STUDENT ORAL PARTICIPATION AND PERCEIVED SPIRITUAL EXPERIENCES IN LATTER-DAY SAINT SEMINARY

by

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in

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ABSTRACT

Student Oral Participation and Perceived Spiritual Experiences in Latter-day Saint Seminary

by

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The present study explored the relationship between Latter-day Saint (LDS) seminary students’ in-class oral participation and their perceived in-class spiritual experiences according to LDS theology. Since the release of the Teaching Emphasis in 2003, LDS seminary leadership has consistently emphasized the facilitating relationship between student in-class oral participation and desired spiritual outcomes of LDS seminary students. However, no known studies to date have gathered and analyzed data specific to varied amounts of LDS seminary student in-class oral participation or perceptions of in-class spiritual experience to evaluate the relationship between these two variables. Data regarding in-class oral participation and perceived spiritual experience were obtained via a self-report survey from 563 LDS seminary students. Participants were from classes of 25 randomly selected released-time LDS seminary teachers in Salt Lake, Summit, and Wasatch counties in the state of Utah. Data were analyzed using Pearson correlation, multiple regression, and analysis of variance. Findings indicated a
statistically significant correlation ($r = .32, p < .01$) between self-reported amounts of
participant seminary students’ in-class oral participation and perceived spiritual
experience, with four significant ($p < .05$) oral participatory predictors of perceived
spiritual experience (reading/reciting something out loud, explaining LDS doctrines to
others, singing, and testifying to others by expressing beliefs), and significant mean
differences ($p < .05$) of perceived in-class spiritual experience between low, medium, and
high oral participating seminary students. The present study explores the practical
implications and recommendations for future research from these findings.

(180 pages)
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Anthony R. Sweat
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CHAPTER I

INTRODUCTION

Since the release of the *Teaching Emphasis* (Church Educational System [CES], 2003) perhaps no pedagogy has been more heavily promoted in seminary classes for The Church of Jesus Christ of Latter-day Saints (LDS) than student in-class oral participation. To date, 39% (16 of 41) of all published addresses given by LDS Seminaries and Institutes of Religion (S&I) leadership since 2003 specifically mention the need for student in-class oral participation in the learning process. Repeatedly, LDS seminary students are encouraged to orally participate in-class by explaining LDS doctrines and principles, sharing relevant personal experiences, and testifying to one another by expressing personal beliefs (Anderson, 2006; CES, 2003; Hall, 2004, 2009; Howell, 2004; Kerr, 2007; Moore, 2007, 2008; Scott, 2005; S&I, 2009a; Webb, 2007). Other forms of student oral participation, such as singing, praying, peer-to-peer teaching, small group discussions, reading out loud, choral recitation, and answering or asking questions are also promoted in LDS seminary classes (CES, 2001). It is theorized by S&I administrators that an increase in student oral participation will help facilitate desired spiritual outcomes for LDS seminary students (Anderson, 2006; CES, 2003; Hall, 2009; Kerr, 2007; Moore, 2008; Scott, 2005; S&I, 2009b). These desired spiritual outcomes are primarily related to positive cognitive and affective in-class results for LDS seminary students, and, therefore, may be similar to desired cognitive and affective outcomes in other academic settings.
LDS Seminary and Spiritual Outcomes

Through weekday classes centered on the study of LDS scripture, the LDS seminary system provides religious education to over 350,000 LDS teenagers (ages 14-18) worldwide (S&I, 2010). The purposes of LDS seminary are religious and spiritual in nature, as reflected in the introductory statement to the CES Handbook *Teaching the Gospel*: “In [seminary] our task is not just education—it is religious education. Religious education is education for eternity and requires the influence of the Spirit of the Lord” (CES, 2001, p. 1). The objectives of LDS seminary are related to spiritual outcomes in students’ religious beliefs and behaviors, such as to “deepen [seminary students’] faith, testimony, and conversion” (CES, 2003, p. 1) and to “help youth and young adults understand and rely on the teachings and atonement of Jesus Christ” (S&I, 2009c, p. 1). Because the primary outcomes of LDS seminary are spiritual in nature, providing in-class spiritual experiences (according to LDS theology) is fundamental to fulfilling the purposes of LDS S&I (CES, 2001; S&I, 2009b).

