# THE CORRELATION BETWEEN TEACHER SELF-EFFICACY AMONG SEMINARIES AND INSTITUTES SEMINARY TEACHERS AND STUDENT OUTCOMES

by

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# ABSTRACT

This study examined the correlation between teacher self-efficacy and student outcomes. Teacher self-efficacy was measured in 99 Church of Jesus Christ of Latter-day Saints Seminaries and Institutes seminary teachers using Tschannen-Moran and Hoy's Teachers Sense of Efficacy Scale (2001). Student outcomes included academic grades, conduct grades, and attendance percentages. Statistical analysis of these factors found a positive correlation between teacher beliefs and certain student outcomes. It was concluded that teacher training—both preservice and in-service—would be enhanced if methods appropriate to teacher self-efficacy growth were utilized.

This dissertation is dedicated to my wife, Judy,

and our children, Piper and James.

TABLE OF CONTENTS

ABSTRACT ..... iii

LIST OF TABLES ..... vii

Chapter

1 INTRODUCTION ..... 1

Does Teacher Self-efficacy Correlate with Student Outcomes ..... 1
Brief Overview of the Concept of Self-efficacy ..... 3
Brief Overview of Teacher Self-efficacy ..... 7
Student Outcomes ..... 10
An Overview of the Seminary Program ..... 11
Research Questions ..... 13
Significance of this Study ..... 14
Summary ..... 16

2 REVIEW OF LITERATURE ..... 17

The Concept of Self-efficacy ..... 18
Self-efficacy in Education ..... 23
Student Self-efficacy ..... 27
Teacher Self-efficacy ..... 28
Teacher Self-efficacy and Student Outcomes ..... 36
Conclusion ..... 47

3 METHODS ..... 49

Introduction ..... 49
Study Questions ..... 49
Population and Sample ..... 50
Data Collection and Instrumentation ..... 54
Data Analysis ..... 63
Summary ..... 63

4 ANALYSIS OF DATA....65

Organization of Data Analysis....65
Seminary Teachers' Sense of Self-efficacy....70
The Grading Sheet....77
The Correlation between Teacher and Student Variables....81
Summary....86

5 CONCLUSIONS, DISCUSSION, AND IMPLICATIONS....90

Introduction....90
Summary of Results....91
Discussion of Results....92
Educational Implications....100
Suggestions for Further Research....101
Limitations....103
Final Summary....105

APPENDIX

A ORGANIZATIONAL CHART OF THE CHURCH EDUCATIONAL SYSTEM....107

B CREATION OF THE POSSIBLE PARTICIPANT LIST....108

C TEACHER CONSENT DOCUMENT....110

D S&I INFORMATION SERVICES LETTER....113

E DEMOGRAPHIC SURVEY....116

F ORIGINAL TEACHERS' SENSE OF EFFICACY SCALE....118

G MODIFICATIONS MADE TO THE TEACHERS' SENSE OF EFFICACY SCALE....120

H TEACHERS' SENSE OF EFFICACY SCALE MODIFIED FOR S&I TEACHERS....123

I ACCESSING AND EMAILING THE TERM GRADING SHEET....126

J SAMPLE GRADING SHEET....128

K FOLLOW UP EMAIL....130

REFERENCES....131

LIST OF TABLES

1 Participant Age .....67

2 Participant Degrees .....68

3 Participant Training .....68

4 Teacher Years of Teaching .....69

5 Teacher Grade Level Taught .....70

6 Instructional Strategies Scores for Teachers .....72

7 Responses to Questions in the Instructional Strategies Section .....72

8 Classroom Management Scores .....73

9 Responses to Questions in the Classroom Management Section .....74

10 Student Engagement Scores .....76

11 Responses to Questions in the Student Engagement Section .....76

12 Student Academic Grades by Teacher .....79

13 Student Conduct Grade by Teacher .....79

14 Student Attendance Percentage by Teacher .....79

15 Backwards Stepwise Regression for Student Letter Grade .....82

16 Backwards Stepwise Regression for Student Conduct Grade .....84

17 Backwards Stepwise Regression for Student Attendance Percentage .....87

18 Changes in Question Order .....122

# CHAPTER 1

# INTRODUCTION

## Does Teacher Self-efficacy Correlate with Student Outcomes?

For over three decades, researchers have investigated how teachers' self-efficacy impacts the education of their students (Klassen, 2011). Yet the broader question of the influence of teachers in the classroom is older than that. Some, including Skinner (1968), have felt that the more researchers learned about the human mind, the less society would need actual teachers in the classroom because it could replace them with teaching machines. However, in the ensuing years, teachers have not been replaced, even in the administration of online classes. This is because teachers do more in the classroom than simply disseminate information and evaluate performance. It is the interaction between teachers and students that appears to make the difference. This has led researchers to attempt to identify what it is about educators that truly impacts the learning of their students.

A number of researchers (Armor, et al., 1976; Ross, Hogaboam-Gray, & Hannay, 2001) have looked for the connection between teachers' self-beliefs and student success using Bandura's social cognitive theory (1977). Specifically, they have focused on the concept of teacher self-efficacy. *Teacher self-efficacy* has been defined as "a teachers' belief or conviction that they can influence how well students learn, even those who may

be difficult or unmotivated" (Guskey & Passaro, 1994, p. 4). These beliefs fall on a continuum with the efficacy of teaching on one end, and the influence of students' history and background on the other. In other words, teachers with a high level of efficacy believe that they can help students overcome any obstacles that might block learning, even when those hindrances are related to the students' personal circumstances. Conversely, those with low teacher self-efficacy often feel that their abilities are of little use when students come from backgrounds that are commonly seen as low-achieving. This viewpoint of the efficacy of education, therefore, argues that teacher self-efficacy affects the ways teachers work in their classrooms.

Seeing that teacher self-efficacy reportedly has a sizable influence on the attitudes of teachers, it is not surprising, then, to find that most of the literature in this area has extolled its importance (Wheatley, 2002). Studies have looked at the connection between teacher self-efficacy and a number of different teaching factors; such as, use of innovative teaching techniques (Sunal, et al., 2001), effectiveness of teaching approaches (Wolters & Daugherty, 2007), teacher burnout (Brouwers & Tomic, 2000), and teacher commitment to teaching (Coladarci, 1992). In each of these cases researchers correlated a high level of teacher self-efficacy with more desirable results. Therefore, when teachers feel that the things they do can change lives, these beliefs make them more likely to improve their own ability to teach and their students' abilities to learn.

Throughout the last 4 decades, the nature of teacher self-efficacy study has evolved to provide more and more specific information. Gibson and Dembo (1984), two leaders in the field of teacher self-efficacy research, stated that the link between teacher self-efficacy and student achievement needs to be examined. Their work built off of that

done by Armor and his colleagues (1976), who found a connection between this construct and the reading ability of elementary school students as measured by a standardized test. They reported that teachers with higher levels of teacher self-efficacy had more students with greater reading skills. A few others (Ashton & Webb, 1986; Muijs & Reynolds, 2002) have stepped forward in the intervening years and answered the call for more research. However, despite the efforts made to illuminate the relation between teacher self-efficacy and student achievement, Klassen and his colleagues (2011) still stand by the conclusion made by Gibson and Dembo more than 2 decades earlier: there needs to be more research looking at the correlation between teacher self-efficacy and student achievement.

Following these suggestions, the purpose of this study is to look at the influence of teachers' self-efficacy beliefs on the outcomes of their students. Following the trends of teacher self-efficacy research, it will look specifically at three student outcomes: academic grades, conduct grades, and student attendance. This chapter, therefore, will introduce the construct of self-efficacy in general, then explore the construct of self-efficacy with teachers, and finally define student outcomes. Then after stating the research questions, this chapter will end by explaining the significance of this study in the field of education research.

## Brief Overview of the Concept of Self-efficacy

The ideas behind teacher self-efficacy start a number of years before Gibson and Dembo's work (1984). In 1977, Bandura theorized about the ways in which people view the tasks they attempt to perform. In his social cognitive theory, he explained that people have a sense of the degree of success they might achieve when attempting a particular

task even before they try it. He labeled this personal belief *self-efficacy*. Simply put, it is the personal judgment that individuals make concerning their own abilities and skills when thinking about performing a task. The subjective nature of this conclusion means that it might not actually reflect the individual's real ability level. However, Bandura argued that it is the belief—not its correctness—that governs behavior.

### *Self-efficacy and Outcome Expectancy*

In this theory, Bandura (1977) also identified another belief that, while related to self-efficacy, is an entirely different concept. This second idea, called *outcome expectancy*, refers to how a person feels that a particular performance will turn out given a specified ability level. Using high school-level teaching as an example, these two concepts would answer different questions. First, a teacher would ask, "Do I, as the teacher, have the abilities and skills necessary to effectively teach a high school class in a way in which students will learn?" The answer to this question indicates the individual's teaching self-efficacy. Second, when the same teacher asks, "If I, or someone else, were to use this level of ability and skill to teach a high school class, what would be the outcome?," one can ascertain the individual's outcome expectancies. While these two concepts work hand in hand, they identify distinct beliefs (Tschannen-Moran, Hoy, & Hoy, 1998).

Despite the distinctness of these two ideas—self-efficacy and outcome expectancy—they are closely connected. Self-efficacy represents how people view their personal ability level, while outcome expectancies identify the consequences of a particular ability level. Consequently, individuals' outcome expectancies will evaluate the abilities that are represented by self-efficacy. It is the interplay between these two

concepts that finds preeminence in self-efficacy research (Bandura, 1977). Furthermore, for simplicity, both ideas are generally combined and referred to as self-efficacy.

Having defined these two concepts, Bandura (1977) explained that the likelihood of a person attempting any action depended on his or her view of its likely success. In other words, when people do not feel that they could successfully accomplish a task, they would be far less likely to attempt it in the first place. An example of this could be seen in the classroom. Bandura's ideas would argue that teachers with a higher level of teacher self-efficacy are more willing to attempt what might appear to others to be difficult tasks. Due to their beliefs that they have the ability to make things happen in the classroom, these teachers see each new challenge as surmountable. Therefore, they are more likely to dive into difficult tasks (Schunk, 1984). On the other hand, if they had less teaching efficacy, they would probably not attempt such a task. After all, they would not feel that it was possible and would therefore be a waste of time and effort.

### *Importance of Specificity*

One of Bandura's main tenants (1977) concerning self-efficacy is that it is context-specific. That is, there is not a global self-efficacy belief that manages all of a person's behavior. On the contrary, the level of the individuals' efficacy feelings depend on their situation and the work they are attempting. Therefore, a person might feel quite efficacious in one area, such as writing, but totally inept in another, like public speaking. Yet the examples do not have to be as disparate as that. It is possible for a teacher to have high efficacy teaching one group of students, such as high school students, even while they do not feel that same way about another group, like those at the college level. Individuals, then, have many different beliefs when it comes to their ability to accomplish

different tasks. It is these beliefs that explain their varied reactions when they encounter diverse situations.

### *Sources of Self-efficacy Information*

Not only is self-efficacy specific to tasks, it is also flexible. Indeed, research shows this belief can change over the course of time (Chester & Beaudin, 1996; Hoy & Spero, 2005; Li & Zhang, 2000). As catalysts of this change, Bandura (1977) identified four factors that influence self-efficacy. First, *mastery experiences* refer to circumstances where the individuals have needed to perform a task in the past. Their success or failure in that situation influences their current beliefs about their ability to perform that task. Of the four influencing factors, this one appears to have the most power over self-efficacy.

While not as powerful as mastery experience, there is still much power in Bandura's second influencing factor: *vicarious experiences*. These situations refer to second-hand observations of other people performing the desired skill. Yet, whether the observed model actually facilitates a change in efficacy feelings depends on several factors. First, the onlookers gauge the similarity between themselves and the model; such as ability level, age, and gender. Next, they will perceive the model's level of confidence. They will also learn from watching the model's reactions to difficulties before they succeed. Another influencing factor is the availability of multiple examples of people attempting the same task (Labone, 2004).

A third factor in modifying self-efficacy is *verbal persuasion*. This label represents the words that people use to encourage or discourage behavior in another person. Bandura (1977) suggested that it could color peoples' views of their abilities. The encouragement shared by others is most effective in the following circumstances: when

they focus on successes, when the people do not believe they know themselves better than the persuader, and when the skills being encouraged are assessed to be within the ability level of the people involved (Schunk, 1984).

The final influencer is *emotional arousal* (Schunk, 1984). When people attempt a task, they monitor their feelings of anxiety and stress. A change in these feelings can influence individuals' feelings of efficacy. This is particularly the case when the perceived level of strain does not match their previous estimates of how they should feel. While each of these factors does not influence each individual to an identical extent, they do change how people view their abilities. Moreover, they also show that self-efficacy is a plastic belief and can be changed over time.

Self-efficacy then, is a motivating belief. It influences the actions that people will attempt based on how well they believe they will succeed in a particular task. As this is the case, every person has many self-efficacy beliefs, each reflecting their confidence in a specific area. Seeing that peoples' behaviors are influenced by their self-efficacy, it is important to look at just how these beliefs affect them in specific areas of their life, such as their occupations.

## Brief Overview of Teacher Self-efficacy

This study follows the direction of self-efficacy researchers by focusing in one specific area: *teacher self-efficacy*. These beliefs give an indication of how instructors will behave in the classroom. Educators, who believe they will be successful in helping students to achieve, will work more diligently toward such goals (Tschannen-Moran, Hoy, & Hoy, 1998). After all, they feel that the efforts they are making can have a real impact in the lives of their students. Although they might not feel equally efficacious in

every area of teaching, the feelings of efficacy that these teachers do possess just might stir them to find the methods of teaching that will better reach individual students. Moreover, just like general self-efficacy ideas state, when teachers find success in their work, their achievement tends to increase their efficacy beliefs. This suggests an upward spiral effect, which could lead to more students learning successfully. With the possible influence of these beliefs on the achievement of students, it is not surprising that researchers have declared the need for more research to validate these claims (Klassen, Tze, Betts, & Gordon, 2011).

### *Specificity in Teacher Self-efficacy*

Yet looking at teacher self-efficacy at such a general level does not match with Bandura's basic definition of self-efficacy (1977). In order to better identify the smaller components of teacher self-efficacy, Tschannen-Moran and Hoy (2001) developed a scale to measure behavior in specific tasks. Their questionnaire included three areas of self-efficacy: instructional strategies, classroom management, and student engagement. By looking into these individual categories the researchers felt that they could get a better understanding of the specific nature of teacher self-efficacy.

The first category in the scale, *instructional strategies*, refers to the way that teachers interact with the subject being taught. In other words, these strategies look at the manner in which teachers present information to their students. Furthermore, they include the teachers' understanding of how students respond to the things presented. Skills in this area include the ability to ask good questions and to provide challenges to students at multiple levels. Stated briefly, the instructional strategies area refers to teachers' confidence in their ability to help students understand the curriculum of the class.

In addition to the presentation of the course knowledge, Tschannen-Moran and Hoy (2001) also wanted to identify how teachers felt about their ability in *classroom management*. Their questions asked about teachers' confidence in setting up a series of class policies and expectations. They also asked about how teachers felt when working with students who did not follow those rules. These questions focused more on behavior in a classroom environment than on the actual act of learning, another important element of teaching.

While the first two groups of questions ask about teachers' actions, the third category, *student engagement*, refers to the teachers' confidence in helping the students to act. The nature of these questions looks at the things that teachers can do to get students to invest in the classroom experience. They inquire into the teachers' confidence in encouraging student interest. Taking it a step further, the scale asks about involving the students' own personality and skills in the learning. Therefore, the goal of this final category of questions is to learn about how the teacher feels about really helping empower the students to take learning into their own hands.

When researchers take a more in-depth look at the self-efficacy of teachers, they are able to learn things that a general test cannot discern. After all, without a concentrated look into the specific tasks of teaching, those performing the study might misjudge certain teachers who report low self-efficacy. However, if they had took a closer look, they would learn that lack of confidence occurs only in one area, instead of teaching in general. Such a specific examination allows for greater understanding of the manner in which teachers' self-efficacy influences the behavior of their students. Therefore, it is

vital that teacher self-efficacy research utilize tools that focus on specific tasks in teaching.

## Student Outcomes

In addition to looking at the characteristics of the teachers, this study will also look at student outcomes in three areas. The choice of the first outcome comes from the call made by Gibson and Dembo (1984) and later Klassen and his fellow researchers (2011): student achievement. Student achievement is commonly measured by standardized testing (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Hill, Rowan, & Ball, 2005; Hoy, Tarter, & Hoy, 2006). However, other researchers have measured student achievement by looking at grade point average (Jennings & Bayless, 2003; McClure, Yonezawa, & Jones, 2010). Following these examples, the current study will define student achievement as the academic grade that students receive in the studied course.

However, grade point average is not the only outcome related to student behavior. In addition to student achievement, schools have also shown interest in the manner in which students behave at school (Brigman & Campbell, 2003; Gibbs & Powell, 2011; Jeynes, 2009). This refers to the behaviors that lead to success in the classroom. It is also a measurement of students' willingness to follow school rules. Similar behavior will also be examined in this study by looking at the conduct scores earned by the students included in this study.

The final outcome studied in this work will be student attendance. There has been a great deal of research into the effects of students' absenteeism on their success in school. Researchers have looked at what could be done in order to increase student

attendance at school. Looking at the students themselves, Hartnett (2007) identified specific social group attitudes that affected attendance. Her findings suggested that students' beliefs about attendance could be changed by the way that teachers interact with those students. Taking the study to a less personal level, Marburger (2003) found that when attendance was mandatory, students made it to class more often. These studies show that attendance levels can be increased through the efforts of teachers and administrators. Therefore, the percentage of classes that a student attends will serve as the third student outcome for this study.

## An Overview of the Seminary Program

Another way in which researchers have focused on specific areas of teacher self-efficacy has been to look at specific subjects of learning. Originally, many of the studies in this area looked at students in many of the core classes at school: math, language arts, and science (Anderson, Greene, & Loewen, 1988; Armor, et al., 1976; Raudenbush, Rowan, & Cheong, 1998). However, as more work has been done in the realm of teacher self-efficacy, two trends are emerging in this area. First, researchers have begun to look at its influence in one specific branch of learning at a time; such as, just looking at teacher self-efficacy in mathematics (Swars, Daane, & Giesen, 2006) or English (Milner, 2002). This is opposed to the initial studies that looked at a number of subjects at the same time. Second, researchers have started studying branches teaching in elective classes. For example, researchers looked at computers (Ross, Hogaboam-Gray & Hannay, 2001), school sports (Vargas-Tonsing, Warners, & Feltz, 2003), art (Garvis & Pendergast, 2011), and Judaic studies (Tuchman & Isaacs, 2011). This shows that the

current research has deemed it important to focus on one topic and that classes that fall outside of the academic core are also of interest.

Of these subjects, only Tuchman and Isaacs (2011) have take up the noncore subject of religion. This is also the focus taken up by the *seminary* classes of the Church of Jesus Christ of Latter-day Saints (LDS). This particular program is run by the Seminaries and Institutes department (S&I) of the Church Educational System. The purpose of S&I is "to help youth and young adults understand and rely on the teachings and Atonement of Jesus Christ, qualify for the blessings of the temple, and prepare themselves, their families, and others for eternal life with their Father in Heaven" (S&I, 2009, 1-1). In order to accomplish this goal, S&I has set up high school-level religion classes throughout the world. Teachers in these classes hope to engage students in learning the scriptures. Such learning requires "effort and the exercise of agency by the learner" (S&I, 2010, p. 6). In other words, students do not learn simply by having their teachers speak at them. On the contrary, students must connect with the material and make an effort to learn it. Therefore, it is the role of the teacher to present the material in such a way as to invite students to engage.

