progress increase dramatically in comparison to the beginning of the year. This was significant because I felt like I had accomplished my learning goals and impacted the students in a positive way.*

Appendix C

Codebook for Difficulties	
How difficult was this lesson or activity for you to teach and why?	Quotes-Direct (uncorrected)
Difficult	*It was a bit difficult because i had to probe students to get them thinking and describing in words and to put those words on paper, without giving them spelling or imputting my ideas onto them. these students do not have a writing background which is difficult* *This lesson was extremely difficult for me to teach because it was a mathematics lesson and I have a grave fear when it comes to approaching mathematics*
Easy-Not difficult-Simple	*I taught a small math group and did an activity working with base 10 blocks for subtracting 2-digit numbers with regrouping. The lesson was fairly easy to teach.*
Somewhat	*It was slightly difficult because I have trouble with time management and gauging how long a lesson will take.*

References

References

Armor, D. J., Conry-Oseguera, P., Cox, M., King, N. J., McDonnell, M., Pascal, A. H., et al. (1976). *Analysis of the school preferred reading program in selected Los Angeles minority schools.* (No. R-2007-LAUSD). Santa Monica CA: RAND Corporation.

Ashton, P. T., Olejnik, S., Crocker, L., & McAuliffe, M., (1982). Measurement problems in the study of teachers' sense of efficacy. Paper presented at the annual meeting of the American Educational Research Association, New York.

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

Bandura, A. (1974). Behavior theory and the models of man. *American Psychologist, 29*, 859-869.

Bandura. A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development. Vol.6. Six theories of child development* (pp. 1-60). Greenwich, CT: JAI Press.

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

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.

Baker, S. K., Gersten, R., Haager, D., & Dingle, M. (2006). Teaching Practice and the Reading Growth of First-Grade English Learners: Validation of an Observation Instrument. Elementary School Journal. 107(2), 199-221.

Bender, W. N., & Ukeje, I. C. (1989). Instructional Strategies in Mainstream Classrooms: Prediction of the Strategies Teachers Select. *Remedial and Special Education (RASE). 10*(2), 23-30.

Brown, M. (2003). *Self-perceptions of rural college special education preservice teachers: Assessing the application of curriculum content knowledge to the actual classroom.* 2003-03-00.

Brown, S., & Nagel, L., (2004). "Preparing future teachers to respond to stress: Sources and solutions. *Action in Teacher Education 26*(1): 34-42.

Brownell, M. T., & Pajares, F. (1999). Teacher efficacy and perceived success in mainstreaming students with learning and behavior problems. *Teacher Education and Special Education, 22*(j3), 154-164.

Buell, M. J. (1999). A survey of general and special education teachers' perceptions and inservice needs concerning inclusion. *International Journal of Disability, Development, and Education, 46*(2), 143-156.

Carlson, E., Brauen, M., Klein, S., Schroll, K., & Willig-Westat, S., (2002) SPeNSE: Study of Personnel Needs in Special Education: Key Findings. *Report to the U.S. Department of Education Office of Special Education Programs.*

Caires, S., & Almeida, L., S., (2005). Teaching practice in initial teacher education: its impact on student teachers' professional skills and development. *Journal of Education for Teaching, 31*(2), 111-120. Retrieved April 14, 2008, from Education Module database. (Document ID: 929860081).

Chen, P., & Zimmerman, B. (2007). A Cross-National Comparison Study on the Accuracy of Self-Efficacy Beliefs of Middle-School Mathematics Students. *The Journal of Experimental Education. 75*(3), 221-244.

Chester, M. D., & Beaudin, B. Q. (1996). Efficacy beliefs of newly hired teachers in urban schools. *American Educational Research Journal, 33*(1), 233.

Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation: Design and analysis issues. Boston, MA: Houghton Mifflin Company.

Dalgety, J., & Coll, R. K. (March 2006). Exploring First-Year Science Students' Chemistry Self-Efficacy. *International Journal of Science and Mathematics Education. 4*(1), 97-116.

Dembo, M. H., & Gibson, S. (1985). Teachers' sense of efficacy: An important factor in school improvement. *The Elementary School Journal, 86*(2), 173.