LDS theology teaches that spiritual experiences are the result of being influenced by the “Spirit of the Lord,” also referred to as the “Holy Ghost” (The Church of Jesus Christ of Latter-day Saints [LDS], 2004b, p. 81). LDS scripture (LDS, 1979b) states, “[God] will tell you in your mind and in your heart, by the Holy Ghost” (*Doctrine and Covenants* 8:2). Spiritual influence can come to a person’s mind in the form of enlightened thoughts, ideas, memories, or clarified understanding. Spiritual influence can also come through uplifting feelings such as peace, comfort, confidence, love, and joy.

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1 Hereafter, The Church of Jesus Christ of Latter-day Saints will be cited as LDS.
When an LDS seminary student is influenced by the Holy Ghost cognitively in the mind or affectively in the heart in ways similar to the ones listed above, he or she is having a spiritual experience according to LDS theology (CES, 2001; LDS, 2004b). Similar cognitive and affective influence may also have application in non-religious education or academic settings.

LDS doctrine and S&I administration teach that if LDS seminary students are being spiritually influenced by the Holy Ghost, desired spiritual outcomes such as gospel knowledge, faith, testimony, and conversion will result (CES, 2003; LDS, 1979a, 2004b; Ludlow, 1992; S&I, 2009b). S&I Administrator, Webb (2007), concluded that the desired “outcome [of LDS seminary classes] is the conversion of our students. Therefore, the challenge and the opportunity that is ours is to identify and implement ways of inviting the Holy Ghost into the learning experience more often” (p. 1). One of the primary methods currently emphasized by S&I administrators to help LDS seminary students be influenced by the Holy Ghost and have in-class spiritual experiences is through increased student oral participation.

**Facilitating Spiritual Experiences Through Oral Participation**

In 2003, a curricular directive called the *Teaching Emphasis* (CES, 2003) was released to all seminary personnel in an effort to facilitate in-class spiritual experiences and deepen the “faith, testimony, and conversion” (p. 1) of LDS seminary students. To help accomplish these spiritual outcomes, the *Teaching Emphasis* (CES, 2003) repeatedly encourages student oral participation in the learning process. The *Teaching Emphasis* (CES, 2003) refers to students teaching, explaining, sharing, and testifying of LDS
beliefs, and provides direction to the teacher to “give [students] opportunities to do so with each other in class” (CES, 2003, p. 1). In 2009, the *Teaching Emphasis* (CES, 2003) was revised and renamed the *Teaching and Learning Emphasis* (S&I, 2009a). Although the document was consolidated, the basic curricular content remained the same, particularly the emphasis on student oral participation.

Training documents for the *Teaching and Learning Emphasis* (S&I, 2009a) specifically link student in-class oral participation with desired spiritual outcomes: “Explaining doctrines and principles, sharing relevant experiences, and testifying of divine truth clarifies [students’] understanding, improves [students’] ability to teach the gospel, and strengthens the testimony of both the speaker and listener” (S&I, 2009b, p. 1). Thus it is theorized by S&I administration that LDS seminary student religious outcomes, such as clarified gospel understanding and strengthened testimonies (beliefs), are the result of spiritual experiences through the Holy Ghost facilitated by student oral participation, as represented in Figure 1.

The facilitating relationship between seminary student in-class oral participation and spiritual outcomes related to the Holy Ghost has been repeatedly emphasized by related student oral participation directly to cognitive and affective spiritual experiences.

**Figure 1.** Theoretical facilitating relationship between oral participation, the Holy Ghost, spiritual experience, and LDS religious outcomes.
leaders of S&I. For example, LDS Church leader and Church Board of Education member Scott (2005) said: “As students verbalize truths, they are confirmed in their souls and strengthen their personal testimonies” (p. 3). CES Commissioner Kerr (2007) through the Holy Ghost:

> We can also assist in this by helping the students learn to explain, share, and testify and by inviting them to express their understanding and feelings about the principles they have been taught. The more active the learner becomes in the learning process, the greater the likelihood that both the mind and the heart will be penetrated [by the Holy Ghost]. (p. 4)

Through statements such as these from Scott (2005), Kerr (2007), the *Teaching and Learning Emphasis Training Document* (S&I, 2009b), and others (Anderson, 2006; CES, 2003; Hall, 2009; Moore, 2008) it is evident that the emphasis on student in-class oral participation is theoretically linked with facilitating student spiritual experiences—or being influenced by the Holy Ghost cognitively in the mind and affectively in the heart—which leads to primary desired religious outcomes for LDS seminary students.