While a number of these classes are taught by volunteers before school in church buildings or private homes, when the number of students in a geographical area is sufficiently large to justify the cost of a full-time teacher a program called released-time seminary is utilized (see Appendix A – Organizational Chart of the Church Educational System). The *released-time seminary* program allows for students to attend religious classes during school hours. The students are released from the responsibility of the school and they leave school grounds during the school day to go to a seminary building.

The students are then placed in classes that are taught by full-time S&I teachers or administrators, or someone under these employees' direction; such as a student teacher. During this period of time the teachers and students follow curriculum approved by the S&I department. When the class period has ended, the students return to the public school to continue with the rest of their school day. In this paper, the term seminary refers to these released-time religion classes. Moreover, the seminary teachers spoken of in these pages refer to the full-time teachers and administrators who teach one or more classes as part of a released-time seminary program.

## Research Questions

For 4 decades, researchers have looked into the influence of teacher efficacy on student outcomes. From the beginning they have touted the fact that students are more successful when their teachers maintain greater self-efficacy. The argument seemed so established that despite an early call for more research in this area (Gibson & Dembo, 1984) there still has not been a substantial effort to deepen this research field. Since that time, there have been a small number of studies that have compared teacher self-efficacy to student achievement. However, there is still a need for continued work in this area. The current study adds to the current body of research by addressing the following three questions:

1. What is the relationship between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the academic grades of students in S&I seminary classes?

2. What is the relationship between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the conduct grades of students in S&I seminary classes?
3. What is the relationship between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the attendance of students in S&I seminary classes?

These questions follow Bandura's (1977) instruction that research into self-efficacy examine specific tasks. Moreover, they follow the trend to utilize individual subjects and even to look outside the normal core curricula (Ross, et al., 2001; Tuchman & Isaac, 2011; Vargas-Tonsing, et al., 2003). Finally, they compare this view of teacher self-efficacy with three different student outcomes.

Although the body of research in this area is limited (Klassen, et al., 2011), the researcher has hypothesized that there will be a positive correlation between teacher self-efficacy and student outcomes. As teachers exhibit greater self-efficacy, they are more like to do things that will help their students to succeed academically. Moreover, they are also more likely to find that student behavior or conduct improves. In the third outcome area, it was also assumed that student attendance would rise with teacher self-efficacy. Such patterns would follow the findings of the research that showed as students felt increasingly comfortable with their teachers, their attendance rates also increased (Croninger & Lee, 2001).

## Significance of this Study

The present study adds to the field of teacher self-efficacy in three important ways. First, in heeding the call of Gibson and Dembo (1984), this work adds to the small

number of studies done concerning teacher self-efficacy and student achievement. In their 2011 review of the literature, Klassen and those who worked with him culled through 286 articles that investigate teacher self-efficacy. Of that number, only 9 (3%) examined the link between teacher self-efficacy and student outcomes. The current author found only 4 more articles to add to this list. Even with the addition of these papers, the evidence is still quite small. Indeed, Klassen and his colleagues (2011) stated that the connection between teacher self-efficacy and student achievement had only "modest empirical support" (p. 37). While the lack of evidence does not mean that there is no connection, it does show that there is definitely a need for more work to be done in this area. The current study continues this work.

Another way in which this study shows significance is that it looks into self-efficacy as it applies to teachers in noncore subjects. Following the trend set by other researchers (Garvis & Pendergast, 2011; Ross, Hogaboam-Gray & Hannay, 2001; Vargas-Tonsing, et al., 2003), this study looks at a subject that does not fit into the traditional categories of mathematics, language arts, or science. Instead, this study addresses a topic similar to the one studied by Tuchman and Isaacs (2011); that is, religious studies. By looking at LDS seminary teachers this study will help broaden the scope of teacher self-efficacy research in noncore subjects.

A final significant point comes from the grade level at which this study was performed. The seminary program works with high school students during all 4 years. However, this is an area woefully lacking in the field of teacher self-efficacy, and it is worse when combined with student achievement. Of the 13 articles in this area, only 4 (31%) deal with students in the higher grades. Instead, roughly half of them focus on the

elementary grades. This study, then, adds by investigating the relation between teachers' self-efficacy and student outcomes at the high school level.

## Summary

Researchers (Gibson & Dembo, 1984; Klassen, et al., 2011) have called for more research to be done in the area of teacher self-efficacy and student outcomes. The first variable, teacher self-efficacy, refers to personal beliefs held by educators that influence their behavior in the classroom. The second variable, student outcomes, refers to the actions of the students, which in this study will refer to academic grades, conduct grades, and attendance at school. This study intends to look at both of these areas as they pertain to the S&I seminary program sponsored by the LDS church. By looking at these factors, this study will further the work in providing evidence for the correlation between teacher self-efficacy and student outcomes.

The next chapter will take a more in-depth look into both of these topics. It will first provide an overview of the trends of self-efficacy research. Particularly, the next section will highlight the movement to specificity as studies have moved from the concept of self-efficacy in general to its specific use in teaching. In addition to self-efficacy research, there will be a review of the prior research that also examines student outcomes. This overview of the extant literature will help to show the place of the current study within the teacher self-efficacy and student achievement field of research.

# CHAPTER 2

## REVIEW OF LITERATURE

The way that people view a task influences how they respond to that task—either encouraging them to engage or to avoid such an undertaking. This is the major premise behind Bandura's concept of self-efficacy (1977). The basic idea is that between the stimulus and the response people have the ability to make a choice. It is at that moment of choice that individuals' beliefs about their ability to perform a task come into play. They evaluate where they think they stand in comparison to what it takes to successfully complete the task (Pajares, 1996). This split-second evaluation motivates the response and sends the person into action.

This chapter delves into the literature concerning the concept of self-efficacy. It starts with a discussion of this concept as a general construct. From there, this explanation will turn to self-efficacy in the field of education, looking first at schools as an organization and then specifically at students and teachers. Having addressed those relevant topics, this chapter will focus on one way in which teachers and students interact; that is, the influence of teachers on student achievement. After all, the purpose of education is not to focus on the teachers, but to focus on the students and their success in learning.

## The Concept of Self-efficacy

In 1977, Bandura published an article that explained his social-cognitive theory. Although self-efficacy was only one piece of this overall theory, a number of researchers have concentrated on that part and centered their studies on it. This section will take a general look at the concept of self-efficacy, starting with a description of it as a construct. From there it will look at the factors that influence self-efficacy, including sources of self-efficacy information, its changeability over time, and the importance of specificity.

### *A Description of Self-efficacy*

The definition of self efficacy comes from its first originator, Bandura (1977), who described it as "the conviction that one can successfully execute the behavior required to produce [expected] outcomes" (p. 193). In other words, individuals' self-efficacy beliefs reflect their confidence in their ability to succeed at a particular action. When self-efficacy is high, people believe in their ability to successfully execute the behaviors required to perform the task. Consequently, those with greater self-efficacy in a specific task area are more likely to attempt to perform that task because they feel that their efforts will be successful or rewarded in some other way.

However, self-efficacy does more than just provide information about whether an action could be attempted; it also influences the amount of effort that individuals will put into accomplishing that task (Muijs & Reynolds, 2002). Byrne, Barry, and Petry (2012) found this to be the case in their study when they found that participants with higher self-efficacy for exercise were more likely to lose weight. Even when obstacles occurred these participants still found a way to exercise, which led to greater weight loss. The

researchers stated that these participants expended more energy to complete the task because they knew that the greater effort would lead to the desired outcome.

Another important feature in the description of self-efficacy is that it is not necessarily rooted in fact (Bandura, 1997). In fact, the discrepancy between what one thinks they can do and what they actually accomplish can often lead to stress. Moreover, it is possible too, for an individual to have self-efficacy beliefs that are different than their actual ability to perform a task. In fact, the level of self-efficacy belief is not based on an objective evaluation of one's ability, but on a number of subjective factors.

### *Factors that Influence Self-Efficacy*

Although the definition of this concept is relatively straight forward, researchers have been intrigued by its structure. In other words, they have sought to understand the individual factors that make up this belief and differentiate it from other self-beliefs (Zimmerman, 2006). From the infant days of this discussion, Bandura (1977, 1989) portrayed self-efficacy not as a static belief but as one that was changeable according to individuals' experiences. He described four types of circumstances that provide information and therefore, influence self-efficacy levels: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977; Schunk, 1984). When discussing these four sources of information it is important to remember that they can provide positive growth in self-efficacy, but can also diminish this confidence as well.

The first, and usually most powerful source of information is called a *mastery experience*. This refers to actual encounters and experiences that individuals have with the task being considered. This contrasts with the next source of information, *vicarious*

*experiences*, when individuals observe or learn about the experiences of others. The level of influence of this second type of experience is governed by the similarities between the vicarious sources and the observer. When the one watching feels similar to the performer, then the performance will have greater influence on them. The third source is *verbal persuasion*, which represents the efforts that others make to encourage or discourage an individual from action. The final source, *emotional arousal*, reflects the emotional state experienced by the individuals throughout the task. If the party involved feels unexpected emotions—whether undue stress or an unexpected enjoyment—then such feelings have a greater influence on self-efficacy.

The influence of these four sources of self-efficacy information has been the subject of a number of studies in a broad array of fields, including education. The first source of information, mastery experiences, has received a lot of attention from research studies. Bandura's initial research (1977) looked at phobias, but others have looked in a variety of fields, including studies on student learning (Schunk, 1984) and the behavior of newcomers to an organization (Jones, 1986). Recent research has also shown the power of mastery experience in a broad range of fields from rock climbing (Llewellyn, Sanchez, Asghar, & Jones, 2008) to business leadership (Machida & Schaubroeck, 2011), and from criminal behavior (Brezina & Topalli, 2012) to education (Bautista, 2011). Two other sources of self-efficacy information were studied by Tschannen-Moran and Johnson (2011). They addressed teaching preservice instructors and pointed out how their classes have an influence on student teaching self-efficacy. After all, they argue, that teacher education provides both verbal persuasion and vicarious experience as the instructor encourages the potential teachers and shares experiences from the classroom. The final

source of self-efficacy information, emotional arousal, was also shown to influence self-efficacy. Hoffman (2010) showed that as math anxiety increased it had a negative influence on students' self-efficacy. He suggested that their emotional state decreased their confidence in their abilities, which then had a cyclical effect because it raised their anxiety level. As a result of this cycle, Hoffman recommended an intervention to help the students regain control of their emotional state.

Undoubtedly, the four sources of self-efficacy information have an incredible influence (Usher & Pajares, 2008). They provide the basis on which an individual builds their self-efficacy beliefs. When those beliefs are high, then individuals will attempt certain tasks, even when those actions might be deemed difficult. On the other hand, low self-efficacy leads to a lack of confidence and inaction. Having an understanding of these four sources of self-efficacy information allows one to purposefully foster or hinder self-efficacy feelings in a specific area over time.

### *Change over Time*

In addition to documenting the influence of certain types of information, researchers have also looked at how self-efficacy changes over time. For example, Tierney and Farmer (2011) investigated creative self-efficacy in a work context. Six months after an initial testing the researchers gathered a second round of information from the participants. Their results showed that as a general rule, the participants gained greater self-efficacy over the period of time. The researchers attributed that to increased familiarity with their work. However, they also found that individuals who were assigned more challenging tasks after the first testing had a decrease in self-efficacy. This is likely because the difficulty of the work provided negative mastery experience information.

Researchers in other fields (McAuley, et al., 2011; Caprara, et al., 2008) have also found that self-efficacy changes. These studies show that self-efficacy changes over time. This allows researchers to look for trends in behavior and identify the power of experience. Studies of this sort have also been done with teacher self-efficacy, which will be discussed later in this chapter in the teacher self-efficacy section.

### *The Specificity of Self-efficacy*

Another vital factor of self-efficacy, *specificity*, also comes from the initial writings of Bandura (1977). He stated that, unlike other self-beliefs, self-efficacy was a not a general feeling that covered and influenced every aspect of one's life. On the contrary, every single task is governed by its own self-efficacious belief. Therefore, a person might feel efficacious about their ability to perform one action, but totally inept at another. For example, an individual might feel confident in his or her ability to speak in public, but he or she might feel uncomfortable drawing a picture. Yet, the tasks do not need to be as disparate as the two mentioned. A change in circumstance with what seems to be an identical skill also brings to bear two different levels of self-efficacy. An example of this might be public speaking to children and public speaking to adults. Each of the two circumstances refers back to its own self-efficacy and could possibly be very different. Therefore, it is important self-efficacy be studied on a specific level (Usher & Pajares, 2008). The trend to studying specific topics has been identified and pursued in a number of areas: business (Wakkee, Elfring, & Monaghan, 2010), health behaviors (Soutome, Kajiwara, & Oho, 2012), exercise (Rodgers et al., 2009), and education (Yeo, Ang, Chong, Huan, & Quek, 2008; Yilmaz, 2009). In these different areas, the researchers noted this same phenomenon: the participants felt varying levels of self-

efficacy depending on the particular task at hand. Therefore, it is vital in self-efficacy research to look at specific tasks and behaviors.

This section has described the intricate nature of self-efficacy. Bandura's theory (1977, 1997) indicates that it is an internal belief and that it relies on the perceptions of the individual. Yet self-efficacy is influenced by four sources of information and can change over time. Another important aspect of self-efficacy is that this belief is specific to a particular task and is not a general belief. The discussion of self-efficacy in this section has laid the foundation for a more in-depth look at this belief in the field of education.

## Self-efficacy in Education

This literature review will now turn to the field of education. For the last 4 decades researchers have looked at the impact of self-efficacy in schools. The first topic discussed is how efficacy works in school organizations. From there, the discussion will turn to the students and their self-efficacy towards learning.

### *Efficacy in the School Organizations*

Moving into the field of education, researchers have sought to understand how schools, as an organization, influence teachers. This has led some researchers to look at how school and faculty climates impact teacher self-efficacy beliefs. In addition to these studies, other researchers have delved into another topic of social cognitive theory: collective efficacy. Organizational influence on teacher self-efficacy and collective efficacy are the subjects of this section.

*The Impact of Schools on Teacher Self-efficacy*

As researchers have studied schools as a whole, they have been cognizant that each of these organizations is unique. Their differences can be in the local socio-economic environment or in man-made divisions in schools, but they all appear to have an influence on the self-efficacy of educators. Knoblauch and Hoy (2008) investigated the results of putting student teachers in different types of schools: urban, rural, and suburban. They expected that the student teachers would emerge from their first teaching experience with a variety of teaching self-efficacy levels depending on their location. However, their results taught them that, despite their original hypothesis, the student teachers who worked in urban schools did not have a significantly lower teacher self-efficacy than their counterparts elsewhere. The researchers suggested that this is because of the power of mastery experiences in what is generally considered to be a difficult circumstance.

Chong, Klassen, Huan, Wong, and Kates (2010) also compared differences in organization. While studying two track levels of schooling—regular track and high track—they learned that teacher self-efficacy was higher among teachers who worked with the higher track students. The researchers stated that this occurred because in the high track students, the students are less likely to misbehave. This made for fewer behavior management problems in these schools, which in turn caused the teachers to feel they could accomplish things. By looking at both of these studies and others like them (see Podell & Soodak, 1993; Taylor & Tashakkori, 1995), researchers have found connections between the school climate and the self-efficacy of the individual teachers there.

It is apparent from these studies that schools have an influence on teacher self-efficacy. This is understandable because schools are places that provide all four sources of self-efficacy information. These studies show the importance of studying self-efficacy in a variety of environments, because those surroundings influence teacher self-efficacy and, therefore, behavior.

*Collective Efficacy in Schools*

In addition to the efficacy beliefs of individuals, Bandura (1997) spoke of another type of efficacy belief that occurs in groups: collective efficacy. These beliefs reflect individuals' feelings of efficacy for an organization and the ability of a group to perform specific tasks. In other words, "collective efficacy . . . differs in that the assessment is not directed at individual capability" (Goddard & Skrla, 2006). Nonetheless, these beliefs are comparable in many ways to self-efficacy beliefs. Indeed, they are influenced by the same sources of information and need to be studied in regards to specific tasks (Goddard, Hoy, & Hoy, 2003).

Goddard and Skrla (2006) looked into these sources of collective efficacy information. They wanted to know which factors of a school's social composition had impacted collective efficacy. Their study of 41, K-8 schools in the Southeastern United States found that racial identity and teacher experience both informed collective efficacy. In other words, they found that teachers who identified themselves as minorities and/or as teachers with more experience were more optimistic about the capability of their colleagues. It is likely that the experiences of these teachers informed their collective efficacy beliefs.

Turning from the information about collective efficacy to its influence, Friedman and Kass (2002) help distinguish collective efficacy from teacher self-efficacy. They showed distinguishable differences between the self-efficacy that teachers felt about themselves in the classroom and the efficacy they felt about the abilities of their schools. The authors state that the purpose of their research was to recognize other parts of teachers' efficacy beliefs—specifically, their feelings about the schools in which they worked. They then argue that more studies should leave the classroom and look at the efficacy beliefs of teachers in other aspects of their occupations.

Goddard, LoGerfo, and Hoy (2004) also encouraged the study of efficacy beliefs outside the classroom. Their study focused on connections between perceived collective efficacy and student outcomes. They found a positive correlation in these two areas. With these results, the authors argued that more ought to be done to increase the collective efficacy of teachers, that as a group they can educate their students.

Applying collective efficacy to a nonacademic student outcomes, Williams and Guerra (2011) investigated bullying. The researchers focused on specific aspects of collective efficacy: cohesion, trust, and informal social control. Their results showed a negative correlation between schools' collective efficacy and the frequency of bullying. They found this to be especially true when looking at two of the factors of collective efficacy: social cohesion and trust. Williams and Guerra then argued that increasing these feelings of collective efficacy would help discourage bullying.

In many ways, collective efficacy studies have mirrored the trends of self-efficacy studies. There is a tendency to look at specific fields, such as education, and not just look at collective efficacy in general. Also, the instruments used in the field have moved

towards identifying specific parts of collective efficacy; such as, social cohesion, trust, and informal social control. However, collective efficacy and self-efficacy are two different constructs. Although increased attention in that field is important, it is not the purview of a study on self-efficacy.

## Student Self-efficacy

Another prevalent topic in educational self-efficacy research looks at the self-efficacy of students (Schunk & Meece, 2006; Zimmerman & Cleary, 2006). Particularly, researchers have been interested in the ways that students' self-efficacy changes their behavior when it comes to learning. According to the fundamental principles of self-efficacy, individuals with high student self-efficacy should make more efforts to accomplish learning tasks. The following studies are a representative sample of thing they learned.

In 2007, Ketelhut investigated student self-efficacy and scientific inquiry skills. She watched students immerse themselves in a virtual world where they could experiment with science concepts. Ketelhut expected that students with high self-efficacy would perform more scientific inquiries. Her hypothesis was initially correct, but after three sessions with the virtual world the numbers became more similar. The author suggested that the virtual environment served as a mastery experience and boosted student self-efficacy levels. In this way, those who initially had lower self-efficacy improved because they were able to identify positive experiences with science learning. Unfortunately, she did not retest these students to see if their self-efficacy had actually increased. Moreover, she did not report an increase in the self-efficacy of those who

initially reported high student self-efficacy, despite the fact that they were having the same mastery experiences.