Dick, B. (2005). Grounded theory: a thumbnail sketch. Retrieved [fill in the date] from http://www. scu.edu.au/schools/gcm/ar/arp/grounded.html

Dillman, D.A. (2000). *Mail and Internet Surveys: The Tailored Design Method.* New York, NY: John Wiley Co.

Emmer, E., & Hickman, J. (1990). Teacher decision making as a function of efficacy, attribution, and reasoned action. Paper presented at the annual meeting of the American Educational Research Association, Boston, MA.(April 1990).

Fives, H. & Buehl, M.M. (2008) Examining the factor structure of the Teacher Sense of Efficacy Scale, *The Journal of Experimental Education.*

Flood, J.N. (2007). Psychometric characteristics of the Teacher Efficacy Scale: Factor structure, reliability, and concurrent validity. Ph.D. dissertation, State University of New York at Buffalo, United States -- New York. Retrieved March 21, 2009, from Dissertations & Theses: A&I database. (Publication No. AAT 3262011).

Fortman, C. K., & Pontius, R. (2000). *Self-efficacy during student teaching.* Paper presented at the Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL. (October 2000) ERIC Document Reproductive Service No. ED 447103.

Freytag, C. E. (2001). *Teacher efficacy and inclusion: The impact of preservice experiences on beliefs.* Paper presented at the Annual Meeting of the Southwest Educational Research Association. New Orleans, LA. (February, 2001).

Gersten, R., Fuchs, L.S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M.S. (2005). Quality indicators for group experimental and quasi-experimental research in special education. Exception Children 71(2), 149-164.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76,* 569-592.

Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *The Academy of Management Review, 17*(2), 183-211.

Glaser, B. G. (1998) Doing grounded theory: Issues and discussions. Mill Valley, CA: Sociology Press.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Chicago: Aldine.

Goddard, R. D., Hoy, W. K., & Woolfolk-Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal, 37*(2), 479.

Greenwood, G. E., Olejnik, S. F., & Parkay, F. W. (1990). Relationships between four teacher efficacy belief patterns and selected teacher characteristics. *Journal of Research and Development in Education, 23*(2), 102-106.

Guskey, T.R. (1981). Measurement of the responsibility teachers assume for academic successes and failures in the classroom. *Journal of Teacher Education, 32*(3),41-55.

Guskey, T. R. (1982). Differences in teachers' perceptions of personal control of positive versus negative student learning outcomes. *Contemporary Educational Psychology, 7*, 70-80.

Guskey, T.R. (1987). Context variables that affect measures of teacher efficacy. *Journal of Educational Research, 81*(1), 41-47.

Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes towards the implementation of instructional innovation. *Teaching and Teacher Education, 4*(1), 63-69.

Guskey, T., & Passaro, P. (1994). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal, 31*, 627-643.

Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: Wiley.

Heneman, H. G., III, Kimball, S., & Milanowski, A. (2006). The teacher sense of efficacy scale: Validation evidence and behavioral prediction (WCER Working Paper No. 2006-7). *Madison: University of Wisconsin–Madison, Wisconsin Center for Education Research.* Retrieved March 28, 2008, from http://www.wcer.wisc.edu/publications/workingPapers/papers.php

Henson, R. K., Kogan, L. R., & Vacha-Haase, T. (2001). A reliability generalization study of the teacher efficacy scale and related instruments. *Educational and Psychological Measurement, 61*(3), 404-420.

Howell, C. (2005). Democratic Education and Social Learning Theory. *Philosophy of Education Yearbook.* 161-70.

Hoy, W. K., & Woolfolk, A. E. (1990). Socialization of student teachers. *American Educational Research Journal, 27*(2), 279-300.

Individuals with Disabilities Education Act, (IDEA). Pub.L. No. 105-17

Jordan, A., Stanovich, P., & Roach, D. (1997). *Toward a framework for predicting effective inclusion in general education elementary classrooms.* Paper presented at the Annual Meeting of the American Educational Research Association Chicago, IL. (March 1997).

Kano, M., Franke, T., Afifi, A. A., & Bourque, L. B. (2008). Adequacy of reporting results of school surveys and nonresponse effects: A review of the literature and a case study. *Educational Researcher, 37*(8), 480-490.