**Research on Oral Participation and Academic Outcomes**

Existing research does indicate a positive relationship between student oral participation and both cognitive and affective outcomes in *academic* disciplines, such as in English (Applebee, Langer, Nystrand, & Gamoran, 2003; Nystrand & Gamoran, 1988; Nystrand, Gamoran, Kachur, & Prendergast, 1997), reading comprehension (Pinner, 1997; Saunders & Goldenberg, 1999), social studies (Hess & Posselt, 2002; Nystrand, Gamoran, & Carbonaro, 1998; Polite & Adams, 1996), history (Okolo, Ferretti, & MacArthur, 2007), math (Berg, 1993; Bradford, 2007; Morton, 1993; Pierson, 2008), and science (Russell, 2005). Although these outcomes are academic in nature, they do
suggest the potential for a relationship between student oral participation and outcomes similar to LDS spiritual experiences. For example, LDS spiritual experiences are related to cognitive outcomes through the Holy Ghost such as having “ideas, concepts, or principles back to remembrance” and increased “knowledge, insights, understanding, and enlightenment” (CES, 2001, p. 12-13). Multiple studies indicate that students who orally participate in class show significant gains in factual remembering, knowledge, and understanding on academic tests (Applebee et al., 2003; Berg, 1993; Bradford, 2007; Morton, 1993; Nystrand et al., 1997, 1998; Pinner, 1997; Russell, 2005). LDS seminary in-class spiritual experiences are also linked to affective outcomes such as feelings of “joy, love, peace, patience, and gentleness” and “comfort” (CES, 2001, p. 12-13). Academic studies report that student oral participation is related to similar affective outcomes, such as school warmth and comfort (Dallimore, Hertenstein, & Platt, 2008; Skinner, Wellborn, & Connell, 1990; Voelkl, 1995), and also class enjoyment (Byers & Hedrick, 1976; Hess & Posselt, 2002). If student oral participation is positively associated with cognitive and affective outcomes in academic disciplines, it is logical that student oral participation could also have a positive relationship with similar cognitive and affective LDS spiritual outcomes.

However, there is only minimal research evidence to suggest that oral participation by LDS seminary students is related to spiritual outcomes (Hall, 2008; Hawks, 2007; Seastrand, 1996). Moreover, the few studies that do imply a relationship do not provide data specific to varied amounts of student oral participation nor perceptions of in-class spiritual experience to more accurately examine their association. From existing studies, it is not known whether increased amounts of student oral participation
participation are related to increases in perceived in-class spiritual experiences.
Furthermore, it is unknown from previous studies which forms of student oral
participation—such as explaining doctrines and principles, sharing personal experiences,
or testifying of personal beliefs—contributes most to student perceptions of in-class
spiritual experiences. No known studies to date specifically measure varied amounts of
LDS seminary student oral participation or the varied cognitive and affective areas of
perceived in-class spiritual experience to determine their relationship. Because this
pedagogy of student oral participation has been consistently emphasized since 2003 in
LDS seminary classes worldwide as means to facilitate in-class spiritual experiences, a
study specifically exploring the relationship between student oral participation and
perceived spiritual experiences of LDS seminary students was necessary to validate this
pedagogical directive and inform future curricular decisions by S&I teachers and
administrators.

Research Questions, Hypotheses, and Methods

The purpose of this study was to explore the relationship between LDS seminary
students’ in-class oral participation and their perceived in-class spiritual experiences
according to LDS theology. Pedagogy of student oral participation in LDS seminary
classes has been consistently emphasized since 2003 to LDS Seminaries and Institutes of
Religion teachers worldwide with only minimal empirical research evidence to support
this practice. Furthermore, there are no known studies to date that have obtained data
specific to varied amounts of student oral participation and perceptions of in-class
spiritual experience to examine their relationship. Therefore, the purpose of this study
was to obtain necessary data and investigate the relationship between student oral participation and perceived spiritual outcomes in LDS seminary classes.

This study was guided by the following research questions.

1. What is the relationship between self-reported in-class oral participation and perceived in-class spiritual experiences of LDS seminary students?

2. Which variables of self-reported in-class student oral participation are significant predictors of perceived student in-class spiritual experiences?

3. Is there a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students?

Derived from these research questions, the following research hypotheses were tested using data gathered.

H01: There is not a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

H11: There is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

H02: There are no statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.

H12: There are statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.

H03: There is no statistically significant difference of perceived in-class spiritual
experiences between low, medium, and high self-reporting oral participating LDS seminary students.