Four years later, Partin and his colleagues (2011) also looked at student self-efficacy for science. They compared three items: student self-efficacy, student attitudes, and student performance in the class. Their findings showed that student self-efficacy was the better predictor for student achievement. The researchers, therefore, suggested that steps be taken to help science students to increase their self-efficacy.

Moving next to engineering, Marra, Rodgers, Shen, and Bogue (2009) followed the progress of female students. Their first conclusion referred to the effects that the engineering curriculum had on student self-efficacy. Then they reported on the students' willingness to continue with the program. They found that students with higher self-efficacy were more likely to persist in engineering. This matches the theories of Bandura (1977), which state that when self-efficacy is higher, individuals are more likely to continue in the face of difficulty.

From these articles on student efficacy it is apparent that one direction of this field is studying the effects of student self-efficacy on student outcomes. Although one study (Partin et al., 2011) focused on academics, the other two studies decided on alternate measures for student outcome: the number of student science inquiries and the desire to persevere in engineering. This study of a variety of student outcomes allows researchers to better understand the power of student self-efficacy.

## Teacher Self-efficacy

In reviewing the literature, the branch of self-efficacy study in the field of education that relates most closely to the current study is teacher self-efficacy. This type

of self-efficacy influences teacher behavior and choices. It therefore has a great potential to influence students as well. This section looks into the influence of teacher self-efficacy.

## *The Effect of Teacher Self-efficacy on Teachers*

When looking at the influence of teacher self-efficacy on the lives of teachers, one also finds that it can be broken down into smaller areas of study. In this study, three of these areas are emphasized. The first area investigates how teacher self-efficacy influences internal teacher factors or characteristics. The next subdivision looks specifically at teacher self-efficacy and classroom management. The final part of this section will take up the topic of self-efficacy change over time again, but will focus specifically on teacher self-efficacy. This discussion will also include professional development and other programs that concentrate on teacher improvement.

### *Teacher Characteristics*

Many studies have looked at how teacher self-efficacy affects or is affected by teacher characteristics. Li and Zhang (2000), for instance, wanted to know how early field experiences in teaching and anxiety levels shaped new teachers' self-efficacy. The researchers learned that high anxiety levels led to lower teacher self-efficacy. In a similar study a few years later, Swars and his fellow researchers (2006) looked at anxiety in the field of mathematics education. They found similar results, but the nature of self-efficacy theory encourages this type of more specific research, which defines more specific tasks.

Other studies have shown that teacher self-efficacy is not only influenced by teacher characteristics, but can also influence them. Brouwers and Tomic (2000) studied

burnout among teachers, Coladarci (1992) looked at his participants' commitment to teaching, and Taylor and Tashakkori (1995) investigated job satisfaction. These studies found that teachers with higher self-efficacy had less burnout and more commitment to job satisfaction for teaching.

These researchers sought to identify the interplay of teacher self-efficacy in the lives of teachers. Their studies have shown that when teachers have higher self-efficacy, then they are more likely to have attitudes that facilitate good teaching. Therefore, it is important to identify feelings, such as anxiety, that are detrimental to teaching self-efficacy.

*Classroom Management*

A common task in the field of education is teachers spending time with their students in a classroom setting. As a specific task, classroom management makes for a perfect topic for the study of teacher self-efficacy. A number of studies have investigated the manner in which self-efficacy influences teachers' approaches to classroom management. Several studies (Gencer & Cakiroglu, 2007; Hoy & Woolfolk, 1990) have shown that over time, new teachers tend to have a drop in teacher self-efficacy. At the same time, these teachers also become more inflexible in their control orientation and their classroom management practices become more controlling. In other words, differences in teacher self-efficacy level led to changes of behavior. This concurs with the findings of Baker (2005), who reported that teachers with lower self-efficacy were less willing and able to deal with challenging students.

Adding to this research, Morris-Rothschild and Brassard (2006) looked more deeply into the classroom management styles of teachers in comparison to their teacher

self-efficacy level. These researchers once again learned that higher teacher self-efficacy led to a more relaxed method of management. However, they also discovered an intriguing fact: teachers with higher self-efficacy were not necessarily using the most effective styles of classroom management. Instead, these teachers tended to be more obliging to students' wishes. They felt that this was an example of self-efficacy beliefs not necessarily matching up with best practices in classroom management. Nevertheless, this series of studies show that the classroom and student experience changes according to the self-efficacy of the teacher. In addition to showing the classroom change, these studies also underline the importance of looking at specific education tasks when studying teacher self-efficacy.

Another set of researchers, Gibbs and Powell (2011), also looked at the behavior controlling practices of teachers and how it affected students. Their study pulled up data on the number of students expelled from class each year. This could be seen as the last step that a teacher can take in trying to influence student behavior. Gibbs and Powell then compared this data to the level of teacher self-efficacy in a school. Although the individual self-efficacy of teachers did not have a significant influence on expulsions, the researchers found that where schools had a higher collective self-efficacy, the number of expulsions were lower. These findings add greater insight because they included the effects of self-efficacy on the students themselves.

*Teacher self-efficacy and time allotment*. A possible subset to classroom management is time management in the classroom. In 2011, Garvis and Pendergast performed a study on early childhood education teachers who were trained in a variety of subjects. Moreover, these teachers needed to give an appropriate amount of time to each

subject. This meant that art education, the subject of their study, deserved time for study as much as language or math. The researchers found that the level of teacher self-efficacy towards the arts influenced the number of hours spent in this area. Teachers with higher teacher self-efficacy for art spent more time on those activities during the week. Therefore, students, whose teachers felt less self-efficacious, were more likely to miss out on the opportunity to study in these areas. In turn, this would also affect students' abilities and confidence for the arts.

These studies on teacher self-efficacy for classroom management show how the field is moving to study more specific teacher tasks. Initially, much of the research in the field looked at teaching in general (Armor, 1976; Gibson & Dembo, 1984) and provided a foundation for the work to come. However, increased specificity not only corresponds with Bandura's theory (1977), but also provides greater insights into the needs of teachers when it comes to specific self-efficacy training. General testing might have missed the specific tasks that the teachers studied (above) felt less self-efficacious about; whereas the studies above were able to pinpoint the specific self-efficacy beliefs that led to the manner in which teachers manage their classes.

*Change over Time*

Seeing that so much of the research points to the power of high teacher self-efficacy, it is fortunate that there is a large body of research that also explains that this construct is flexible and therefore, able to be improved. Indeed, the plasticity of self-efficacy goes back to the original theory (Bandura, 1977). As mentioned above, self-efficacy can change over time. Therefore, as the field of research narrowed and became

more specific, it seems appropriate that changes in self-efficacy over time would also be documented along with teaching.

A number of studies have focused on the ways in which teacher self-efficacy changes during teachers' early years. Hoy and Spero (2005) reported that as preservice teachers first start their training and attend classes on education and pedagogy, their teacher self-efficacy usually increases. However, by the end of their year-long student-teaching experience, these levels had a tendency to drop. They suggest that prior to their actual teaching experiences, the students felt that they had the requisite skills to do all that was expected of them. These findings were expanded upon by Tuchman and Isaacs (2011). These researchers compared formal mastery experiences in the classroom to informal mastery experience, where teachers worked with youth outside the classroom. By taking a more specific look, they found that formal classroom experience built self-efficacy instructional practices. Meanwhile, informal activities correlated with higher levels of teacher self-efficacy for student engagement. Once again, greater insight was achieved by measuring teacher self-efficacy for specific tasks.

In addition to monitoring the general rise and fall of self-efficacy beliefs among new teachers, other researchers looked at the four sources of information that inform the creation of these beliefs. de la Torre Cruz and Arias (2007) agreed with the earlier findings of Hoy and Spero about new teacher self-efficacy changes. Their research showed that in their first year teachers gain more experience, which generally tends to influence their teacher self-efficacy in a negative way. This also concurs with the findings of Poulou (2007), whose research once again found mastery experiences to be the most powerful source of self-efficacy information. Gaining her insights from asking the

student-teachers directly, she also learned that vicarious experiences took a distant second, while verbal persuasion and emotional arousal had very little influence.

*Professional development and other programs.* As an appendage to the work on the changing of teacher self-efficacy over time, a number of researchers have specialized in looking at teacher training. They have hoped to identify how preservice and in-service training could utilize self-efficacy theory to help teachers improve. Of course, all of these ideas pivot on the fact that outside factors can influence teacher self-efficacy.

One example of theory based training comes from Komarraju (2008), who designed a teacher preparation program that would utilize the various sources of self-efficacy information. His results suggested that supervisors could increase their influence on student teacher self-efficacy by designing programs that purposely include all four sources of self-efficacy information. Although the student-teachers still might not attribute growth in self-efficacy to their supervisors, the influence will still be there. The effect of others on teacher self-efficacy was investigated deeply by Tschannen-Moran and Johnson (2011). They identified six sources preparation and experience variables that could influence teacher self-efficacy. They reported that influential activities were quality college-level classes, professional development courses, and teacher groups. Tschannen-Moran and Johnson felt that these situations provided both verbal persuasion and vicarious experiences. Looking at these varied studies provides more evidence about the power of the sources of information to change teacher self-efficacy.

Yet changes in self-efficacy do not stop once a teacher finishes their preservice training. A number of researchers have looked at the influence of professional development programs and other in-service training on the self-efficacy of more

experienced teachers. Two studies in particular (Fritz, et al., 1995; Ross & Bruce, 2007) sought to find ways to utilize the sources of self-efficacy information to guide their months-long in-service programs. Despite their best efforts, the final results provided by each researcher were completely different. While Fritz and her colleagues found success in helping to increase teachers' self-efficacy, Ross and Bruce did not achieve the same level of accomplishment. In comparing the two studies, though, it is apparent that the latter study had not been able to create true mastery experiences, whereas its predecessor had. Instead, the methods used by Ross and Bruce tended to focus on vicarious experience and verbal persuasion. As they were unable to utilize the power of what has been found to be the most influential source of self-efficacy information, it is not unexpected that their program had lackluster results. In contrast, the curriculum instituted by Fritz and her colleagues effectively incorporated all four sources of self-efficacy information. It is not surprising, therefore, that their program found greater success in helping teachers to increase their teacher self-efficacy.

In addition to studying large in-service programs, other researchers have investigated the effects of smaller projects that aim at teacher improvement. Henson (2001) examined the influence of teacher research on teacher self-efficacy, while Puchner (2006) looked at lesson study. In both of these cases, the researchers hoped to learn how these methods, which were designed to help teachers grow, might also affect their teacher self-efficacy. In both cases, the successful use of the prescribed program caused an increase in teacher self-efficacy. These findings strengthen the case for providing teachers with opportunities to grow, because not only do the teachers obtain a larger skill

base, but they also increase in self-efficacy which generally has positive effects in their teaching (Wheatley, 2002).

A number of studies have spent many hours examining the influence of teacher self-efficacy on teachers and their actions. They have seen how this construct affects teachers' characteristics and also influences their opinions about their work. Researchers investigated its impact on classroom management and control styles, which generally led to positive outcomes. As a final point, they also tracked the growth and decline of teacher self-efficacy throughout teachers' careers and identified ways to increase it. Taken together, these studies show that over the decades that followed Bandura's first explanations of self-efficacy, researchers have looked at increasingly specific forms of this belief, which includes those fostered in the field of education.

## Teacher Self-Efficacy and Student Outcomes

Yet, education does not revolve around what teachers get out of the schools at which they work. Rather, the goal of schooling is student learning. It is not surprising then that student outcomes have also been an important topic in the field of teacher self-efficacy research. Unfortunately, though, not many researchers have looked into this relationship (Klassen et al., 2011). When Klassen and his colleagues reviewed the literature in 2011, they found 386 studies that addressed teacher self-efficacy and school collective efficacy. From their number, these researchers only identified 9 studies that actually focused on student outcomes. While the current author was able to find 3 more studies in this specific area, the study conducted by Klassen and his colleagues emphasized the need for additional work in the area of teacher self-efficacy as it relates to student outcomes.

This section will review the literature that addresses teacher self-efficacy and student achievement. First, it will look at the studies that measured student outcomes in multiple subjects. Then it presents the studies where subjects were looked at one at a time. From there, this section will turn to the related research of collective efficacy in schools and its effect on student outcomes.

### *Specifying into Subject Areas*

Although there are not a lot of recent studies that look into the area of teacher self-efficacy and student outcomes, the handful that do exist have tackled a number of schools' subject areas. Just as the field of self-efficacy research has gone from general to specific, this also seems to be the trend of research in this area. This section starts with the research that looks at a broad selection of academic subjects at one time. Then it turns to the studies that focus on one subject area.

Starting first with the broad subject studies, Anderson et al. (1988) used the results of the Canadian Achievement Tests, which assessed the achievement in "various language and mathematics skills" (p. 152). This study looked at tested third- and sixth-grade students and teachers at the beginning and ending of the school year. The researchers found a positive correlation between teacher self-efficacy and student success. This was particularly true at the third-grade level. The researchers suggested that the influence of the teachers appears to wane slightly as the child ages.

In 2006, Caprara and his colleagues also looked at Italian student outcomes from a variety of subjects. They compared teacher self-efficacy to students' final examination grades from all of their classes. The scope of this study showed the cyclical nature of teacher self-efficacy and student outcomes. The researchers showed that higher teacher

self-efficacy generally led to improved student outcomes. Furthermore, higher student outcomes led to greater teacher self-efficacy.

In both of the international studies above, the researchers surveyed multiple subjects. This is helpful because it allows one to see the overall influence of teacher self-efficacy on students. Unfortunately, these studies do not provide a breakdown of how teacher self-efficacy influences each of the multiple subjects individually. It would have been nice to see which of the subjects was most influenced by teacher self-efficacy. Such analysis of specific subject areas would have better reflected the direction of the other studies that look at both teacher self-efficacy and student outcomes.

### *A Seminal Study*

Turing now to specific subject areas or specific student tasks, it is important to include one of the seminal studies on the effects of teacher self-efficacy on student outcomes. In 1976, Armor and his colleagues were studying 20 elementary schools in the Los Angeles School District in an effort to discover what makes a successful reading program. Among their many questions they included two that, today, would be considered indicative of teacher self-efficacy. Those questions were presented as follows and were answered using a Likert-type scale: “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” and “If I try really hard, I can get through to even the most difficult or unmotivated students” (p. 23). Their findings suggested that teachers’ attributes, including teacher self-efficacy, were more of a significant factor than any other factor in the teachers’ backgrounds. Moreover, they found that the most effective reading teachers had a high sense of teacher self-efficacy.

Although this study appeared before Bandura published his social cognitive theory in 1977, his idea matches those presented in this study (Armor, et al., 1976). The two questions provided on the survey would later be mimicked in the self-efficacy instrument created by Gibson and Dembo (1984)—whether such imitation was intentional or not. Since the early days of teacher self-efficacy studies, the field has moved to more specific testing with a greater number of questions included in the instruments. Nevertheless, this study provided important data about the importance of teacher beliefs on the outcomes of students.

*The Studies of Ross and His Colleagues*

In a series of studies, Ross and his colleagues (Ross, 1992; Ross, 1994; Ross et al., 2001) provide greater insight into the effects of teacher self-efficacy on student outcomes. In his first study, Ross (1992) noted the influence of teacher coaches on teacher self-efficacy in 18 history teachers. Additionally, he looked at the resulting student achievement in these teachers' 36 history classes as measured by standardized history pre- and posttests. Although he did not find an interaction between all 3 factors—teacher coaching, teacher self-efficacy, and student achievement—he did find that students with teachers with high self-efficacy had higher achievement levels among their students.

In his next study in this area, Ross (1994) turns from standardized tests to a different student outcome. Based on a series of in-service training meetings for teachers on the subject of cooperative learning methods, Ross studied student attitudes toward giving help and seeking help in a cooperative classroom environment. While his results did not find a significant change in teacher self-efficacy over the 8-month training period,

Ross did learn that those teachers with higher teacher self-efficacy also had a greater influence on the behavior of their students. He also found that teachers who increased in their self-efficacy for cooperative teaching skills utilized these skills more in the classroom. He explained that when teacher self-efficacy is high, then teachers tend to be more willing to change their behavior by trying new things. Consequently, this changed behavior elicited a greater response in positive student attitudes.

The third study performed by Ross included help from Hogaboam-Gray and Hannay (2001). These researchers examined teacher self-efficacy among elementary-level teachers in the area of computers. This was compared to the levels of achievement in the 387 students tracked for the purposes of their study. Specifically, the researchers wanted to monitor the development of students' computer skills as students moved from one class to another between semester breaks. This change meant that the students would interact with teachers who have two different levels of teacher self-efficacy when it came to computers. By doing this, Ross and his colleagues hoped to see what would happen to student achievement levels when students moved from a class where the teachers' self-efficacy was low into one where it was high. They also wanted to know what would happen when the opposite occurred. They gathered their student data by recording student success at performing specified tasks on the computer. The final results showed that students benefitted more from the "upward trajectory" (p. 149), where their subsequent teacher had greater teacher self-efficacy in computers. While those with a downward trajectory did see improvement in their posttest results, their improvement was not as great as those who followed the upward trajectory. As this was the case, the

researchers felt that this project strengthened the argument that high teacher self-efficacy influences student achievement.

### *More Recent Studies Concerning Teacher Self-efficacy and Student Achievement*

Another student achievement study (Muijs & Reynolds, 2002) investigated the ties between teacher self-efficacy, behaviors, and subject knowledge, and then the consequent effect on their students. The area that they chose to study was math, as represented by the results of the English Framework for Numeracy test, a standardized test administered in Britain. Muijs and Reynolds focused on four teacher factors: behaviors, beliefs, self-efficacy, and subject knowledge. They reported that all four factors correlated positively with student outcomes, with the most significant outcome coming from teacher behaviors. Nonetheless, self-efficacy theory (Bandura, 1977) would suggest that because teacher behaviors are influenced by teacher self-efficacy, there is also an indirect connection between self-efficacy of the teachers in this study and their students' outcomes.

Moving from the classroom to the gymnasium, Vargas-Tonsing, Warners, and Feltz (2003) introduced another type of high school teacher when they worked with 12 volleyball coaches. They wanted to know how teacher self-efficacy in this area influenced their 133 student athletes' personal efficacy and also the efficacy of the team. The researchers presented individual student questionnaires between 10 minutes to 2 hours before a scheduled game. They followed up after the midpoint of the season with team questionnaires. Their results explained that teacher self-efficacy positively correlated with team efficacy, although it was not a significant factor in the athletes'

personal efficacy. Vargas-Tonsing and her colleagues proposed that because volleyball is a team sport, it was more difficult for the participants to evaluate their personal contributions to the game as opposed to those of the team. However, this study was done in a relatively new area and future studies could better refine the methods of understanding these constructs in a nonclassroom educational setting.

Although there are not a great number of studies that correlate teacher self-efficacy and student achievement, one can still identify the direction that these studies are taking. One direction of the literature is to look at subjects one at a time rather than multiple subjects together. The only study to go against this trend was performed by Caprara and his colleagues (2006), which looked at final examination grades over a series of subjects. In this case, it would have been interesting to analyze the grades by subject. This would have allowed them to see how teacher self-efficacy might have influenced individual subjects.