Kirk, R. H. (1998). The link between university course work and pre-service teachers' attitudes toward students with special learning needs. *College Student Journal, 32*(1), 153-160.

Klassen, R. M., & Lynch, S. L. (November/December 2007). Self-Efficacy From the Perspective of Adolescents With LD and Their Specialist Teachers. *Journal of Learning Disabilities. 40*(6), 494-507.

Knoblacuh, D., & Woolfolk Hoy, A., (2008). "Maybe I can teach those kids." The influence of contextual factors on student teachers' efficacy beliefs. Teaching and Teacher Education, 24, 166-179.

Landrum, T.J. & Kaufman, J.M. (1992) Characteristics of general education teachers perceived as effective by their peers: Implications for inclusion of children with learning and behavioral disorders. *Exceptionality, 3*, 147-163.

Lee, V., Dedick, R., & Smith, J. (1991). The effect of the social organization of schools on teachers' efficacy and satisfaction. *Sociology of Education, 64,* 190-208.

Lewis, A.C. (2000). Diversity in U.S. education. *U.S. Society & Values, 5*(2), June 2000. Electronic Journal of the Department of State. Retrieved June10, 2008, from http://usinfo.state.gov/journals/itsv/0600/ijse/toc.htm.

Leyser, Y. (2002). Choices of instructional practices and efficacy beliefs of Israeli general and special educators: A cross-cultural research initiative. *Teacher Education and Special Education, 25*(2), 154-167.

Massengill-Shaw, D., Dvorak, M. J., & Bates, K. (2007). Promise and possibility-hope for teacher education: Pres-service literacy instruction can have an impact. *Reading Research and Instruction, 46*(3), 223-254.

Midgley, C., Feldlaufer, H., & Eccles, J.S., (1989). Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school. *Journal of Educational Psychology, 81*(2), 247-258.

Minke, K. M., Bear, G. G., Deemer, S. A., & Griffin, S. M. (1996). Teachers' experiences with inclusive classrooms: Implications for special education reform. *The Journal of Special Education, 30*, 152-186.

Mulholland J. , & Wallace, J., (2001) Teacher induction and elementary science teaching: Enhancing self-efficacy, *Teaching and Teacher Education. 17* (2001), 243–261.

No Child Left Behind Act of 2001 (NCLB). (2002). In Education (Ed.) (Vol. Pub.L.No 107-110): U.S. Department of Education.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005) Research in special education: Scientific methods and evidence-based practices. *Exceptional Children. 71*(2), 137-148.

Pajares, F. (1997). Current directions in self-efficacy research In M. Maehr & P. R. Pintrich (Eds.). *Advances in motivation and achievement.* Volume 10, (pp. 1-49). Greenwich, CT: JAI Press. Retrieved April 25, 2008, from http://des.emory.edu/mfp/effchapter.html

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543.

Pajares, F. (2002). *Overview of social cognitive theory and of self-efficacy.* Retrieved April 25, 2008, from http://www.emory.edu/EDUCATION/mfp/eff.html

Pajares, F., & Schunk, D.H. (2002). Self and self-belief in psychology and education: An historical perspective. In J. Aronson (Ed.) *Improving Academic Achievement: New York: Academic Press.*

Pajares F., (2008). Visual of model of reciprocal determinism from Longman's Visual for learning. Taken from http://www.des.emory.edu/mfp/banreciprocal.html.

Paneque, O. M., & Barbetta, P. M. (2006). A study of teacher efficacy of special education teachers of English language learners with disabilities. *Bilingual Research Journal, 30*(1), 171-193.

Podell, D. M., & Soodak, L. C. (1993). Teacher efficacy and bias in special education referrals. *Journal of Educational Research, 86*(4), 247-253.

Pugach, M. (2005). Research on preparing general education teachers to work with students with special needs. In M. Cochran-Smith & K. M. Zeichner (Eds.), *Studying teacher education: The report on the AERA panel on research and teacher education* (pp. 549-590). Mahwah, NJ: Lawrence Erlbaum Associates.

Riggs, I., & Enochs, L. (1990). Toward the development of an elementary teacher's science teaching efficacy belief instrument. *Science Education, 74,* 625-638.