H13: There is a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.

Research hypotheses were examined by statistically comparing LDS seminary student self-report survey data of perceived in-class spiritual experiences with self-reported amounts of student in-class oral participation. Total student self-reported in-class oral participation and perceived in-class spiritual experience scores were statistically correlated and analyzed for significance to test the first hypothesis. To test hypothesis number two, 10 different self-reported student oral participation predictor variables were analyzed for amounts of explained variance ($R^2$) in the predicted outcome of perceived in-class student spiritual experience. To test hypothesis number three, perceived spiritual experience scores for low, medium, and high self-reporting oral participating students were compared to detect any statistically significant difference differences in perceived in-class spiritual experience scores between these three groups.

**Study Significance**

Seminaries and Institutes of Religion provide weekday religious education to over 700,000 youth (ages 14-18) and young adults (ages 18-30) in 140 countries worldwide (S&I, 2010). The emphasis on student oral participation as means to facilitate in-class student spiritual experiences is promoted in each of these 140 countries to over 40,000 LDS seminary and institute teachers. However, no known study to date specifically
examines the relationship between varied amounts of in-class student oral participation and perceived affective and cognitive spiritual-experiences to validate this pedagogical emphasis on student oral participation and its theoretical link to in-class LDS seminary student spiritual experience. Through survey responses and statistical analyses, this study provided data on varied self-reported amounts of student in-class oral participation, and also data on student perceptions of in-class spiritual experiences according to LDS theology, and examined their association. Although results from this study are only generalizable to the population of LDS released-time seminary students in the western United States, the obtained data, statistical methods and analyses, conclusions, and recommendations for further research have the potential to further inform policy and practice related to student oral participation and its relationship to in-class spiritual experiences for LDS Seminaries and Institute of Religion teachers and administrators worldwide.

Summary

Since the release of the Teaching Emphasis (CES, 2003), pedagogy related to student oral participation has been consistently promoted in LDS seminary classes. LDS seminary students are encouraged to participate orally in seminary classes in a variety of forms, such as explaining LDS doctrines and principles, sharing relevant person experiences, and testifying to one another by expressing personal beliefs. According to S&I administration, LDS seminary student oral participation has a facilitating relationship with desired in-class spiritual experiences for LDS seminary students. However, there is only minimal research evidence to support this theory. Furthermore,
there are no known studies to date that have obtained data specific to varied amounts of student oral participation and perceptions of in-class spiritual experience to examine their relationship. Therefore, the purpose of this study was to obtain necessary data to explore the relationship between student oral participation and perceived spiritual outcomes in LDS seminary classes.

Chapter I has provided a brief introduction to the emphasis on student oral participation and its theoretical relationship to LDS seminary spiritual experiences, and has also provided the purpose, research questions, and hypotheses of this study. Chapter II provides a comprehensive, detailed literature review of related research relevant to the study purposes described in Chapter I. Chapter III outlines the methods employed in testing the hypotheses and answering the research questions of this study. Chapter IV presents the results obtained in the various data analyses outlined in Chapter III. Finally, Chapter V discusses findings, conclusions, implications for practice, and recommendations for future research.
CHAPTER II
REVIEW OF LITERATURE

Since 2003, student oral participation has been repeatedly emphasized by LDS S&I leadership. Students are encouraged to participate orally in LDS seminary classes by explaining LDS doctrines and principles, sharing relevant person experiences, and testifying to one another by expressing personal beliefs. Other forms of student oral participation, such as singing, praying, peer-to-peer teaching, small group discussions, reading out loud, choral recitation, and answering or asking questions are also promoted in LDS seminary classes (CES, 2001). According to S&I administration, LDS seminary student oral participation has a facilitating relationship with in-class spiritual experiences through the Holy Ghost, which experiences foster desired religious outcomes such as faith, testimony, and conversion in LDS seminary students (Anderson, 2006; CES, 2003; Hall, 2009; Kerr, 2007; Moore, 2008; Scott, 2005; S&I, 2009b).

The purpose of this chapter is to review existing literature related to S&I’s emphasis on in-class oral participation since 2003 in LDS seminary, and its theoretical link to spiritual experiences. Related to this purpose is also a review of official LDS doctrine regarding cognitive and affective spiritual experiences through the Holy Ghost and its relationship to the objectives of LDS seminary. Last, this literature review will analyze existing research related to student in-class oral participation and its relationship to desired learning outcomes, both in academia and in LDS seminary.