Another facet of the research in this area is that it is not limited to core classes. Certainly the research includes core topics like math and language, but it branches out into other areas as well. Studies on computers (Ross et al., 2001) and volleyball (Vargas-Tonsing et al., 2003) show that teacher self-efficacy can be found as an influence on student outcomes in a number of fields. Moreover, although student outcomes include the results of standardized tests (Muijs & Reynolds, 2002), these studies also look at less traditional outcomes, such as, Ross's inquiry into student attitudes towards cooperative learning (1994).

### *Collective Efficacy and Student Outcomes*

As a companion theory to self-efficacy, collective efficacy studies often address subjects that are of interest in self-efficacy. Indeed, the research on collective efficacy and student outcomes is important because it shows that collective efficacy in a school has a positive effect on students. Although they are separate constructs, the findings in this field can be used to inform and inspire teacher self-efficacy studies.

In 2004, Tschannen-Moran and Barr chose to simply analyze collective teacher efficacy and student achievement. They enlisted the aid of 66 middle schools, where they compared collective efficacy to the state standards test results. As an additional variable, Tschannen-Moran and Barr also incorporated socioeconomic status (SES). They learned that while SES correlated with student achievement, it was uncorrelated with collective teacher efficacy. It was therefore possible that schools that served students with lower SES could have either a high or low collective teacher efficacy. This is a fortunate fact, because they also learned that there is a significant positive correlation between student achievement and collective teacher efficacy. Therefore, it shows that schools in lower SES areas are not relegated to low student achievement. On the contrary, this study suggests that if lower SES schools can foster greater levels of collective teacher efficacy, they can also find greater student success.

That same year, Goddard, LoGerfo, and Hoy (2004) also placed the study of collective teacher efficacy and student achievement in the context of the larger school atmosphere. Specifically, these researchers investigated the urbanicity, SES, minority enrollment, and size of 96 high schools in a Midwestern state. They collected their information using data supplied by the state department of education and from teacher

responses to the Collective Efficacy Scale. Like the Tschannen-Moran and Barr (2004) study, they found that collective teacher efficacy correlated positively with student achievement. However, the information gathered by Goddard and his colleagues indicates that situational factors do influence collective teacher efficacy. Therefore, they stated that faculty members appear to maintain higher collective teacher efficacy when faced with conditions that appear relatively easy. These easy conditions are described as teaching students in schools that tend to serve wealthy families. Inasmuch as this study and the previous one seem to contradict each other, future researchers might want to continue to look at the specific relation between SES and collective teacher efficacy (similar to the one performed by Goddard and Skrla [2006]). However, it is important to point out that both studies agreed on one point: when collective teacher efficacy is high, student achievement rates increase.

Whereas Tschannen-Moran and Barr (2004) and Goddard, LoGerfo, and Hoy (2004) focused on the financial states of the neighborhoods served by schools, Cybulski, Hoy, and Sweetland (2005) examined the ways in which school administrators utilized the funds allocated to them. Combining the behavioral theories of Bandura with those native to economics, these three researchers wanted to know how the manner in which money was spent affected collective teacher efficacy and, consequently, student achievement. They made their comparison using demographic data and fiscal data; that is, the amount of money spent directly on instruction to the amount spent on administration. Having correlated this information, the researchers learned that the comparative amount of money spent on students did not have a significant influence on collective teacher efficacy and therefore student achievement. These data showed there

was no relation between the financial variables and student achievement. However, putting the economic variables to the side and looking solely at the connection between collective teacher efficacy and student achievement, they still found a positive correlation. The researchers, therefore, reasoned that teachers and administrators were not limited by the effects of SES. Moreover, they could have a positive influence on student achievement by working to improve collective teacher efficacy.

Although other collective teacher efficacy projects as described above utilized testing that covered a number of subject areas, Hoy, Sweetland, and Smith (2002) followed a practice common in the teacher self-efficacy field; they focused on student achievement in only one subject area: math. In addition to studying collective teacher efficacy, these researchers also wanted to look at the influence of another concept: academic press or the degree to which schools push for academic success among their students. They found that academic press was most helpful when coupled with a school that possessed a high sense of collective teacher efficacy. In other words, the drive to promote academic success worked when the teachers felt a high level of efficacy in their organization. This contrasted with schools that had a strong academic press, but did not have high collective teacher efficacy. In those places, the levels of student outcomes were not as high. Such results did not match the researchers' original hypothesis, because they had assumed that academic press and collective teacher efficacy would each have its own effect on student outcomes. However, although there was not individual effect, the researchers did learn that collective teacher efficacy positively correlated with student outcomes in those schools. They inferred from their findings that when teachers felt

greater collective efficacy, they were more likely to direct their efforts at encouraging the different aspects of the academic press.

Researchers have begun to amass evidence that shows the power of collective teacher efficacy on student outcomes. The general consensus is that when teachers have greater collective efficacy, student outcomes improve. This field has focused mostly on the environment in which schools find themselves, particularly looking at SES. This, of course, is the nature of collective efficacy studies; however, it does need more study. In fact, Goddard and Skrla (2006) argued that collective efficacy in schools is not completely influenced by their surroundings. The extent of this argument remains to be seen.

This section has focused on student outcomes relative to teacher self-efficacy and collective efficacy. The first studies showed that teacher self-efficacy has a positive correlation with student outcomes. As self-efficacy for teaching skills increases so do student outcomes. The same was found for the complementary theory of collective efficacy. When collective efficacy increases among teachers, their students do better as well. The findings of these studies have provided good evidence that self-efficacy and collective efficacy should be encouraged in teachers.

However, the greatest weakness in the literature on teacher self-efficacy and student outcomes is that there is so little of it. Although there are a great number of studies dealing with self-efficacy and quite a few dealing with the self-efficacy of teachers, those dealing with the influence of these beliefs on students are very few. It is not surprising then, that for 3 decades researchers have called for more research in this area (Gibson & Dembo, 1984; Klassen et al., 2011).

## Conclusion

Just as this review of literature has sought to narrow down the research to a specific topic, so has the study of social-cognitive theory's concept of self-efficacy. Researchers started by defining the concept of self-efficacy through identifying general aspects of the construct and then studying them individually. This led to a greater understanding of what kinds of information inform individuals' self-efficacy and particular attention has been paid to how these beliefs change over time.

Another aspect of self-efficacy is that it refers to beliefs about individuals' abilities to perform a specific task. This meant that studies about self-efficacy needed to identify individual tasks to study. Researchers have identified these tasks in a number of fields; such as, health science (Swanson et al., 2012), business (Machida & Schaubroeck, 2011), criminology (Brezina & Topalli, 2012), and recreation (Llewellyn et al., 2008).

Another popular topic has been education. Researchers have identified specific areas of this field and looked at the role that self-efficacy plays there. One area of interest was the school, specifically how schools impact teacher self-efficacy. Along similar lines, researchers have looked at the collective efficacy that teachers feel for their schools. Other researchers have looked at student self-efficacy and how it influences their behaviors.

In addition to studying schools and students, researchers pursued teachers as another branch of specific self-efficacy study. Research performed in this area looks at how specific teacher tasks and characteristics influence self-efficacy and are influenced by it. The list of these issues includes items like teacher burnout, classroom management skills, and professional development. Seeing that teaching is such a multifaceted occupation, there were many skills and attributes for researchers to study.

As researchers sought to understand teacher self-efficacy, they turned to one of the major goals of education: student outcomes. Although the number of studies performed in these areas over the years has been small, researchers have followed a basic pattern of general to specific. The usual practice is to look at one subject at a time, rather than multiple subjects that span a school's curriculum. Variety in subject matter is an additional strength of the teacher self-efficacy and student outcomes research. In addition to excellent studies on core subjects like math and reading, researchers have also looked into computers and sports. All of these topics demonstrate how teacher self-efficacy researchers have followed the lead of Bandura (1977) to identify and study individual tasks.

Another important point is the actual effect of teacher self-efficacy on student outcomes. While this body of literature is still limited those who have researched it have suggested that where teacher self-efficacy is high, students have more positive outcomes. The current study will continue along this line by correlating the teacher self-efficacy of religious educators to the outcomes of Latter-day Saint seminary students.

# CHAPTER 3

# METHODS

## Introduction

As researchers have investigated the influence of self-efficacy in education, a small number of them have sought to understand how these beliefs affect the success of students in the classroom. In the studies performed in this area so far, there appears to be a correlation between high teacher self-efficacy and student achievement. However, over and over, researchers in this area (Klassen, 2011; Gibson & Dembo, 1984) have called for additional projects to take up this topic and investigate it more deeply. This study took up this call by looking at the success of students in the religious education classes sponsored by Seminaries and Institutes of the Church of Jesus Christ of Latter-day Saints (S&I) and then comparing it to the self-efficacy beliefs of their teachers.

This chapter will outline the research and analysis process of the study. First, it will present the study questions and the initial hypothesis. Next it will describe the participants (and the researcher's relationship to them) and materials. Finally, it will outline the manner in which the data were analyzed.

## Study Questions

In keeping with the ideas of Bandura (1977, 1989) this study looked at teacher self-efficacy in specific areas. It addressed the following three questions:

1. What is the relationship between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the academic grades of students in the Seminaries and Institutes (S&I) seminary classes?
2. What is the relationship between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the conduct grades of students in S&I seminary classes?
3. What is the relationship between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the attendance of students in S&I seminary classes?

These questions sought to break up the concept of teacher self-efficacy into specific pieces, as is appropriate for self-efficacy research. This same desire for specificity was also sought for when looking at student achievement in the classroom.

In reviewing the teacher self-efficacy research, it was apparent that high self-efficacy appears to work in favor of successful student outcomes. Therefore, the author hypothesized that teachers who held high self-efficacy beliefs would have more successful students and that would be reflected in their academic grades, conduct grades, and attendance. In other words, when teachers held high self-efficacy beliefs, their students would have higher grades and more frequent attendance. Conversely, lower teacher self-efficacy would correlate with lower grades and a greater number of absences.

## Population and Sample

In order to analyze the relation between teacher self-efficacy and student success this study looked at the teachers and students in the high school level religious education

program of the Church of Jesus Christ of Latter-day Saints, also known as seminary. Of the 279 surveys sent out by mail, the researcher received 129 complete responses from full-time seminary teachers.

S&I is part of a larger educational system run by the Church of Jesus Christ of Latter-day Saints (LDS). In other parts of this system, there are teachers from the elementary level to the college level (see Appendix A – Organizational Chart of the Church Educational System). This broad scope of teachers makes it necessary to define which teachers are used in this study. Therefore, in the confines of this study, S&I teachers are defined as full-time seminary teachers. These instructors teach a religion-based curriculum at the high school level. Their students include youth in grades 9 through 12. The full-time designation distinguishes them from their counterparts throughout the world who also teach seminary, but only on a part-time basis. As an additional requirement, the full-time seminary teachers in this study are those who work in a released-time program. The term *released time* refers to the program where students are released from the responsibility and liability of a public school for a period of time during which these youth go to a nearby seminary building. They spend a period of class time studying from the LDS scriptures and then return to the public school to continue their school day. The only exception to this released-time scenario are teachers who also teach one to two seminary classes outside the regular hours of school, such as early morning or after school classes. Although these classes do not require the students to be released from the public school, they are still part of the released-time program. Teachers in this situation also teach other released-time classes and are still considered appropriate participants for this study.

Although full-time seminary teachers, as a general rule, do not have teaching certificates issued by the state, they do have formal training. Each of these teachers is required to have a bachelor's degree from an accredited college or university (S&I, 2010). Moreover, salary increases in the form of lane changes encourage these teachers to seek after advanced degrees. Indeed, 84.8% of the respondents to this survey hold graduate degrees. In addition to degrees, S&I maintains an in-house preservice program that is taught either at a church-owned university or at an Institute of Religion building adjacent to a public university. This program includes two classes in pedagogy and a year of student teaching. Through each step in this process of training the number of possible teachers is slowly reduced, with only a fraction actually being offered a job as a seminary teacher. It is therefore important to point out that those who are offered a job may see this as proof of their ability to teach well. Such verbal persuasion (Bandura, 1977) may have a great influence on these teachers' self-efficacy and lead to higher scores when that belief is measured.

In addition to this preservice training, each seminary teacher receives continual in-service training. Training meetings for seminary teachers occur several times a month in individual seminary buildings and in larger groups of multiple faculties. These teachers also attend two additional weeks of formal in-service training each summer.

However, it is not only their method of training and selection that differentiates seminary teachers from other educators. Seminary teachers are expected to be examples of the gospel principles and doctrines they share in class (S&I, 2012). The S&I training manual, *Gospel Teaching and Learning*, explains this expectation as follows: "One of the greatest contributions a teacher can make toward helping students accomplish the

purpose outlined in the S&I Objective is consistent and faithful obedience to the gospel of Jesus Christ" (p. 2). Seminary teachers, therefore, are expected to whole-heartedly believe in and live by the things they teach.

Drawing from this pool of full-time seminary teachers, I worked with a member of S&I Information Services to secure a list of possible participants (see Appendix B – Creation of the Possible Participant List). In general, S&I Information Services does not like to ask a teacher to respond to more than one survey each year, so the search started by looking for teachers who fit that criteria and taught outside of Utah. This initial search supplied the names of 129 people. Expanding the search to include teachers in the various areas in the state of Utah, except for Utah Valley, 150 more people were found who had not been surveyed since March 2011. In an effort to find a total of 300 names, a random sampling was made of teachers outside of Utah and who had been surveyed since March 2011.

With this list of 300 names, I compiled a spreadsheet that included the participants' addresses and positions. Of this first list, 77 were found not to fit the criteria; in other words, they were not full-time, released-time seminary teachers. Instead, they were secretaries, college-level religion teachers, or administrators. Working again with Information Services, 77 more names were randomly chosen, including teachers from Arizona, Idaho, Alaska, Nevada, Washington, and Utah. This last set of names included 12 teachers from Utah County in the state of Utah. Moreover, the people at Information Services explained that every potential participant living in the states of Arizona, Idaho, and Alaska was now part of the list. After compiling the information on the new possible participants, a few more were discovered to be administrators instead of

teachers, which brought the final number to 279 people. It was these 279 people who were mailed a survey packet.

As part of the study, each teacher sent a copy of their Grading Sheet document, which included the academic grades, conduct grades, and attendance of their students (see Appendix J – Sample Grading Sheet). The teacher with the fewest number of total students had 30. On the other end of the scale, the teacher with the most students had 180. Meanwhile, the teachers in general had on average just over 111 students each and a median of 110. These numbers represent released-time seminary students in grades 9 through 12 in Arizona, Idaho, Utah, Washington, and Alaska.

### *Researcher's Relationship with S&I*

As a matter of disclosure, I, the researcher, need to explain my relationship with S&I. I am currently a full-time seminary teacher beside a high school with a released-time program and would fit within the guidelines of potential participants in this study. I have worked with S&I for 14 years. It is this experience that led me to study this particular group of teachers. The information accessed through the S&I Information Services department is available to any S&I employee working on a graduate-level degree.

## Data Collection and Instrumentation

Having created the participant pool, the researcher sent a letter to each of the possible participants. This letter included a survey packet of five documents: a consent form that explained the study and included a place for a signature (see Appendix C – Teachers Consent Document), a letter from S&I Information Services that showed the

approval of this project (see Appendix D – S&I Information Services Letter), the demographic survey (see Appendix E – Demographic Survey), the Teachers Sense of Efficacy Survey (see Appendix H – Teachers Sense of Efficacy Scale Modified for S&I Teachers), and instructions for accessing the Grading Sheet and emailing it to me (see Appendix I – Accessing and Emailing the Term Grading Sheet). Each envelope also included another stamped envelope that was addressed to me, so that participants could mail back the consent form and the survey.

After this first mailing, I followed up with the participants on a couple of occasions. Three weeks after the initial requests were mailed out an email was sent to each of the possible participants who had not responded. It explained the purpose of this study and requested participation (see Appendix K – Follow Up Email). Additionally, I attached the consent document, the survey, and the instructions for accessing the Grading Sheet. During that same week, I followed up on those who had returned only part of the requested items. Yet another request was made the following month, which included the three documents mentioned above. With each additional attempt, I received a number of complete and incomplete responses. Incomplete responses were followed up on either by email or by telephone.

In the end, I received 129 responses. This was a return percentage of 46. Of that total, 69, or 54% of the respondents lived outside the state of Utah. This was a fair return with a number of out of state responses.

### *Teacher Demographic Questionnaire*

The demographic questionnaire looked at seven factors (see Appendix D – Demographic Survey). In addition to reporting their gender, ethnicity, and age, teachers

reported on their level of formal education, reflected by their completion of bachelor's, master's, or doctoral degrees. The next piece of demographic information asked about where they received their seminary preservice teacher training. Specifically, the demographic instrument inquired whether the teacher had attended an LDS school, such as Brigham Young University, or if they went through a preservice program at an LDS Institute of Religion adjacent to a non-LDS school. A third option was available to those who joined S&I without any formal preservice training. An additional item asked teachers to report their years of teaching experience. This information then placed them into one of seven categories of experience, each 5 years long and starting at 0 years. The final demographic question asked about the grade level at which they teach seminary. In particular, teachers were asked to report if they taught in a seminary next to a junior high school (grade 9 only), a high school (classes of mixed grades 10 through 12), or a school that includes mixed classes of all four grades. All of this demographic information was compared to the students' grades and attendance in order to identify if these factors might have a greater influence than teacher self-efficacy.

### *Teachers' Sense of Efficacy Scale*

This study utilized the Teachers' Sense of Efficacy Scale designed by Tschannen-Moran and Hoy (2001; see Appendix F – Original Teachers Sense of Efficacy Scale). This instrument follows the general trend in teacher efficacy research to look at increasingly specific tasks within teaching. This, as opposed to measuring some general idea of teacher efficacy, such as efficacy for teaching ability, which had been the practice in the earliest teacher efficacy scales.

*Development of the Scale*

Tschannen-Moran and Hoy (2001) designed this scale as a way to get at the more specific pieces of teacher efficacy. Their creation of this instrument came in four phases. Initially, they studied the literature and utilized the input of teachers to create a 52-question list. Then, through a series of three testing phases, the researchers settled upon a 24-question survey. Their factor analyses uncovered the three areas—efficacy for instructional strategy, classroom management, and student engagement—that now are the pillars of the survey. Reliability was also found to be high. Ross and Bruce (2007) ran tests of their own and found the test valid and reliable. Henson (2002) reported that while in a prior article she had found issue with one of the initial versions of the Teachers' Sense of Efficacy Scale, since then Tschannen-Moran and Hoy had resolved the problem with the addition of a few more appropriate items.

*Description of Section 1*

The items in the first section of this instrument refer to the teachers' perceived abilities to educate their students. It includes questions about their self-beliefs in areas such as student evaluation, asking and answering questions, writing appropriate lessons, and gauging student comprehension. For example, one question from this section reads, "To what extent can you provide an alternative explanation or example when students are confused?"

*Description of Section 2*

The second section moves on to the teachers' ability to manage their classes. It includes reactive questions about how confident teachers are in responding to defiant and

disruptive students. Additionally, it looks at proactive methods that teachers use to manage their classes, such as providing clear expectations and establishing a classroom management system before problems arise. Questions from this section include, "How much can you do to control disruptive behavior in the classroom?" and "To what extent can you make your expectation clear about student behavior?"

*Description of Section 3*

The final section investigates teacher efficacy in engaging students. In other words, it looks at the teachers' confidence in their ability to get students involved in the learning. This section, then, asks questions about teacher efficacy in motivating students, getting them to think critically, and in increasing student understanding. An example question from this section is "How much can you do to improve the understanding of a student who is failing?"