Rose, J. S., & Medway, F. J., (1981). Measurement of teachers' beliefs in their control over student outcome. *Journal of Educational Research, 74,* 185-190.

Ross, J. (1994). *Beliefs That Make a Difference: The Origins and Impacts of Teacher Efficacy.* Paper presented at the Annual Meeting of the Canadian Association for Curriculum Studies. Calgary, Alberta, Canada, (June 1994).

Rotter, J.B. (1954). *Social learning and clinical psychology.* New York, NY: Prentice-Hall.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80,* 1-28.

Rotter, J. B. (1990). 1989 APA Award Addresses: Internal Versus External Control of Reinforcement. *The American Psychologist, 45*(4), 489.

Saklofske, D. H., Michayluk, J. O., & Randhawa, B. S. (1988). Teachers' efficacy and teaching behaviors. *Psychological Reports, 63*(2), 407-414.

Salant, P., & Dillman, D.A. (1994). *How to Conduct Your Own Survey.* New York, NY: John Wiley Co.

Shade, R., & Stewart, R. (2001). General education and special education preservice teachers' attitudes toward inclusion. *Preventing School Failure, 46*(1), 37-41.

Simmons, D. C., Kameenui, E. J., & Chard, D. J. (1998). General education teachers' assumptions about learning and students with learning disabilities: Design-of-instruction analysis. *Learning Disability Quarterly, 21*(1), 6.

Smolleck, L. D., Zembal-Saul, C., & Yoder, E. P. (2006). The Development and Validation of an Instrument to Measure Preservice Teachers' Self-Efficacy in Regard to The Teaching of Science as Inquiry. *Journal of Science Teacher Education. 17*(2), 137-63.

Smylie, M. A. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal, 25*(1), 1-30.

Soodak, L. C., & Podell, D. M. (1994). Teachers' thinking about difficult-to-teach students. *Journal of Educational Research, 88*(1), 44-51.

Soodak, L. C., & Podell, D. M. (1993). Teacher efficacy and student problem as factors in special education referral. *Journal of Special Education, 27*(1), 66-81.

Soodak, L. C., & Podell, D. M. (1996). Teaching efficacy: Toward the understanding of a multi-faceted construct. *Teaching and Teacher Education, 12* , 401-412.

Stanovich, P. J., & Jordan, A. (1998). Canadian Teachers' and Principals' Beliefs about Inclusive Education as Predictors of Effective Teaching in Heterogeneous Classrooms. *Elementary School Journal. 98*(3), 221-38.

U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs, 26th Annual (2004) Report to Congress on the Implementation of the Individuals with Disabilities Education Act, vol. 1, Washington, D.C., 2005.

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202-248.

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

Tsigilis, N.; Grammatikopoulos, V.; Koustelios, A.; (2007). Applicability of the Teachers' Sense of Efficacy Scale to educators teaching innovative programs. *The International Journal of Educational Management,* 21(7), 634-642. Retrieved March 21, 2009, from ABI/INFORM Global database. (Document ID: 1454347541).

Tuettemann, E., & Punch, K. F. (1992). Psychological Distress in Secondary Teachers: Research Findings and Their Implications. *Journal of Educational Administration. 30*(1), 42-54.

UCLA: Academic Technology Services, Statistical Consulting Group. Annotated SPSS Output Factor Analysis from http://www.ats.ucla.edu/stat/sas/notes2/ (accessed June 24, 2008).

Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology, 71,* 3-25.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*(4), 548-573.

Weiner, B. (1990). Searching for the roots of applied attribution theory. In S.Graham & V.S. Folkes (Eds.), *Attribution Theory: Applications to achievement, mental health, and conflict* (pp.1-16). Hillsdale, NJ: Lawrence Erlbaum.

Weiner, B. (1992). Human motivation: Metaphors, theories, and research. Newbury Park, CA: SAGE Publications.

Weiner, B. (1994). Integrating social and personal theories of achievement striving. *Review of Educational Research, 64*(4), 557-573.

Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology. 82*(1), 81-91.

Woolfolk Hoy, A., & Burke Spero, R., (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures, *Teaching and Teacher Education 21* (2005), 343–356.