It is necessary to clarify that this review and related research does not seek to establish the veracity of LDS theology regarding spiritual experiences, the Holy Ghost, or
religious outcomes such as faith, testimony, and conversion. Although the theological ideas related to this study have meaning to LDS (Mormons), their description herein is purely to provide context for research purposes related to this study, and not to validate or invalidate their authenticity. Terms such as *spiritual experience*, *Holy Ghost*, or *faith*, *testimony* and *conversion* have wide-ranging and decidedly different meaning—or no meaning at all—depending on varied belief systems and worldviews. This literature review seeks to define these words and phrases as used and understood by LDS, but such definitions do not imply veracity, only context. Additionally, reference titles such as *Jesus Christ* or *prophet*—as well as references to LDS scripture such as the *Book of Mormon* and the *Doctrine and Covenants*—do not declare divinity, but are used in this review to be consistent with LDS vocabulary and terminology. Although constructions such as “according to LDS theology” or “LDS believe” are often used in this study to contextualize, they are not used after each statement surrounding LDS doctrine, as “they would become tiresome and pedantic if repeated on every page” as noted researcher of LDS history and theology Givens (2002, author’s note) explains. Acknowledging the extensive and respective differences in individual and formal religious belief systems, the nature of this research is specifically dependent upon a clear understanding of LDS doctrine on the Holy Ghost and spiritual experience and will therefore be understood and analyzed within that context throughout this literature review and related chapters in this research study.

This following review of literature is divided into five major subsections: (a) a description of LDS seminary and a review of its purposes and objectives, (b) a review of official LDS doctrine on the Holy Ghost, spiritual experiences, and religious outcomes,
(c) a review of all published addresses by S&I administration since 2003 examining the emphasis on student oral participation and its theoretical link to cognitive and affective spiritual experiences, (d) a review of academic research on student in-class oral participation and its relationship to positive cognitive and affective outcomes in academic classrooms, and (e) a review of LDS seminary research related to student oral participation and in-class spiritual experiences.

**Overview of LDS Seminary**

Seminaries and Institutes of Religion is a part of the LDS CES. LDS seminary is a 4-year program of weekday religious education based on the study of LDS scriptures—the *Old Testament*, the *New Testament*, the *Book of Mormon*, and the *Doctrine and Covenants*—with each year in seminary dedicated to the study of one of the four aforementioned books of LDS scripture. To date there are approximately 350,000 LDS seminary students enrolled in 140 countries worldwide (S&I, 2010). Students who enroll in LDS seminary are generally members of the LDS Church between the ages of 14-18 years old. Enrollment in LDS seminary classes is encouraged for every member of the LDS Church within this age group (LDS, 2001), but enrollment is not compulsory. Seminary enrollment is not necessary to be considered a Church member in good standing or to participate in LDS Church programs, ordinances, or to serve within LDS Church leadership. Seminary is not designed to prepare a professional clergy or to ordain persons to a religious ministry, but—as discussed later in the section on the objectives of LDS seminary—is intended to teach LDS youth the basic tenants of the LDS Church, help familiarize youth with LDS scripture texts, and to foster desired religious beliefs and
behavior (S&I, 2009c).

Two types of LDS seminary are most common: daily seminary and released-time seminary. Daily seminary classes—often referred to as *early morning* seminary—meet outside of regular school hours in the morning, afternoon, or evening each day that local public school is in session. Students are taught by a volunteer teacher, usually in a local Church-owned meetinghouse or in an LDS member’s home. There are 216,961 daily seminary students across the world (S&I, 2010). Released-time seminary classes are held during school hours each day that local public school is in session. Students are released from public school during one of their class periods to attend a seminary class. These classes are primarily taught by professionally trained and employed LDS religious educators in a Church-owned seminary building located adjacent to the public school. There are 115,787 released-time seminary students, predominantly in the western United States (S&I, 2010).