*Scoring the Scale*

With those three categories in mind, Tschannen-Moran and Hoy (2001) utilized a Likert-type scale according to the following continuum: 0 (nothing) through 9 (a great deal). Therefore, a teacher who responded to an item on the survey by indicating a 7 would be describing their efficacy in that area as relatively high.

*Modifications of the Scale for This Study*

The Teachers' Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001) has been effectively used in public classroom settings (Knoblauch & Hoy, 2008; Ross & Bruce, 2007; Wolters & Daugherty, 2007; Yeo et al., 2008). However, other researchers have

needed to modify it somewhat in order to make it more closely fit their needs. For example, Ross and Bruce (2007) changed some of the wording in this instrument to focus on ideas relevant to math teachers. This dissertation study followed the precedent of Ross and Bruce and made a few minor changes to the scale (see Appendix G –Modification Made to the Teachers Sense of Efficacy Scale). These modifications are necessitated by the unique nature of the S&I program and the vernacular of the teachers. Any changes made fell into one of two categories: 1) changes that clarified education jargon that is not as prevalent in S&I, or 2) changes to words and phrases that are irrelevant to S&I programs in order to make them more appropriate to this setting.

*Description of modifications.* The first category of changes—replacing jargon terms—changed two phrases, each one in a different question. Question 1 changed "assessment" (Tschannen-Moran & Hoy, 2001, p. 800) to "evaluation" and added "to assess your students' performance." The item now reads "To what extent can you use a variety of evaluation strategies to assess your students' performance?" This change was made because many seminary classes do not utilize formal evaluation, such as tests and quizzes, to assess student performance. It was, therefore, important to clarify the purpose of these evaluation strategies. The second clarification of jargon change occurred in Question 4. The wording, "alternative strategies" (p. 800) was changed to read "a variety of teaching methods." This modification was made because S&I does not have a specific curriculum that mandates how a subject should be taught. Without such guidelines there is no need for alternative teaching methods. Instead, S&I instructors would be more concerned about using a variety of methods to teach different topics, so that more

students can grasp important ideas. This change would therefore be more applicable to teachers in S&I programs.

The second category of changes removes wording irrelevant to S&I from the scale and replaces them with those more appropriate to the seminary program. However, the changes are still quite minor, as can be seen in Questions 10 and 20. Tschannen-Moran and Hoy's Question 10 (2001) refers to "children" (p. 800), whereas all of the students in a seminary class are in high school grades 9 through 12. Although some might still deem these youth as children, this term is dropped in favor of "students." The change in Question 20 is from "school" (p. 800) to "seminary." This change was made simply to avoid any confusion among the S&I teachers who respond to the survey. The last S&I appropriate change is a little more substantial. It changes the wording in Question 21, which asked about improving "the understanding of a student who is failing" (p. 800). Seminary teachers do not withhold credit according to the degree of student learning. Instead, students lose credit only when their attendance falls below the required 80-percent mark. The wording in the scale was therefore changed to "How much can you do to help a student who has lost credit in seminary?" These small changes to the Teachers' Sense of Efficacy Scale will make the instrument clearer for a S&I teacher audience, thereby increasing their ease in responding to the scale.

*Resulting formatting changes to the scale.* With these changes in place, the scale was reformatted in order to facilitate its use. First, the items in the three different categories were arranged using a random number chart (Drew, Hardman, & Hosp, 2008, p. 88). This will modify the order of questions, so that the participants will be less aware of the general grouping of each item; that is, according to Tschannen-Moran and Hoy's

three main categories (2001). After this rearrangement, each question will be accompanied by a Likert scale numbered from 0 (nothing) to 9 (a great deal). Participants will then respond to each question by filling in the circle that corresponds to their efficacy feelings in that area.

The use of a slightly modified version of the Tschannen-Moran and Hoy Teachers' Sense of Efficacy Scale (2001) will facilitate its use in the seminary classroom. The original format of this test has been successfully tested for reliability, which was greatly aided by the designation of three specific task areas in teaching. Moreover, the modifications made to the scale wording are quite minor and serve only to clarify and not change the meaning of the original.

### *The Grading Sheet*

In addition to the demographic instrument and efficacy scale, this project will also access information about student grades and attendance. In order to do so, the researcher will draw on the information available on a S&I generated report known simply as the *Grading Sheet* (see Appendix J – Sample Grading Sheet). This report contains information about each class, including the information pertinent to this study. Student academic grades are reported in the typical letter form from A to D, although the S&I policy manual does not provide explanations of what each letter should represent (see S&I, 2010, p. 3-11). In addition to these grades, students can receive Incomplete (I) and Unexcused (U) grades; both represent the loss of credit. Teachers have one other option when it comes to awarding grades and that is P, which simply represents a passing grade.

In order to better utilize this academic grade information, the letters were translated into numerical form. The grade of A was represented by the number 4, A- by a

3.7, a B+ by 3.3, and so on. Seeing that I and U grades showed a loss of credit, they were represented by the numeral 0. Lastly, because a P grade represents passing, it was signified by the numeral 2.

The Grading Sheet also contains the students Conduct Grades. There are four categories in this continuum: Honorable (H), Satisfactory (S), Needs Improvement (N), and Unsatisfactory (U). Students are to receive a grade in this area every term (S&I, 2011). These grades were also changed into numerical form. An Honorable grade was represented by the numeral 4, Satisfactory by the numeral 3, Needs Improvement by the numeral 2, and Unsatisfactory by the numeral 1.

The final piece of information extracted from the Grading Sheet was student attendance. This document displays the number of days that a student missed seminary (possibly modified by the number of days that a student made up). The possible number of days in a given grading period varied, because the various seminaries follow the semester or trimester schedule of the schools with which they work. Fortunately, however, in addition to recording the number of absences for each student, this form also provides a percentage number for the days attended. This last number is the one used in this study to represent student attendance.

In order to obtain the Grading Sheet, the researcher provided each participant with a list of instructions of how to access the form from the S&I Student Tracking and Reporting (STAR) program (see Appendix I – Accessing and Emailing the Term Grading Sheet). These instructions walked the participant through 13 steps that finally led to emailing the information to the researcher. Seeing that it is generally the seminary secretary who records this information in the computer, a number of participants sought

these secretaries' assistance. Either way, the final form was usually sent as a Microsoft Excel document attached to an email. In six instances, however, the participants sent a hard copy of this document in the mail. In either case, these forms provided grade and attendance information about the teachers' students.

## Data Analysis

Backwards stepwise regression was used to analyze the demographic and survey variables for the participating teachers, with each of the student outcome variables (i.e., letter grade, conduct grade, and attendance) used as the dependent variable in a separate analysis. Backwards stepwise regression is used when only the best statistical solution is desired, and no consideration is given to theoretical entry of variables. All independent variables are entered into the regression model, and at each step of the regression analysis, variables that do not contribute significantly to the total variability are removed. The remaining subset of variables will yield the best predictors of the dependent variable. The independent variables initially entered into the model consisted of three demographic variables (years of teaching, age of teacher, class level taught) and the three survey scores (classroom management, engagement, and instructional strategies).

## Summary

In summary, this study investigated the teacher self-efficacy of full-time seminary teachers in the S&I seminary program. This information was obtained by using the Teachers' Sense of Efficacy Scale. The results of the seminary teachers were then compared to the achievement of their seminary students, as measured by their academic

grades, conduct grades and attendance recorded on the Grading Sheet. The data was analyzed using statistical tests and the results are reported in the next chapter.

# CHAPTER 4

# ANALYSIS OF DATA

In 2011, Klassen and his colleagues reviewed the literature concerning teacher self-efficacy and student achievement. They found that only five studies had been done in this specific area. Their conclusion was that this construct required more research. Particularly, they called for more studies to investigate the correlation between teacher self-efficacy and student achievement. This study adds to this body of research as it examines teacher self-efficacy and student achievement in the seminary classes of the Church of Jesus Christ of Latter-day Saints (LDS).

## Organization of Data Analysis

The analysis of the collected data will first describe the data obtained from the teacher survey. This first instrument includes demographic data and the teachers' responses to Tschannen-Moran and Hoy's (2001) Teachers' Sense of Efficacy Scale which was modified for teachers in the LDS Seminaries and Institutes (S&I) released-time seminary program. Next, this section will describe the data culled from the Grading Sheet, an official S&I document that records student academic grades, conduct grades, and attendance.

Having described the teachers and their students, this section will then provide the analysis of correlated data. First, it will identify the significant pieces of demographic data. Next, it will explain which student outcomes—academic grades, conduct grades, and attendance—maintained statistical significance. Finally, it will describe the significant teacher self-efficacy characteristics.

### *Descriptive Characteristics of Participants*

Participants for this study included seminary teachers from five western states. Although 129 teachers initially responded to the survey, a number of them failed to provide complete data in the form of student academic grades or did not return the consent form. These teachers were dropped from complete analysis. Therefore, the final sample included 99 teachers and 11,059 students.

The demographic survey looked at seven characteristics: gender, ethnicity, age, degrees completed, preservice training location, years of full-time teaching experience in seminary, and grade level of school taught. In some areas, the data showed a high level of similarity (see Appendix E – Demographic Survey). The returned data showed that in gender and ethnicity, the respondents were mostly white males. Indeed, 99% of the participants reported their gender as male. However, this is not surprising because S&I policy states that "no mother with minor children living in the home . . . may be employed full-time to . . . teach seminary" (S&I, 2010, 11-4). As for ethnicity, 97% described themselves as White, while the following categories each represented 1% of those surveyed: Hispanic, Pacific Islander, and Other. The variation in these two areas was so little that these data were not even used in the final analysis. Neither gender nor ethnicity could be controlled for in this study.

Greater variety was found when looking at the age and training of the teachers. Table 1 shows that just under half of the respondents fell between the ages of 30 and 39. It is interesting to see that after 39 years of age, the number of teachers drops by almost 50%. The percentage of decrease is even greater for the next age category. It is possible that many of the S&I teachers in these two older age groups are now teaching at the college level or have taken administrative positions.

More than three-quarters of seminary teachers hold graduate degrees (see Table 2). Of the 17 holders of only an undergraduate degree, 53% of them are between the ages of 30 and 39. As for the 39% of participants who listed their age as 40 years-old or older, all of them held graduate degrees. Another interesting figure among those surveyed was that none of the doctoral degrees were held by teachers younger than the 40 to 49 year-old range.

In addition to pursuing advanced degrees, most of these teachers also spent some time in preservice training (see Table 3). Only 1% did not go through that program. Turning to those who did complete the training, over two-thirds of them attended a college or university that is not owned by the LDS Church. These would include any

Table 1

Participant Age

| Age | 20-29 | 30-39 | 40-49 | 50+ |
|---|---|---|---|---|
| | f (%) | f (%) | f (%) | f (%) |
| | 12 (12.2%) | 47 (48.0%) | 29 (29.6%) | 10 (10.2%)* |

Note: *One participant did not respond to the age question.

Table 2

Participant Degrees

| Degrees Completed | Bachelor's Degree | Master's Degree | Doctorate Degree |
|---|---|---|---|
| | f (%) | f (%) | f (%) |
| | 17 (17.17%) | 77 (77.78%) | 5 (5.05%) |

Table 3

Participant Training

| Preservice Training Location | LDS School | LDS Institute at a non-LDS School | No Preservice Training |
|---|---|---|---|
| | f (%) | f (%) | f (%) |
| | 27 (27.8%) | 69 (71.1%) | 1 (1.0%)* |

*Notes:* *Two participants did not respond to the preservice training question.

other state or private university or college other than those owned by the LDS Church; such as, Brigham Young University in Provo, Utah; Brigham Young University, Idaho; and Brigham Young University, Hawaii. These teachers would most likely have attended an Institute of Religion program nearby their university or college.

The years of seminary teaching experience seems to follow a similar trend with the data found concerning age (see Table 4). Almost one-third of the seminary teachers surveyed have taught between 5 to 9 years. By combining the numbers in the first three categories, one can see that two-thirds of the participating teachers had taught 14 or fewer

Table 4

Teacher Years of Teaching

| Years of Full-time Teaching Experience in Seminary | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ |
|---|---|---|---|---|---|---|---|
| | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) |
| | 15 (15.3%) | 31 (31.6%) | 19 (19.4%) | 18 (18.4%) | 7 (7.1%) | 5 (5.1%) | 3 (3.1%)* |

Note: *One participant did not respond to the years of teaching question.

years. These figures show that as a general rule the teachers in seminary classrooms with more than 14 years of experience are in the minority.

The final demographic question dealt with the grade level or levels of the students in the seminary teachers' classrooms (see Table 5). Roughly half of the teachers work in seminaries attached to high schools that cater to students in grades 9 through 12. Only 10% of the teachers work solely with the youngest grade in seminary; that is, 9$^{th}$ grade.

This demographic data provided a glimpse into the characteristics of the participating seminary teachers. It also provided data that could be controlled for when analyzing data. In this way, the analysis could rule out these factors as stronger correlates to student achievement.

Table 5

Teacher Grade Level Taught

| Grade Level Taught | Grade 9 | Grades 10-12 | Grades 9-12 |
|---|---|---|---|
| | f (%) | f (%) | f (%) |
| | 10 (10.10%) | 43 (43.88%) | 46 (46.46%) |

## Seminary Teachers' Sense of Self-efficacy

Following the principles in Bandura's theory (1977), Tschannen-Moran and Hoy (2001) created a scale to measure teachers' self-efficacy (see Appendix H – Teachers Sense of Efficacy Scale Modified for S&I Teachers). The questions in this survey were divided up into three sections: instructional strategies, classroom management, and student engagement. Each of these sections was represented by eight questions and each question used a 10-point Likert scale from 0 to 9. Therefore the possible range of scores for each of the focus areas was from 0 to 72. Each section of this scale will be looked at individually.

### *Teacher Self-efficacy for Instructional Strategies*

Instructional strategies represent one of the three specific areas of teacher efficacy studied in Tshcannen-Moran and Hoy's Teachers Sense of Efficacy Scale (2001). Generally speaking, these questions refer to the abilities teachers have to present appropriate information to their students. A representative question in this area is "How well can you implement alternative strategies in your classroom?" Additionally, this

section also asks about teacher's self-efficacy in assessing student learning. The following question falls in this category: "To what extent can you use a variety of assessment strategies?"

As is the case in each of the self-efficacy sections, on average the teachers scored themselves as relatively high on the instructional strategies section of the survey (see Table 6). Both the median and mode scores show that these teachers usually felt high levels of efficacy in this area. This trend continues when one looks at the individual question scores. The range of these individual questions shows that every teacher felt that they had at least a little bit of confidence in their ability to perform in instructional strategies.

Additional facts are apparent when each question is considered individually (see Table 7). Three of the questions have a range with a low point of 2. On the other end, every question had a high answer of 9, which is the highest possible response. In this section, the most common response was 7. However, Question 5 on the survey fell below that common answer for the rest of the survey with a mode of 6. This question asked "To what extent can you gauge student comprehension of what you have taught?"

Additionally, there are two questions that had higher modes than the overall responses. A mode value of 8 and 9 was found in the following two questions, respectively: Question 13, "How well can you respond to difficult questions from your students?," and Question 6, "To what extent can you provide an alternative explanation for example when students are confused?" These responses show the areas where the teachers felt relatively more or less self-efficacy.

Table 6

Instructional Strategies Scores for Teachers

| | Section Scores | Individual Questions Scores |
|---|---|---|
| Range | 38-72 | 2-9 |
| Mean | 56.83 | 7.11 |
| Median | 57 | 7 |
| Mode | 58 | 7 |

Table 7

Responses to Questions in the Instructional Strategies Section

| | Range | Mean | Median | Mode |
|---|---|---|---|---|
| Question 5 | 2-9 | 6.27 | 6 | 6 |
| Question 6 | 5-9 | 7.71 | 8 | 9 |
| Question 7 | 2-9 | 6.26 | 6 | 7 |
| Question 9 | 2-9 | 7.11 | 7 | 8 |
| Question 13 | 4-9 | 7.76 | 8 | 8 |
| Question 15 | 4-9 | 7.36 | 7 | 7 |
| Question 16 | 3-9 | 7.00 | 7 | 7 |
| Question 23 | 3-9 | 7.42 | 8 | 7 |

*Teachers Self-efficacy for Classroom Management*

Moving from the instructional strategies questions, the next portion of the scale asks about classroom management. These questions inquire about teachers' self-efficacy in dealing with student behavior. Questions in this section include such items as "How much can you do to get children to follow classroom rules?" and "How much can you do to control disruptive behavior in the classroom?"

The overall scores for classroom management self-efficacy were higher than those reported for instructional strategies (see Table 8). As a section, the average score jumped by 3 points compared to teacher self-efficacy for instructional strategies. Turning to individual questions, both the median and mode scores were 8. While the range of scores for individual questions still remained 2 to 9, the bottom part of the range for the entire section dropped by 10 points compared to the instructional strategies section.

Once again, more information is available when looking at the scores connected to the questions instead of looking at the results of each teacher (see Table 9). The scores for these particular questions were also on the high end of the scale. The median and

Table 8

Classroom Management Scores

| | Section Scores | Individual Questions Scores |
|---|---|---|
| Range | 28-72 | 2-9 |
| Mean | 59.52 | 7.47 |
| Median | 61 | 8 |
| Mode | 64 | 8 |

Table 9

Responses to Questions in the Classroom Management Section

| | Range | Mean | Median | Mode |
|---|---|---|---|---|
| Question 1 | 3-9 | 7.71 | 8 | 8 |
| Question 4 | 3-9 | 7.66 | 8 | 8 |
| Question 8 | 3-9 | 8.25 | 8 | 9 |
| Question 10 | 2-9 | 6.76 | 7 | 7 |
| Question 11 | 3-9 | 7.31 | 8 | 8 |
| Question 12 | 2-9 | 7.22 | 7 | 8 |
| Question 14 | 5-9 | 7.74 | 8 | 8 |
| Question 20 | 2-9 | 7.08 | 7 | 8 |

mode were quite stable with most questions registering an 8. However, two questions did not have a mode of 8. Question 10 had the only subaverage mode in this category. This question asked, "How well can you respond to defiant students?" The only question with a higher than average mode in this section was Question 9. This item inquired "To what extent can you make your expectation clear about student behavior?"

### *Teacher Self-efficacy for Student Engagement*

The third category of questions in the Tschannen-Moran and Hoy scale (2001) asks questions about teachers' self-efficacy for student engagement. The tasks represented in this area refer to student motivation and values. Therefore, the following questions are representative of this section: "How much can you do to get students to

believe they can do well in schoolwork?" and "How much can you do to help your students value learning?"

A quick comparison of the overall numbers for student engagement shows that this area had the lowest mean and median scores (see Table 10). Yet in spite of these low scores, this area did not receive the lowest scores in terms of range.

Despite the numbers that reflect teachers as a whole, another picture is apparent when one looks at the scores reflecting each individual question (see Table 11). The student engagement section is the only area where the individual score average fell below 7. Interestingly enough, it is also the only section where a 0 score was reported. While the median and mode for individual scores stayed the same as those reported for instructional strategies, the overall section median and mode shows a slight drop in level.

The lower level of scores is also evident when looking at the scores reported on individual questions. The lower end of the range scores is consistently in the bottom third of the scale. As participants responded to this section, they recorded the answer 2 a total of 12 times, whereas instructional strategies had less than half as many (only 5 responses of 2) and classroom management only had 4 such responses, or a third as many.

While this third set of questions had a mode score of 7, it had more questions that fell outside of that figure than any of the other sections. As the area with the lowest average score, it is not surprising that two questions had a mode of 1 point lower. The first of these questions—Question 3—was the only question on the survey that received a 0 from any participant. Interestingly enough, it asks, "How much can you do to get through to the most difficult students?"—a question that lies at the heart of teacher self-efficacy theory. The other question that fell below the mode was Question 21, "How

Table 10

Student Engagement Scores

| | Section Scores | Individual Questions Scores |
|---|---|---|
| Range | 31-72 | 0-9 |
| Mean | 53.56 | 6.70 |
| Median | 54 | 7 |
| Mode | 60 | 7 |

Table 11

Responses to Questions in the Student Engagement Section

| | Range | Mean | Median | Mode |
|---|---|---|---|---|
| Question 2 | 4-9 | 7.45 | 8 | 8 |
| Question 3 | 0-9 | 6.47 | 7 | 6 |
| Question 17 | 4-9 | 6.80 | 7 | 7 |
| Question 18 | 2-9 | 6.67 | 7 | 7 |
| Question 19 | 2-9 | 6.54 | 7 | 7 |
| Question 21 | 2-9 | 5.73 | 6 | 6 |
| Question 22 | 2-9 | 6.58 | 7 | 7 |
| Question 24 | 4-9 | 7.38 | 8 | 8 |

much can you do to motivate students who show low interest in schoolwork?" On the other hand, two questions elicited a higher than average mode score of 8. These were Question 2, "How much can you do to help your students think critically?," and Question 24, "How much can you do to help a student who has lost credit in seminary?" While the disparities are not large, they do show where the teachers felt greater or lesser degrees of self-efficacy in their teaching.

## The Grading Sheet

Each participant prepared an S&I computer-generated spreadsheet simply called the Grading Sheet (see Appendix J – Sample Grading Sheet). This document included student information regarding academic grades, conduct grades, and attendance. The data representing attendance contained three numbers. The first two numbers showed the exact number of times that an individual student was absent or tardy to class. The third attendance number reflected the percentage of days that students attended class, which was the best number for comparing seminary programs to each other because they often meet for a different number of days in a term.

The academic grade data shows that the average grades handed out by teachers fall into a broad range (see Table 12). The lower end of the range falls at 2.10, which is just above a C grade level. Conversely, the top end of the range falls just below the A grade level. Turning next to the mean, the average grade point in the sampled classes was 3.20, which falls just below the B+ level. That level better describes the median figure, which explains that more than half of all seminary students receive a grade of a B or higher.

Looking at another measure of student behavior, the conduct grade is made up of four possible choices: Honorable, Satisfactory, Needs Improvement, and Unsatisfactory (see Table 13). An Honorable rating received 4 points and an Unsatisfactory rating received 1 point. Seeing that there is no 0 score, it was obvious that the scores in this area would be higher than those of the grade point average. This was born out in the analysis. The mean score for this area was 3.76 with a median of one-tenth of point higher at 3.86. The number at the high end of the range is also telling. In order for a teacher to have an average conduct score of 4.00, it means that every single one of their students received an Honorable grade. Indeed, 13% of the teachers had this average score.

The third student outcome identified in this study was attendance percentage (see Table 14). The range of scores shows two interesting things. First, even the teacher with the lowest average student attendance percentage still managed to keep the number above the 80% mark, which is the percentage required for a student to receive credit in seminary. Second, one teacher reported that no students missed a single day during the term. However, this number might also represent that every student who missed a day of seminary in this class made up that day and therefore, had the absence removed. Alternatively, the teacher might have made a mistake when taking the roll.

### *Dependent Variable Data Transformations*

The three teacher self-efficacy variables—instructional strategies, classroom management, and student engagement—served as the dependent variables for this study. In the three multiple regression analyses, the assumptions of normality, homoscedasticity, and linearity were tested by examining the residuals. A visual inspection of the residual

Table 12

Student Academic Grades by Teacher

| | Range | Mean | Median |
|---|---|---|---|
| Academic Grade Point Average | 2.10-3.92 | 3.20 | 3.24 |

Table 13

Student Conduct Grade by Teacher

| | Range | Mean | Median |
|---|---|---|---|
| Conduct Grade | 3.05-4.00 | 3.76 | 3.86 |

Table 14

Student Attendance Percentage by Teacher

| | Range | Mean | Median |
|---|---|---|---|
| Attendance Percentage | 84.87-100.00% | 92.30% | 92.30% |

scatterplot indicated that each of the three of the dependent variables violated all three assumptions. Each was found to have extreme negative skewness.

In order to make the data serviceable, each of the three data sets were transformed using transformation that corrects for extreme negative skewness. The grade point average data was transformed by calculating the square root of the difference between the mean grade and 5.0; this number being 1 + the largest value (4.0). In order to control for the negative skew in attendance and conduct, they were transformed by calculating Log 10 of the difference between the mean value and 1 + the largest value for each variable. Therefore, attendance was transformed by calculating the Log 10 of the difference of the mean value and 2.0, because the highest value for attendance was 100% or 1.0. Meanwhile, conduct was transformed by calculating the Log 10 of the difference of the mean value and 5.0; seeing that the highest value for conduct was 4.0.

Additionally, the data from the three dependent variables went through one more transformation. In order to utilize the data provided by the teachers, the raw numbers were calculated as a mean score. However, each teacher had a different number of students. In order to account for this difference, each transformed mean score was weighted by using a ratio. This ratio was calculated by dividing the number of students used to calculate the mean by the total number of students who participated in the study. In this way, teachers with more students were weighted more heavily than their counterparts with fewer students.

Having transformed the data, the multiple regression analyses were run once again. A visual inspection of the residual scatterplots indicated that the assumptions of

normality, homoscedasticity, and linearity were met. Furthermore, this assessment of the scatterplots identified four teachers as outliers. They were removed from further analyses.

## The Correlation between Teacher and Student Variables

The purpose of this study was to investigate the connection between specific teacher self-efficacy constructs and student variables. Additionally, steps were taken to consider the influence of other teacher characteristics. This section looks at the interplay between these variables and is organized according to student outcomes: first, student letter grades, then student conduct grades, and finally, student attendance percentages.

### *Student Letter Grades Correlated with Teacher Variables*

The backwards stepwise regression revealed the most powerful teacher influences on student letter grade achievement (see Table 15). The analysis shows that in the case of student letter grades, two teacher variables are significant. When it comes to teacher self-efficacy, only confidence in classroom management has a significant correlation with student grades. Moreover, it is interesting to see that self-efficacy for instructional strategies is the first teacher variable to be removed in this analysis; showing that it has the least significance of any variable. Yet, teacher self-efficacy variables were not found to be the most significant. Indeed, the years of teacher experience has a greater degree of significance than any other teacher variable.

### *Student Conduct Grades Correlated with Teacher Variables*

In the case of student conduct grades, there was not a single teacher self-efficacy variable that was significant (see Table 16). They were dropped in the following order:

Table 15

Backwards Stepwise Regression for Student Letter Grade

| Model | | *B* | *SE B* | *β* |
|---|---|---|---|---|
| 1 | (Constant) | .018 | .004 | |
| | Teacher School Level | .001 | .001 | .093 |
| | Instructional Strategies | -.001 | .001 | -.109 |
| | Class Management | -.002 | .001 | -.330 |
| | Student Engagement | .002 | .001 | .318 |
| | Teacher Age | -.002 | .001 | -.241 |
| | Teacher Years of Experience | -.002 | .001 | -.599 |
| 2 | (Constant) | .016 | .004 | |
| | Teacher School Level | .001 | .001 | .094 |
| | Class Management | -.002 | .001 | -.358 |
| | Student Engagement | .001 | .001 | .264 |
| | Teacher Age | -.002 | .001 | -.240 |
| | Teacher Years of Experience | -.002 | .001 | -.609 |
| 3 | (Constant) | .017 | .004 | |
| | Class Management | -.002 | .001 | -.344 |
| | Student Engagement | .001 | .001 | .246 |
| | Teacher Age | -.002 | .001 | -.231 |
| | Teacher Years of Experience | -.002 | .001 | -.624 |

Table 15 continued

| | | | | |
|---|---|---|---|---|
| 4 | (Constant) | .016 | .004 | |
| | Class Management | -.002 | .001 | -.320* |
| | Student Engagement | .001 | .001 | .242 |
| | Teacher Years of Experience | -.001 | .000 | -.436** |
| *Notes:* *$p < 0.05$; **$p < 0.01$ | | | | |

Table 16

Backwards Stepwise Regression for Student Conduct Grade

| Model | | *B* | *SE B* | *β* |
|---|---|---|---|---|
| 1 | (Constant) | .002 | .001 | |
| | Teacher School Level | -4.338E-5 | .000 | -.029 |
| | Instructional Strategies | 2.771E-5 | .000 | .025 |
| | Class Management | .000 | .000 | -.189 |
| | Student Engagement | -2.750E-5 | .000 | -.029 |
| | Teacher Age | -.001 | .000 | -.436 |
| | Teacher Years of Experience | .000 | .000 | -.483 |
| 2 | (Constant) | .002 | .001 | |
| | Teacher School Level | -4.060E-5 | .000 | -.027 |
| | Instructional Strategies | 1.707E-5 | .000 | .016 |
| | Class Management | .000 | .000 | -.205 |
| | Teacher Age | -.001 | .000 | -.436 |
| | Teacher Years of Experience | .000 | .000 | -.480 |
| 3 | (Constant) | .002 | .001 | |
| | Teacher School Level | -4.170E-5 | .000 | -.028 |
| | Class Management | .000 | .000 | -.195 |
| | Teacher Age | -.001 | .000 | -.436 |
| | Teacher Years of Experience | .000 | .000 | -.479 |

Table 16 continued

| | | | | |
|---|---|---|---|---|
| 4 | (Constant) | .002 | .001 | |
| | Class Management | .000 | .000 | -.195 |
| | Teacher Age | -.001 | .000 | -.439* |
| | Teacher Years of Experience | .000 | .000 | -.475** |
| *Notes:* *$p < 0.05$; **$p < 0.01$ | | | | |

student engagement, instructional strategies, and then classroom management. However, two similar teacher traits found a great deal of significance. The analysis suggests that as teachers age and gain experience, they are more likely to have students with higher conduct grades.

### *Student Attendance Percentage Correlated with Teacher Variables*

In the case of student attendance percentage, three variables were found to be significant (see Table 17). The first was the school level at which a participant taught. Those who taught only the 9$^{th}$ grade students had the highest student attendance percentages. The next variable was teacher years of experience. This particular variable found significance in all of the analyses. Yet, the most significant variable in this case was a teacher's self-efficacy for classroom management. It had a *p* value of less than .001.

The analyses in this section show that teacher traits and self-efficacy have an influence on student outcomes. In these three tests, two variables have stood out. First, teacher experience, measured in years in the seminary classroom, found significance in all three tests. The second outstanding variable was teacher self-efficacy for classroom management. It was found to be significant in two of the three regression tests and had a *p* value of 0.56 in the third test.

## Summary

Three sources of data were mined in order to find the data analyzed in this chapter. The first, the teacher demographic survey, identified the descriptive characteristics of the participants. Next, the Teacher Sense of Efficacy Scale provided

Table 17

Backwards Stepwise Regression for Student Attendance Percentage

| Model | | *B* | *SE B* | *β* |
|---|---|---|---|---|
| 1 | (Constant) | -.001 | .000 | |
| | Teacher School Level | -6.526E-5 | .000 | -.260 |
| | Instructional Strategies | 1.570E-5 | .000 | .085 |
| | Class Management | 7.900E-5 | .000 | .483 |
| | Student Engagement | -3.731E-5 | .000 | -.232 |
| | Teacher Age | 3.042E-5 | .000 | .120 |
| | Teacher Years of Experience | 3.405E-5 | .000 | .328 |
| 2 | (Constant) | -.001 | .000 | |
| | Teacher School Level | -6.542E-5 | .000 | -.261 |
| | Class Management | 8.261E-5 | .000 | .505 |
| | Student Engagement | -3.049E-5 | .000 | -.189 |
| | Teacher Age | 3.021E-5 | .000 | .120 |
| | Teacher Years of Experience | 3.489E-5 | .000 | .336 |
| 3 | (Constant) | -.001 | .000 | |
| | Teacher School Level | -6.428E-5 | .000 | -.256 |
| | Class Management | 8.055E-5 | .000 | .493 |
| | Student Engagement | -3.001E-5 | .000 | -.186 |
| | Teacher Years of Experience | 2.491E-5 | .000 | .240 |

Table 17 continued

| | | | | |
|---|---|---|---|---|
| 4 | (Constant) | -.001 | .000 | |
| | Teacher School Level | -6.045E-5 | .000 | -.241* |
| | Class Management | 5.734E-5 | .000 | .351** |
| | Teacher Years of Experience | 2.669E-5 | .000 | .257** |
| *Notes:* *$p < 0.05$; **$p < 0.01$ | | | | |

information about three categories of teacher self-efficacy. Finally, the Grading Sheet provided student data concerning student outcomes; specifically, academic grades, conduct grades, and attendance.

When the teacher responses and the student reports were compared, the analyses showed that teacher traits and beliefs have an influence on student outcomes. The most prevalent teacher trait is teacher experience. Teachers with a greater number of years of experience show greater student achievement and other outcomes. As for teacher self-efficacy beliefs, the most significant is self-efficacy for classroom management. Teachers who felt more confident in this area had a significant influence on student academic grades and attendance percentages. The next chapter will discuss these findings and make suggestions for future research.

# CHAPTER 5

# CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

## Introduction

This study looked at the correlation between teacher self-efficacy and three student outcomes: academic grade, conduct grade, and attendance. The questions that served as the driving force behind this study also identify the key factors that are discussed therein. The three questions are as follows:

1. What is the relation between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the academic grades of students in Seminaries and Institute (S&I) seminary classes?
2. What is the relation between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the conduct grades of students in S&I seminary classes?
3. What is the relation between teacher self-efficacy—looking specifically in the areas of instructional strategies, classroom management, and student engagement—and the attendance of students in S&I seminary classes?

These questions identified three specific areas of teacher self-efficacy and spotlighted them for individual study. Having distinguished these three beliefs, the study continued to

look at three separate student outcomes having to do with grades, behavior, and attendance. These six teacher and student variables were then combined and analyzed in relation to a number of demographic questions about the teachers themselves.

The results of this study provide evidence of a significant positive relation between specific teacher traits and student outcomes. They suggest practices that might help improve student achievement and other outcomes. As educators increase their teaching self-efficacy, they have a greater influence on their students' success. These results support the theories of Bandura (1977) in the realm of self-efficacy. The purpose of this chapter is to discuss the interpretation of these study results, evaluate their implications, and address the limitations of this study.

## Summary of Results

When the three forms of data—the teacher demographic survey, the Teachers Sense of Efficacy Scale, and the Grading Sheet—were compared, they provided information about the influence of teacher traits on students. Starting with the demographic survey, these numbers helped describe teachers and their self-efficacy. The data showed a great deal of homogeneity among seminary teachers, with many teachers sharing the same gender, ethnicity, age group, and degree level. The only areas where there was a large deal of variety came from teacher experience and the grade level they taught.

Looking next at the self-efficacy survey, there was also a lot of similarity. Using a scale developed by Tschannen-Moran and Hoy (2001), the teachers scored their self-efficacy in three areas: instructional strategies, classroom management, and student engagement. The average teacher score on the first two scales was 7 and then, on the

third, it was 8. With only a few exceptions, seminary teachers scored themselves on the high end of the scale.

The final measurement recorded student outcomes in terms of grade point average, conduct grade, and attendance percentage. Grades for student academics and conduct appear, on average, in the top quarter of the scale. Furthermore, the average students attended 92% of their classes. It is apparent, then, that seminary students academic grades, conduct grades, and attendance percentages are all high.

When these data were compared, they showed that teacher traits do influence student outcomes. Teacher self-efficacy for classroom management was found to be significantly influential on student academic grades and on attendance. One of the teacher demographic traits, teacher experience, was also found to be a significant influence on all three student outcomes. One other demographic trait—student grade level—also showed a significant effect on student results.

## Discussion of Results

This section will discuss the results of the surveys and their analysis. First, it will approach the topic of teacher self-efficacy by looking at the trait that was most significantly influential: classroom management. Next, the discussion will turn to the portion of teacher self-efficacy where the teachers scored themselves the lowest and the implications of that lack of confidence. From there, the next section will discuss the most prominent teacher demographic trait. Finally, there will be discussion of the grade level at which the teachers instruct.

## *Teacher Self-efficacy and Student Outcomes*

In their 2001 scale, Tschannen-Moran and Hoy identified three specific areas for discussing teacher self-efficacy: instructional strategies, classroom management, and student engagement. The results of this study found only teacher self-efficacy for classroom management to be a significant influence on student outcomes. However, these classroom management beliefs affected both student grades and attendance percentage.

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

In a general sense, these findings add to previous evidence that teacher self-efficacy beliefs influence student academic achievement. For example, Caprara and his colleagues (2006) learned that when middle school students worked with teachers with high self-efficacy, the final exam scores of these students also increased. Similar results were found by Ross et al. (2001), where students' scores on short computer skills tests were affected by their teachers' self-efficacy levels. The results of the current study also show that when teachers have high levels of self-efficacy, then their students achieve more academically. This is a case which several researchers have claimed needed strengthening (Gibson & Dembo, 1984; Klassen et al., 2011), and this study adds evidence to this argument.

A number of reasons have been given for why high teacher self-efficacy leads to student achievement. Hoy et al. (2002) argued that when teachers felt greater self-efficacy, then they would be more likely to encourage students to work harder to succeed. Indeed, this concept hearkens back to the original ideas provided by Bandura in 1977. He argued that when individuals feel efficacious in a particular area, they were more likely to expend effort in those tasks. In the case of teaching, therefore, teachers who believe they

can help their students to succeed are more likely to work harder and longer with students. This additional attention and effort is likely to help students to achieve more academically.

*Teacher Self-efficacy and Student Attendance*

In addition to student academic grades, this study also found teacher self-efficacy to be influential on student attendance. Teachers who felt more efficacious were more likely to have more students regularly attending class. Conversely, in classes where teachers felt like they were less efficacious, regular student attendance was more likely to be lower. Croninger and Lee (2001) found evidence along similar lines when they looked at students who stayed in school and those who dropped out. Their research showed that when students felt that their teachers cared about both the students' academic and personal issues—a factor of personal teacher self-efficacy (see Gibson & Dembo, 1984)—then they were more likely to stay in school. Additionally, Gibbs and Powell (2011) found that teachers with higher self-efficacy were also more likely to keep students in their classes, rather than expel them. Therefore, the research concurs with the current finding that teachers with higher self-efficacy have students who stay in school and attend more regularly.

*Teacher Self-efficacy for Classroom Management*

Yet, teacher self-efficacy is not a general construct. Instead it is truest to the theory when it investigates specific teacher tasks (Bandura, 1977); in this case, classroom management. The results of this study show teacher self-efficacy for classroom management to have greater influence on student attendance than any other self-efficacy

trait on the scale (see Appendix E – Original Teachers Sense of Efficacy Scale). Other researchers (Gencer & Cakiroglu, 2007; Hoy & Woolfolk, 1990) have looked into the effects of teacher self-efficacy for classroom management. They found that teachers with a higher sense of self-efficacy use different classroom management styles than their peers. They stated these highly-efficacious teachers maintained a more flexible classroom management style. They were less strict. Still other researchers (Morris-Rothschild & Brassard; 2006) described this style as more relaxed. A more flexible and relaxed classroom might encourage students to attend, which would connect teacher self-efficacy for classroom management to student attendance.