**Purposes of LDS Seminary**

The purposes of LDS seminary are primarily religious and spiritual in nature, as reflected in the introductory statement to the official CES handbook *Teaching the Gospel*: “In [seminary] our task is not just education—it is religious education. Religious education is education for eternity and requires the influence of the Spirit of the Lord” (CES, 2001, p. 1). The objectives of LDS seminary are related to spiritual outcomes in students’ religious beliefs and behaviors, such as to “help youth and young adults understand and rely on the teachings and atonement of Jesus Christ” (S&I, 2009c, p. 1), and to “deepen [seminary students’] faith, testimony, and conversion” (CES, 2003, p. 1).
Fostering knowledge of LDS religious doctrines and principles as contained in LDS scripture is also part of the objective of S&I. Mastery of basic LDS doctrine and comprehension of LDS scripture is emphasized in seminary to help prepare LDS youth for volunteer missionary service and future teaching and leadership assignments within the LDS Church (CES, 2003; Hall, 2003; S&I, 2009c). However, goals related to gospel scholarship are secondary to the primary spiritual objectives of developing faith, testimony, and spiritual conversion in LDS youth (Eyring, 2001; Howell, 2004; Webb, 2009a).

As mentioned previously in this chapter, religious objectives such as “faith, testimony, and conversion” (CES, 2003, p. 1) can have different meaning within varied religious frameworks. In LDS context (LDS, 1981), faith is to “hope for things which are not seen, which are true” (Book of Mormon, Alma 32:21). Faith is vivified belief that impels a person to action, specifically to believe on, have hope in, trust, and act on the teachings of Jesus Christ (LDS, 2004a, 2004b). Testimony is a word used in the LDS lexicon to denote a surety of faith in various doctrines and principles of the LDS religion, such as the reality of God, the divinity of Jesus Christ as the Savior, that Joseph Smith was a prophet of God, and that the Book of Mormon is the word of God (LDS, 2004b; Ludlow, 1992). The sum of a person’s surety of belief in varied LDS doctrines constitutes his or her collective testimony. Conversion is defined as the spiritual process by which a person’s thoughts, desires, beliefs, knowledge, attitudes, behaviors, and character align with the teachings of Jesus Christ (LDS, 1979a, 2004b; Ludlow, 1992). Conversion is a process by which a person has a “change in [his or her] very nature” (LDS, 2004b, p. 41) to reflect attributes consistent with LDS teachings of Jesus Christ’s
character (*Book of Mormon*, Mosiah 3:19; Alma 5:14). Although sometimes the word *conversion* is used in LDS vocabulary to be synonymous with baptism or membership in the LDS Church (LDS, 2004b; Ludlow, 1992) when spoken of in terms of the objectives of LDS seminary and institute *conversion* implies character alignment with the attributes of Jesus Christ.

Fostering spiritual outcomes such as faith, testimony, and conversion are central to the purposes of LDS seminary. These religious outcomes are primarily spiritual in nature, and therefore achieving the objectives of LDS seminary “requires the influence of the Spirit of the Lord” (CES, 2001, p. 1). Thus, providing in-class spiritual experiences through the Spirit of the Lord, also called the *Holy Ghost*, is fundamental to fulfilling the purposes of LDS Seminaries and Institutes of Religion (CES, 2001; S&I, 2009b).

**Sources of Official LDS Doctrine**

To review literature on LDS theology surrounding spiritual experiences and the Holy Ghost, this review relied solely on official sources of doctrine for the LDS Church. Although there is much published information regarding LDS theology, only items published under the united voice of the governing bodies of the LDS Church—the First Presidency and/or Quorum of the Twelve Apostles—constitute sources of official LDS Church position on doctrine (*Doctrine and Covenants* 81:2, 107:27, 112:30; LDS, 2004b; Ludlow, 1992). Such official sources used in this review include the LDS scriptures (the *Holy Bible*, the *Book of Mormon*, the *Doctrine and Covenants*, and the *Pearl of Great Price*), the LDS Bible Dictionary (LDS, 1979a), the topical book of basic LDS doctrine *True to the Faith* (LDS, 2004b), the published LDS missionary guidebook
discussions *Preach my Gospel* (LDS, 2004a), and the official guidebook of behavioral standards for LDS teens *For the Strength of Youth* (LDS, 2001). Although there are many other statements from the LDS Church’s First Presidency and Quorum of the Twelve Apostles that inform LDS policy and position, the documents used for this review are the primary published sources of doctrinal information by the governing bodies of the LDS Church. Anything that was not published under the direction, approval, and names of the First Presidency and/or Quorum of the Twelve Apostles of the LDS Church was excluded as a source of official LDS doctrine for this review. One exception to this rule of inclusion was the *Encyclopedia of Mormonism* (Ludlow, 1992), whose publication was overseen by Brigham Young University’s Board of Trustees, which board is chaired by the First Presidency of the LDS Church and some members of the Quorum of the Twelve Apostles (Brigham Young University, 2009). Although not officially endorsed or published by the LDS First Presidency, the writers of the *Encyclopedia of Mormonism* worked “closely with Church [general] authorities” and the board of trustees on its content (Ludlow, 1992, p. 1xi), and therefore can be considered a reliable secondary source of information regarding LDS doctrine.