There is a less direct connection in the literature between teacher self-efficacy for classroom management and student academic achievement. However, research has been done that shows how classroom management training leads to academic achievement. For example, Freiburg, Huzinec, and Templeton (2009) showed that teachers who had been trained in classroom management techniques tended to have higher student scores. Along similar lines, Gregory, Skiba, and Noguera (2010) showed that inappropriate discipline led students to have lower achievement. Having identified this connection between classroom management and student achievement, it also stands to reason that teachers with higher self-efficacy for classroom management would be more likely to use those techniques. When that is the case, then the students will also improve academically.

### *Seminary Teacher Self-efficacy for Student Engagement*

When the seminary teachers returned their answers to the Teachers Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001), most of their responses fell in the top one-third of the scale. In other words, as a general rule these instructors feel a high level

of self-efficacy in all three measured areas of teaching. Yet despite the tendency to feel efficacious in these skills, there was one area where their scores fell lower on the scale: teacher self-efficacy for student engagement. Although a majority of teachers still scored themselves highly, this portion of the survey returned the lowest scores. The average score for this type of self-efficacy fell at 6.70, while the averages of the other two scales were at 7.11 and 7.47. Furthermore, this was the only section where a teacher recorded a score of 0. It is therefore apparent that teachers felt less confidence in this area.

In the development of their widely-used self-efficacy scale, Tschannen-Moran and Hoy (2001) focused in on one of the core duties of a teacher: helping students to learn. This concentration on the self-efficacy beliefs related to one task follows the very core tenants of Bandura's initial theory (1977). The questions in this portion of the scale differ from the other two sections. While the items in the classroom management and instructional strategies surveys focused on the teachers' abilities, the items in the student engagement section looked at the interplay between teachers and students. Consequently, these items ask about how the teachers feel about their influence on student behaviors; such as, teachers' abilities to get students to think critically or to value learning. This distinct approach to a realm of teacher self-efficacy allows the researcher to learn specifically about teachers' confidence when interacting with their students.

Despite the importance of the interplay between teachers and students, the participants reported the lowest self-efficacy feelings for the items in this section. The question that had the lowest average response was Question 21: "How much can you do to motivate students who show low interest in schoolwork?" (see Appendix H - Teacher Sense of Efficacy Scale Modified for S&I Teachers). When faced with a question about

student motivation, the teachers returned an average score of 5.73; more than a half-point lower than any other question.

Moreover, this section was the only one where any teacher reported an answer of 0. This question asked about challenging students: "How much can you do to get through to the most difficult students?" (Question 3; see Appendix H - Teacher Sense of Efficacy Scale Modified for S&I Teachers). That a teacher would have a lower score in this area than in any other matches the concept of mastery experiences (Bandura, 1977). Bandura showed that the strongest influencing factors on self-efficacy were the personal experiences that individuals had with a particular task. In this case, the specific task is working with a difficult student. Difficult students refers to those that are most challenging in class and least likely to comply with teacher instructions. Interactions with belligerent students would be more likely to frustrate a teacher and even lead to doubts concerning their ability to work with students. Such negative interactions would then register as a negative mastery experience and, therefore, have a damaging effect on teacher self-efficacy.

When looking at these lower scores, one might ask why the responses in this area are lower than in any other. Yet, the lower scores in this area follow the trend shown by other researchers who have used the Tschannen-Moran and Hoy scale (2001). Chong and her colleagues (2010) looked at high schools on two academic tracks: high track and regular. In both areas, they found that teachers had a decrease in average scores in the area of student engagement. Wolters and Daugherty (2007) had found a similarly low score for teachers across grade levels (elementary, junior high, and high school), and also across teaching experience. Further studies by Tschannen-Moran and her colleagues

(Tschannen-Moran & Hoy, 2007; Tschannen-Moran & Johnson, 2011) also found that teachers' self-efficacy for student engagement was consistently the lowest of all three categories. Conversely, Poulou (2007) found it to be the highest and Ross and Bruce (2007) found it to be between the two other categories. Even taking these two studies into consideration, it is intriguing to see just how often teachers—both in seminary and in other schools—feel least self-efficacious in the area of student engagement.

### *The Influence of Demographic Variables on Student Outcomes*

In addition to the survey questions about teacher self-efficacy, this study also inquired about teachers' demographic traits. These questions asked teachers to describe their personal and teaching backgrounds, which brought greater insight into the nature of the participants in this study. Yet, when the analysis considered these data, it uncovered some interesting findings that were not connected to teacher self-efficacy. These discoveries were connected to the demographic questions relating to teacher experience and the grade level of students with whom these teachers worked.

#### *The Influence of Teacher Experience*

Of all of the demographic question responses, the most influential trait on student outcomes was teacher experience. Its effect was felt in all three studied student outcomes. Moreover, in the case of student academic and conduct grades, the analysis found it to be a more significant influence than any other demographic trait or teacher self-efficacy belief.

This finding matches what Hanushek and Rivkin (2006) reported in their review of literature. They wrote that teacher experience was a strong indicator of student

achievement. Hanushek (1997) also pointed out that a number of studies have indicated a variety of student outcomes in which teacher experience had an influence. He mentioned that it benefited the students when it comes to standardized test scores, continuation in school, lower dropout rates, and subsequent earnings in the labor market.

*The Influence of Student Grade Level*

In addition to teacher experience, one other demographic factor had significant influence: student grade level with whom the teacher worked. In particular, teachers who taught at the 9th-grade level were found to have the highest rates of attendance. Indeed the 9th-grade seminary students had the highest average attendance percentage: 96.51%.

These statistics match with the findings of other researchers. Johnston and his colleagues (Johnston, Bachman, O'Malley, & Schulenberg, 2004, as reported in Van der Aa, Rebollo-Mesa, Willemsen, Boomsma, & Bartels, 2009) investigated the truancy rates of students from 8th to 12th grade. They found that the upperclassmen were more than 3 times more likely to skip class. This, of course, would lower attendance rates. Certainly it is true that not every absence accrued by students is unexcused. Indeed, there are times when parents have a legitimate reason to pull their children out of class and such absences would not be considered truancy. Nevertheless, if one could assume that absences for justifiable reasons were generally equal throughout all grade levels, then the higher propensity to skip class would still cause older students to have lower attendance rates. Therefore, while truancy and attendance are not the same thing, the amount of truancy on students' schedules would influence their attendance numbers. The rates of attendance presented by Johnson and colleagues (2009) are echoed in this study where

seminary classes that include 10th- to 12th-grade students, and classes made up of students from all grades, attend 3% fewer classes than the students in a 9th grade only class.

## Educational Implications

The discussion of the results of this study has revealed two educational implications concerning teacher self-efficacy. The first suggestion addresses teacher self-efficacy for classroom management. Both preservice and in-service training could emphasize best practices in this area. However, a few things must be emphasized in this training in order to increase teacher self-efficacy. One, trainers need to realize that while changing self-efficacy beliefs is possible, it takes time and can be very difficult (Bandura, 1977). Two, training sessions in classroom management and student engagement skills must include the four sources of self-efficacy information: mastery experiences, vicarious experiences, verbal persuasion and appropriate management of emotional arousal. Past researcher (Ashton, 1984; Komarraju, 2008; Ross & Bruce, 2007) have modeled both good and poor examples of this type of self-efficacy training, with mixed results. However, when such training is done correctly it can facilitate changes in individuals' teaching self-efficacy.

The second implication focuses on the need for teachers to increase their self-efficacy for student engagement. Such beliefs could be increased by using methods that increase teachings self-efficacy; such as, mastery and vicarious experiences where teachers perform tasks that encourage students to engage in the subject. Such an emphasis in teacher self-efficacy for student engagement would lead to more student engagement in the class (Jennings & Greenburg, 2009). This, in turn, could also improve classroom management because when students are motivated to take part in their class, their unruly

behavior decreases. Moreover, researchers (Reyes, 2012) have learned that when students are highly engaged in learning their achievement levels increase. Therefore, both teachers and students would be well served to receive self-efficacy-building training in the area of student engagement.

## Suggestions for Further Research

The findings of this study suggest several directions for additional research. First, the call continues for more work to be done in the field that connects teacher self-efficacy and student outcomes (Gibson & Dembo, 1984; Klassen et al., 2011). While this study did find additional evidence for this connection, the field is still small and would be bolstered by more studies.

As researchers continue to look at teacher self-efficacy and student outcomes, it will be vital that they increase the specificity of their projects. Much research has been done in the core subject areas of math, language arts, and science (Gencer & Cakiroglu, 2007; Muijs & Reynolds, 2002). However, researchers have only started looking at other noncore topics. Vargas-Tonsing and her colleagues (2003) worked with student volleyball players and their coaches. They found teacher self-efficacy also to be influential in the teaching of a noncore subject. Similar findings were uncovered by Ross et al. (2001) when they looked at computer classes. An additional example of teacher self-efficacy studies in elective areas was performed by Tuchman and Isaacs (2011). Their research used the information provided by teachers of Jewish studies. The work performed by these researchers has provided evidence that shows that teacher self-

efficacy also has a place in noncore topics. Therefore, additional studies would be helpful in these areas.

With the importance in self-efficacy research of looking into specific subjects, new instruments need to be created and tested for validity. In this study, Tschannen-Moran and Hoy's Teachers Sense of Efficacy Scale (2001) was modified to meet the needs of seminary teachers. Further insights would be gathered if a tool were formulated specifically for religious education. Through creating such a specific tool, the tasks that are unique to seminary teachers could be more specifically addressed.

Another area where researchers could delve into specifics is by looking at other possible student outcomes. Most of the research in this field has looked at student academics (Andersen et al., 1988; Caprara, Barbaranelli, Steca, & Malone, 2006), particularly as revealed by standardized tests. However, other researchers (Gibbs & Powell, 2011; Ross, 1994) have looked at teacher self-efficacy and student behavior. This shows that the field is ready to look at different student outcomes, including those addressed in this study, such as student conduct and attendance.

In addition to looking at how students are influenced by teachers, another possible study could look at how student opinions of teachers affect the self-efficacy of teachers. Certainly the behaviors and attitudes of students would supply the information from which teachers would interpret their experiences in teaching. Two of the four sources of self-efficacy information—mastery experiences and verbal persuasion—would be impacted by such student-based information (see Bandura, 1977). Furthermore, such data allow the researchers to compare teachers' self-efficacy to the opinions of their students. This would provide evidence that reveals how close teachers' self-beliefs reflect the

things observed by others. In other words, it might show if teachers feel more or less self-efficacious at successfully performing a task than others might have felt was the case.

While inquiring about student opinions about their teachers' abilities, researchers could also ask about how students value seminary. Such a study could access the ideas in expectancy-value theory (Wigfield, Tonks, & Klauda, 2009). By taking ideas from this theory, the researchers could look at student expectations about achievement in seminary and also the degree to which they value those classes. This second idea, value, might have an influence on why students choose to attend seminary on a regular basis. The theory states that when people value a task, they are more likely to perform it. Therefore, if students feel that seminary is a valuable endeavor, they are more likely to attend. The influence of student values of seminary on student outcomes would therefore shed a great deal of light on this subject.

Returning to the teachers, a final idea for further research comes from the data that suggests that experienced teachers have a great influence on student outcomes. Studies have shown that teacher efficacy changes over time (de la Torre Cruz & Arias, 2007; Hoy & Spero, 2005), both increasing and decreasing depending on the nature of individuals' experiences. Future researchers could look into the reasons behind teachers leaving the classroom and also assess their teacher self-efficacy. They might also look at whether or not low teacher self-efficacy beliefs have a part in teachers' decisions to leave.

## Limitations

Like all studies, this research project is limited in scope. One limitation is the nature of the instrument used to elicit information about teachers. As a survey with no

open-ended questions, it did not allow for qualitative answers to the questions. Such information could have provided added insight into the reasons behind certain teacher responses. Moreover, the Tschannen-Moran and Hoy scale (2001) places emphasis on the opinions of teachers themselves. In other words, the responses were self-reported. It is possible that an equivalent student survey might have provided greater insight into the teachers' abilities. Although the gathering of these student responses is outside the scope of the present study, such information would certainly provide a greater insight into the self-efficacy of seminary teachers and could be a subject for further research. A third limitation of this instrument is that it was not written specifically for religious education. Although modifications were made similar to those made by others who have utilized this scale (Ross & Bruce, 2007), it is possible that more information specific to seminary teaching could have been provided by a more specialized instrument. Such an instrument would look into seminary-teacher-specific tasks and provide the specific information advocated by Bandura (1977).

The sample in this study represented teachers in the S&I seminary program. The smaller nature of this program limited the number of possible participants. However, a sufficient number of teachers participated in the study. In addition to the smaller pool of participants, the program itself differs from traditional core academic classes. However, it is in some ways similar to some extra-curricular classes offered at public schools. Nevertheless, there is a possibility that teachers at these public schools might have responded differently to the survey questions.

## Final Summary

Following the direction of researchers in the field of teacher self-efficacy (Gibson & Dembo, 1984; Klassen et al., 2011), this study looked at the correlation between this teacher construct and three student outcomes. The results of the study show that how teachers feel about their abilities does have an influence on the behavior of their students. It stands to reason, therefore, that preservice and in-service trainers could assist both teachers and students by helping to cultivate teacher self-efficacy.

Yet, following in the theories of Bandura (1977), teacher self-efficacy does not regard only a single skill that then covers everything that happens in a classroom. Rather, it refers specifically to individual tasks and not all tasks are equal in their power to affect student behaviors. The results of this study show that the most influential teacher self-efficacy belief concerns classroom management. When teachers feel strongly about their ability to manage their classroom, then they have a stronger impact on positive student outcomes.

Notwithstanding the power of teacher self-efficacy for classroom management, it is not the only belief that drew attention in this study. There is another area in which seminary teachers and other teachers (Chong et al., 2010; Tschannen-Moran & Johnson, 2011) feel the least efficacious: student engagement or the ability that teachers have to get their students involved in learning. Whether or not these teachers really do have the ability to motivate and influence student behavior, they do not feel the same level of confidence for their ability to succeed in working with students. Seeing that these interactive skills are so central to the education process, this is another area where

teachers could use more training in ways that not only teach these skills but also build self-efficacy.

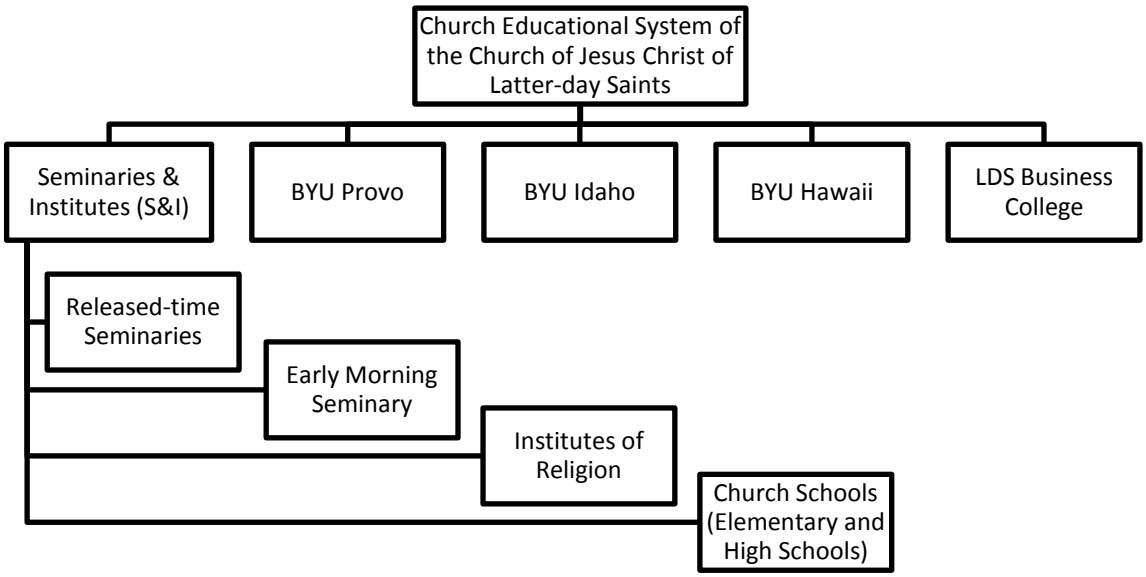
It would also be remiss to assume that only teacher self-efficacy has any effect on student outcomes. This study also pointed out that teacher experience level and student grade level are also influential. Seeing that the grade level of a student is not something that teachers can control, it is important to consider the things in their own domain; such as, teacher experience level. The results of this study show that experienced teachers do have a greater impact on their students than their less-seasoned colleagues. The system, therefore, would be benefited by greater attempts to retain quality teachers.

It is likely that the most important result of this study is the recognition that there are things that can be done by teachers to improve student outcomes. Specific training will help teachers feel the confidence they need to succeed. However, it must be remembered that the training must be done in a manner that successfully cultivates teacher self-efficacy, including the use of mastery experiences. Yet when this is done, teachers' abilities to act will improve and then so will the outcomes of students.