**The Holy Ghost and Spiritual Outcomes**

The LDS Church’s authorized publication of basic LDS doctrine *True to the Faith* (LDS, 2004b) defines the Holy Ghost thus:

The Holy Ghost is the third member of the Godhead. He is a personage of spirit, without a body of flesh and bones (see D&C 130:22). He is often referred to as the Spirit, the Holy Spirit, the Spirit of God, the Spirit of the Lord, or the Comforter. (p. 81-82)
In LDS theology, the Holy Ghost is the source of divine belief, gospel understanding, and spiritual gifts such as healings, visions, and miracles (Book of Mormon, Moroni 10:8-18; Doctrine and Covenants 46:11-13; 1 Corinthians 12:1-12, King James Version; LDS, 2004b). His role is to teach, testify, reveal, guide, enlighten, comfort, and sanctify individuals (LDS, 1979a, 2004b; Ludlow, 1992). The Holy Ghost is the facilitator of spiritual experiences (Ludlow, 1992). Repeated spiritual experiences through the Holy Ghost bring about spiritual outcomes such as faith, testimony, and conversion (LDS, 1979a, 2004b). Preach My Gospel (LDS, 2004a) links spiritual outcomes of conversion, faith, and testimony to the Holy Ghost as follows:

True conversion comes through the power of the Spirit [or Holy Ghost]. When the Spirit touches the heart, hearts are changed. When individuals feel the Spirit working with them…they are edified and strengthened spiritually and their faith in Him increases…. This is how we come to feel the gospel is true. (p. 93)

Spiritual influence by the Holy Ghost can come upon any individual who seeks to know and understand truth, regardless of which faith they do or don’t belong to (Book of Mormon, 1 Nephi 10:17-19, 2 Nephi 26:13; LDS, 1979a, 2004a, 2004b; Ludlow, 1992). In other words, LDS theology teaches that people who are not members of the LDS faith can and are influenced by the Holy Ghost. This is important to clarify for this research as some students enrolled in LDS seminary are not official members of the LDS Church, yet can still perceive and report in-class spiritual experiences by the Holy Ghost.

The Holy Ghost Influences the Mind and Heart

In LDS theology, the Holy Ghost is a spirit personage whose influence is generally invisible (Doctrine and Covenants 130:22). His influence primarily comes to a
person’s mind in the form of inspired thoughts and to a person’s heart in the form of inspired feelings. In LDS scriptures and within the LDS lexicon this invisible influence of the Holy Ghost is often referred to as the “still small voice” (Book of Mormon, 1 Nephi 17:45; Doctrine and Covenants 85:6; LDS, 2004b; 1 Kings 19:12, King James Version). Speaking of the invisible influence of the Holy Ghost, LDS scripture states, “[God] will tell you in your mind and in your heart, by the Holy Ghost” (Doctrine and Covenants 8:2). Thus, spiritual experiences are a combination of cognitive and affective influence through the Holy Ghost. Clarifying how the Holy Ghost operates on a person cognitively and affectively is necessary to understand the research survey instrument used to gather data on LDS seminary student perceptions of in-class spiritual experiences (Appendix A).

Cognitive influence of the Holy Ghost. Spiritual influence through the Holy Ghost can come to a person’s mind in multiple forms. One such way that the Holy Ghost influences one’s mind is through providing enlightenment—or clarified understanding—of ideas and concepts related to truth. LDS scripture says that God can “enlighten [a person’s] mind…by the Spirit of truth” (Doctrine and Covenants 6:15). Preach My Gospel (LDS, 2004a) states that “the Holy Ghost will open your mind and heart to greater light and understanding” and instructs individuals seeking spiritual influence to “pay careful attention to ideas that come to your mind” (p. 18). Mental influence through the Holy Ghost also comes by helping individuals remember important spiritual truths that have been previously learned (Ludlow, 1992) as described in St. John 14:26 (King James Version): “But the Comforter, [which is] the Holy Ghost, whom the Father will send in my name, he shall teach you all things, and bring all things to your remembrance, whatsoever I have said unto you.” Spiritual influence to the mind from the Holy Ghost
can also come in the form of “instruction of [the] Spirit” (*Doctrine and Covenants* 6:14). These mental instructions from the Holy Ghost are explained and exemplified in LDS scripture by persons being “constrained by the Spirit” (*Book of Mormon*, 1 Nephi 4:10) to do something, or being “restrained because of the Spirit of the Lord” (*Book of Mormon*, Ether 12:2) to not do something. Additionally, the Holy Ghost can help someone to mentally discern between right and wrong, truth and error, and good and evil, thus helping them to judge righteously in moments of decision (*Book of Mormon*, Moroni 7:16; *Doctrine and Covenants* 11:12). Thus, to summarize, in LDS theology cognitive spiritual influence by the Holy Ghost can come in the form of enlightened thoughts and ideas, clarified understanding, remembrance of spiritual truths, directive action, and ability to discern clearly between truth and error.