APPENDIX A

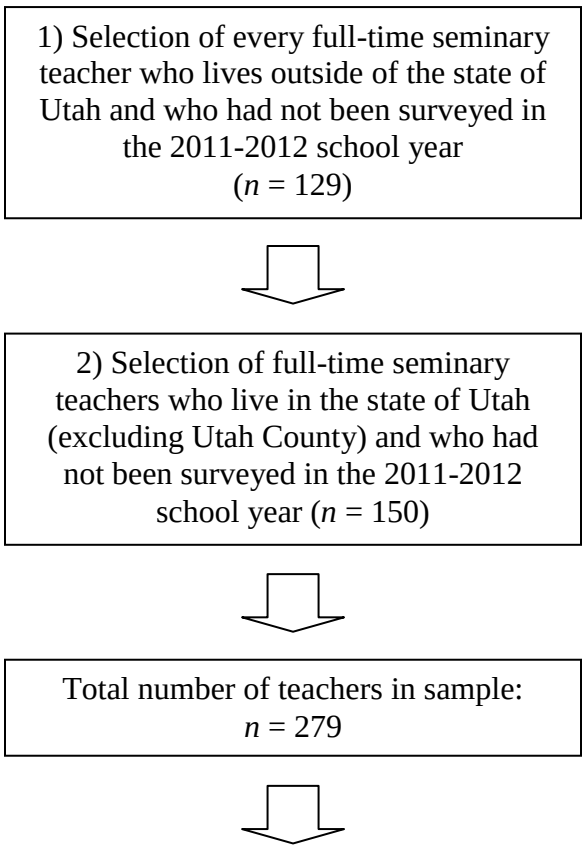
ORGANIZATIONAL CHART OF THE

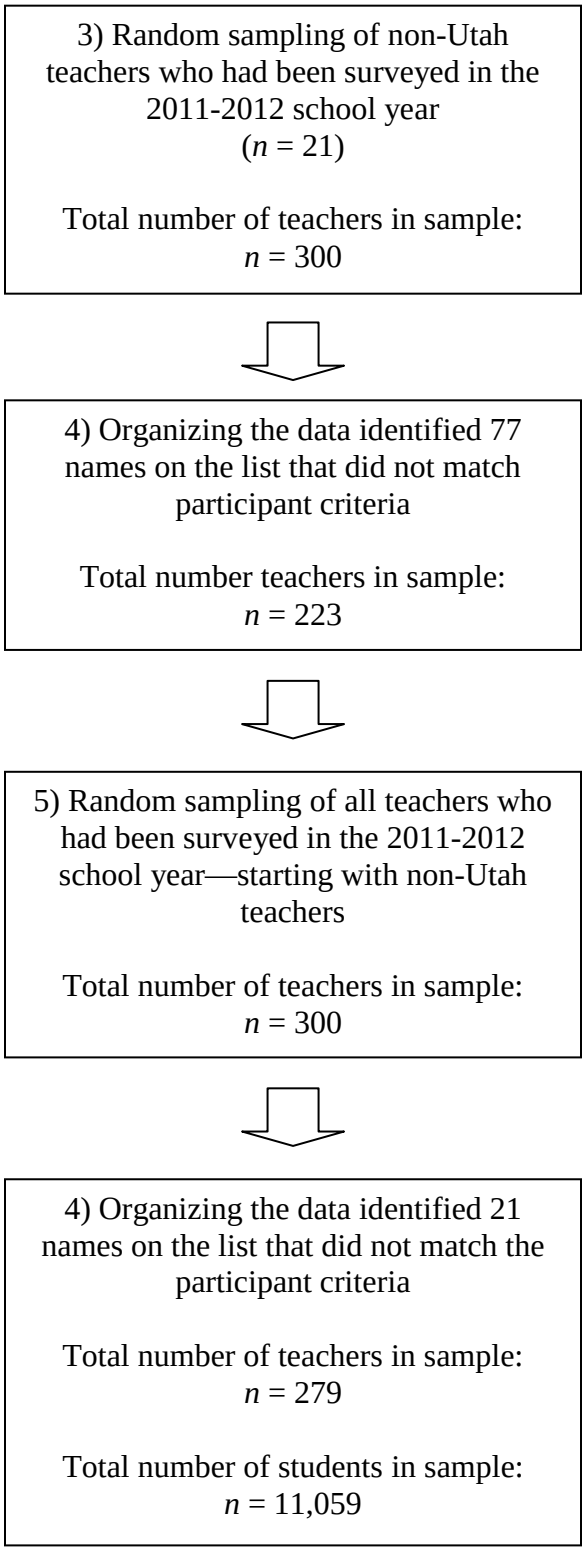
CHURCH EDUCATIONAL SYSTEM



APPENDIX B

CREATION OF THE POSSIBLE PARTICIPANT LIST




3) Random sampling of non-Utah teachers who had been surveyed in the 2011-2012 school year
(n = 21)
Total number of teachers in sample:
n = 300
4) Organizing the data identified 77 names on the list that did not match participant criteria
Total number teachers in sample:
n = 223
5) Random sampling of all teachers who had been surveyed in the 2011-2012 school year—starting with non-Utah teachers
Total number of teachers in sample:
n = 300
4) Organizing the data identified 21 names on the list that did not match the participant criteria
Total number of teachers in sample:
n = 279
Total number of students in sample:
n = 11,059

# APPENDIX C

# TEACHER CONSENT DOCUMENT

# Consent Document

**BACKGROUND**
You are being asked to take part in a research study. Before you decide whether to participate or not, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Call me if there is anything that is not clear or if you would like more information (James Mangum [work: 801-785-0991 or home: 801-796-1033]). Take time to decide whether you want to volunteer to take part in this study.

The purpose of the study is to look at the relation between teachers' views of their teaching and student achievement.

**STUDY PROCEDURE**
It will take you approximately 15 minutes to complete the survey questions. As part of this study you will be asked to respond to questions on the survey about your teaching and a few questions about yourself. Please return this survey in the provided envelope.

In addition to your responses, I also hope to look at the achievement rates of your students. In order to do this, I would like to obtain a copy of the Term Grading Sheet for the previous term. All personal information, except that which identifies it as your class, should be removed. The information provided by this form will allow me to learn about the grade and attendance patterns of your students. The instructions for preparing and emailing this document are included on a following page.

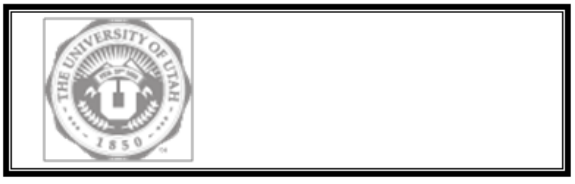
**RISKS**
The risks of this study are minimal. You might feel uncomfortable sharing personal information about your views of teaching or your students' attendance. These risks are similar to those you experience when discussing personal information with others.

**BENEFITS**
We cannot promise any direct benefit for taking part in this study. However, one possible benefit is the chance to evaluate your own views about teaching. Moreover, we hope that the information gained from this study could possibly be used to help design pre-service curriculum to assist future teachers.

**CONFIDENTIALITY**
Your data will be kept confidential. Data and records will be stored in a locked filing cabinet or on a password protected computer located in the researcher's work space. Only the researcher will have access to this information.
Your name will be kept with your responses from the questionnaire. In the written report, your name will be removed.

**PERSON TO CONTACT**
*If you have questions, complaints or concerns about this study, you can contact James Mangum (work: 801-785-0991 or home: 801-796-1033). If you feel you have been harmed as a result of*





*participation, please call James Mangum (work: 801-785-0991 or home: 801-796-1033) who may be reached between 7:00 am and 9:00 pm.*

**Institutional Review Board:** Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached by phone at (801) 581-3655 or by e-mail at irb@hsc.utah.edu.

**Research Participant Advocate:** You may also contact the Research Participant Advocate (RPA) by phone at (801) 581-3803 or by email at participant.advocate@hsc.utah.edu.

**VOLUNTARY PARTICIPATION**
It is up to you to decide whether to take part in this study. Refusal to participate or the decision to withdraw from this research will involve no penalty or loss of benefits to which you are otherwise entitled. This will not affect your relationship with the investigator.

**COSTS AND COMPENSATION TO PARTICIPANTS**
There are no costs or compensation for participants in this study.

**CONSENT**
By signing this consent form, I confirm I have read the information in this consent form and have had the opportunity to ask questions. I will be given a signed copy of this consent form. I voluntarily agree to take part in this study.

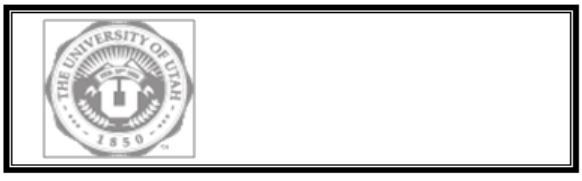
_____
Printed Name of Participant

_____ _____
Signature of Participant Date

_____
Printed Name of Person Obtaining Consent

_____ _____
Signature of Person Obtaining Consent Date





APPENDIX D

S&I INFORMATION SERVICES LETTER

To: S&I employees

From: Dan Winder, S&I Office of Research

Re: Data collection for S&I Teacher Efficacy Study

Date: 10 November 2011

The following study has been approved by the Seminaries and Institutes Educational Research Committee. If you are receiving this letter, please do the following by December 2, 2011:

- Respond to the Teacher Sense of Efficacy questionnaire (10 minutes).
- Send a copy of the Grading Sheet from the most recent term for all of your classes (10 minutes for you or your support specialist).

Daniel R. Winder (Dan)
S&I Office of Research Manager
50 E. North Temple #934
Salt Lake City, Utah 84150-0009
801- -
@ldschurch.org

Dear S&I employee,

Thank you in advance for helping me to gather data for my dissertation project. Because this research involves S&I personnel, I have gone through the appropriate S&I Educational Research Committee for necessary approvals to conduct this research.

The purpose of this study is to look at the correlation between teacher self-efficacy and student achievement in seminary.

Your role:

1) Respond to the Teacher Sense of Efficacy questionnaire (attached). After you have completed the questionnaire, please return it in the envelope provided.
2) You or your support specialist e-mail a copy of your most recent completed term's Grading Sheet for all of your classes. This Grading Sheet will have information about student absences (excused and unexcused), tardies, days made up, Grade, and Conduct Grade. This form can be found in the Seminary STAR program. It can be accessed using the following steps:

    1. Once in STAR, select **Reports** from the top menu.
    2. Select **Administrative**, then **Grading Sheets**.
    3. Select **Selected Teacher** and then choose your name from the dropdown menu.
    4. Press **Preview**.

5. Near the top of the window, you will find the **Export** icon (It looks like an envelope with an arrow on it). Press that icon.

6. On the Format dropdown menu, select "Excel 8.0 (XLS) (Extended)." Then press Okay.

7. Change the Format to "Tabular format (Arrange all objects in one area into one row)." Click Okay.

8. Save the file to your desktop.

9. Close out of the STAR program.

10. Open the saved file in Excel.

11. **Delete the first three columns**: Student Name, Year, and Telephone Number.

12. Save the file [researchers email address].

If you have any questions, please contact me at the phone or e-mail below.

Thank you for your time and attention,

James Mangum

Pleasant Grove Seminary Instructor

[Address]

Pleasant Grove, Utah 84062

801- -

@ldschurch.org

# APPENDIX E

# DEMOGRAPHIC SURVEY

Name: _____

Please indicate the answer that best describes you.

**Gender**

Female ○

Male ○

**Ethnicity**

African-American ○

Asian ○

Hispanic or Latino ○

Native American ○

Pacific Islander ○

White non-Hispanic ○

Other ○

**Age**

20-29 ○

30-39 ○

40-49 ○

50 or older ○

**Degree Completed**

Bachelor's Degree ○

Master's Degree ○

Doctorate Degree ○

**Pre-Service Training Location**

LDS school (such as BYU) ○

LDS Institute of Religion at a non-LDS school ○

No pre-service training ○

**Years of full-time teaching experience in seminary**

0 to 4 years ○

5 to 9 years ○

10 to 14 years ○

15 to 19 ○

20 to 24 years ○

25 to 29 years ○

30 or more years ○

**Level of school that best represents where you teach**

Junior High (Grade 9 only) ○

High School (Grades 10-12) ○

School that works with students in grades 9 through 12 ○

# APPENDIX F

## ORIGINAL TEACHERS' SENSE OF EFFICACY SCALE

The initial questions for this survey were taken from Tschannen-Moran and Hoy's "Teacher Efficacy: Capturing an Elusive Construct" (2001, p. 800).

### Factor 1: Efficacy for Instructional Strategies

1. To what extent can you use a variety of assessment strategies?
2. To what extent can you provide an alternative explanation or example when students are confused?
3. To what extent can you craft good questions for your students?
4. How well can you implement alternative strategies in your classroom?
5. How well can you respond to difficult questions from your students?
6. How much can you do to adjust your lessons to the proper level for individual students?
7. To what extent can you gauge student comprehension of what you have taught?
8. How well can you provide appropriate challenges for very capable students?

### Factor 2: Efficacy for Classroom Management

9. How much can you do to control disruptive behavior in the classroom?
10. How much can you do to get children to follow classroom rules?
11. How much can you do to calm a student who is disruptive or noisy?

12. How well can you establish a classroom management system with each group of students?

13. How well can you keep a few problem students from ruining an entire lesson?

14. How well can you respond to defiant students?

15. To what extent can you make your expectation clear about student behavior?

16. How well can you establish routines to keep activities running smoothly?

Factor 3: Efficacy for Student Engagement

17. How much can you do to get students to believe they can do well in schoolwork?

18. How much can you do to help your students value learning?

19. How much can you do to motivate students who show low interest in schoolwork?

20. How much can you assist families in helping their children do well in school?

21. How much can you do to improve the understanding of a student who is failing?

22. How much can you do to help your students think critically?

23. How much can you do to foster student creativity?

24. How much can you do to get through to the most difficult students?

# APPENDIX G

# MODIFICATIONS MADE TO THE TEACHERS' SENSE OF EFFICACY SCALE

## Changes in Jargon

The researcher made two small changes in vocabulary when customizing the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001). Jargon specific to public school teachers were replaced by language familiar to seminary teachers. Changes are shown with italics.

### *Original Form of Question 1*

"1. To what extent can you use a variety of assessment strategies?" (p. 800.)

Modified Form

To what extent can you use a variety of *evaluation strategies to assess your students' performance?*

### *Original Form of Question 4*

"4. How well can you implement alternative strategies in your classroom?" (p. 800).

Modified Form

How well can you implement *a variety of teaching methods* in your classroom?

## S&I Relevant Wording

In some cases, the Tschannen-Moran and Hoy (2001) scale utilizes vocabulary that are not relevant to seminary teachers. In these cases, changes were made to clarify the question for the particular participants in this study.

### *Original Form of Question 10*

"10. How much can you do to get children to follow classroom rules?" (p. 800).

Modified Form

How much can you do to get *students* to follow classroom rules?

### *Original Form of Question 20*

"How much can you assist families in helping their children do well in school?" (p. 800).

Modified Form

How much can you assist families in helping their children do well in *seminary*?

### *Original Form of Question 21*

"21. How much can you do to improve the understanding of a student who is failing?" (p. 800).

Modified Form

How much can you do *to help a student who has lost credit in seminary*?

## Rearrangement of the Question Order

In order to separate the questions from each category, they were rearranged using a random number chart. The changes in order are noted on the following chart.

Table 18

Changes in Question Order

| Original Number | New Number | Original Number | New Number | Original Number | New Number |
|---|---|---|---|---|---|
| 1 | 7 | 9 | 4 | 17 | 18 |
| 2 | 6 | 10 | 1 | 18 | 17 |
| 3 | 15 | 11 | 12 | 19 | 21 |
| 4 | 23 | 12 | 11 | 20 | 22 |
| 5 | 13 | 13 | 20 | 21 | 24 |
| 6 | 9 | 14 | 10 | 22 | 2 |
| 7 | 5 | 15 | 8 | 23 | 19 |
| 8 | 16 | 16 | 14 | 24 | 3 |

# APPENDIX H

## TEACHERS' SENSE OF EFFICACY SCALE MODIFIED

## FOR S&I TEACHERS

| Teacher Beliefs | This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential. |
|---|---|
| *Directions:* Please indicate your opinion about each of the questions below by marking one of the ten responses in the columns on the right side. You may choose any of the ten possible responses, ranging from (0) "Nothing" to (9) "A Great Deal" as each represents a degree on the continuum.<br>**Please respond to each of the questions by considering the combination of your *current* ability, resources, and opportunity to do each of the following in your present position.** | Nothing ... A Great Deal |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. How much can you do to get students to follow classroom rules? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2. How much can you do to help your students think critically? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3. How much can you do to get through to the most difficult students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4. How much can you do to control disruptive behavior in the classroom? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5. To what extent can you gauge student comprehension of what you have taught? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6. To what extent can you provide an alternative explanation for example when students are confused? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7. To what extent can you use a variety of evaluation strategies to assess your students' performance? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8. To what extent can you make your expectation clear about student behavior? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9. How much can you do to adjust your lessons to the proper level for individual students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10. How well can you respond to defiant students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. How well can you establish a classroom management system with each group of students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. How much can you do to calm a student who is disruptive or noisy? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. How well can you respond to difficult questions from your students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 14. How well can you establish routines to keep activities running smoothly? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 15. To what extent can you craft good questions for your students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 16. How well can you provide appropriate challenges for very capable students? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 17. How much can you do to help your students to value learning? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 18. How much can you do to get students to believe they can do well in schoolwork? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 19. How much can you do to foster student creativity? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 20. How well can you keep a few problem students from ruining an entire lesson? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 21. How much can you do to motivate students who show low interest in schoolwork? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 22. How much can you assist families in helping their children do well in seminary? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 23. How well can you implement a variety of teaching methods in your classroom? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 24. How much can you do to help a student who has lost credit in seminary? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

**THANK YOU FOR YOUR TIME!**

APPENDIX I

ACCESSING AND EMAILING THE TERM GRADING SHEET

**Accessing and Emailing the Term Grading Sheet**

The term Grading Sheet can be found on the CES STAR program. I need the latest report with Grades and Conduct Grades. It can be accessed using the following steps:

1. Once in STAR, select **Reports** from the top menu.
2. Select **Administrative**, then **Grading Sheets**.
3. Select **Selected Teacher** and then choose your name from the dropdown menu.
4. Press **Preview**.
5. Near the top of the window, you will find the **Export** icon (It looks like an envelope with an arrow on it). Press that icon.
6. On the Format dropdown menu, select "Excel 8.0 (XLS) (Extended)." Then press Okay.
7. Change the Format to "Tabular format (Arrange all objects in one area into one row)." Click Okay.
8. Save the file to your desktop.
9. Close out of the STAR program.
10. Open the saved file in Excel.
11. Delete the first three columns: Student Name, Year, and Telephone Number.

12. Save the file.

13. Email the file to _____@ldschurch.org.

If you have any questions, please call James Mangum (home: 801- - or work: 801- - ).

Thank you for your time and attention.

# APPENDIX J

# SAMPLE GRADING SHEET

# PLEASANT GROVE SR Released-time

**Teacher: MANGUM, JAMES Period: A1 Team Teacher:** **Total class sessions: 21**

| Student name | Year | Telephone | UA | EA | Tar | Dmu | Grade | Cond | Att | Dtb | Make-up work to be done |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | 0 | 0 | 0 | | B | H | 100 % | 0 | |
| | | | 0 | 0 | 0 | | A | H | 100 % | 0 | |
| | | | 0 | 0 | 0 | | A | S | 100 % | 0 | |
| | | | 2 | 1 | 2 | | U | S | 86 % | 2 | (2UA) = A |
| | | | 2 | 2 | 0 | 2 | A | S | 90 % | 0 | |
| | | | 0 | 5 | 1 | | I | S | 76 % | 1 | 1 Make up day then an (A, H) |
| | | | 0 | 1 | 0 | | A | H | 95 % | 0 | |
| | | | 0 | 1 | 6 | | A | H | 95 % | 0 | |
| | | | 0 | 1 | 3 | | A | H | 95 % | 0 | |
| | | | 0 | 1 | 3 | | A | H | 95 % | 0 | |
| | | | 0 | 0 | 0 | | A | H | 100 % | 0 | |
| | | | 0 | 2 | 0 | | A | H | 90 % | 0 | |
| | | | 11 | 0 | 1 | | U | S | 48 % | 11 | (11UA) 7 Make up days = (P) |
| | | | 0 | 2 | 3 | | A | H | 90 % | 0 | |
| | | | 0 | 0 | 3 | | A | H | 100 % | 0 | |
| | | | 0 | 3 | 0 | | A | H | 86 % | 0 | |
| | | | 0 | 5 | 0 | 1 | A | H | 81 % | 0 | |
| | | | 2 | 6 | 2 | | U | S | 62 % | 4 | 4 Make up days (2UA) = P, H |
| | | | 0 | 0 | 0 | | A | H | 100 % | 0 | |

# APPENDIX K

## FOLLOW UP EMAIL

To my S&I Colleagues,

I once again ask you to take part in my study about Teacher Beliefs and the success of Seminary Students. In order for this study to be helpful, I need 200 teachers to take part. I have currently received just over 120 responses and desperately need your help. Would you please consider taking part in this study, which is a part of my PhD program?

I only need you to:

1) Answer a short survey
2) Sign the Consent Form
3) Send a copy of your latest Grading Sheet that includes your students grades

The first two documents could be scanned and emailed to me when completed, if that would be more convenient to you.

If you would do these things, I would be eternally grateful.

Thank you for your time,
James Mangum

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