**Affective influence of the Holy Ghost.** LDS theology also teaches that spiritual influence comes to the heart through a person’s feelings. Often, when speaking of spiritual experiences or being influenced by the Holy Ghost, LDS will say, “I had a feeling…” (LDS, 2004b, p. 144). The *Doctrine and Covenants* describes some of these affective feelings by saying that the Holy Ghost “will cause that your bosom shall burn within you; therefore, you shall feel that it is right” (*Doctrine and Covenants* 9:8). LDS theology describes this feeling of a burning in the bosom as “a feeling of comfort and serenity” (LDS, 2004b, p. 144). The *Holy Bible* speaks of feelings from the Spirit as “love, joy, peace, longsuffering, gentleness, goodness, faith, meekness, temperance” (Galatians 5:22-23, King James Version). In general, feelings which edify and uplift—such as hope, optimism, gratitude, and others—are usually associated with the spiritual influence of the Holy Ghost in LDS theology (CES, 2001; *Doctrine and Covenants*)
One of the repeated titles of the Holy Ghost in LDS scripture is that of “the comforter” (Doctrine and Covenants 21:9, 24:5, 28:1, 28:4, 31:11, 35:19, 36:2, 39:6, 42:16, 47:4, 50:14, 50:17, 52:9, 75:10, 75:27, 79:2, 90:11, 90:14, 124:97), denoting the Holy Ghost’s role in bringing peaceful, uplifting, comforting feelings to an individual. The affective component of the influence of the Holy Ghost also encompass such feelings as courage, boldness, and confidence (Book of Mormon, 1 Nephi 10:22, Moroni 8:16; Doctrine and Covenants 121:45-46) to act on divine direction or inspiration. Thus, to summarize, LDS theology teaches that affective spiritual influence through the Holy Ghost can come to an individual through uplifting feelings such as love, joy, peace, patience, meekness, gentleness, confidence, and comfort. When an LDS seminary student is influenced by the Holy Ghost cognitively in the mind or affectively in the heart in ways similar to the ones previously described, he or she is having a spiritual experience according to LDS theology (CES, 2001; LDS, 2004b).

**Functions of the Holy Ghost in LDS Seminary**

Facilitating in-class spiritual experiences through the Holy Ghost is a fundamental aim of LDS seminary. An LDS seminary “spiritual experience…is defined as taking place when the Holy Ghost is performing his role or functions…with the student” (CES, 2001, p. 12). The following list details “some of the functions of the Holy Ghost that are directly related to gospel teaching and learning” (p. 12) as stated in the official handbook Teaching the Gospel (CES, 2001) for LDS Seminaries and Institutes of Religion. These functions are important to list not only to provide framework for the reader regarding LDS seminary in-class functions of the Holy Ghost, but also because the following
statements serve as the foundational constructs for the spiritual experience survey items used to collect data for this study (Appendix A).

- He [The Holy Ghost] bestows the ‘fruits of the Spirit,’ which include such things as joy, love, peace, patience, and gentleness.
- He gives the ‘gifts’ of the Spirit [such as the working of miracles, visions, healings, revelation, and prophecy].
- He allows a person to speak with authority and boldness.
- He testifies to the truthfulness of God and other gospel principles.
- He helps us discern the thoughts or intents of others.
- He gives us truth, knowledge, insights, understanding, and enlightenment.
- He can bring ideas, concepts, or principles back to remembrance.
- He can inspire a person in what to say in the very hour it is needed.
- He brings sanctification and remission of sins.
- He can carry truth to the hearts of people and soften them.
- He can enhance a person’s skills and abilities to perform a task.
- He sometimes either constrains (impels forward) or restrains (holds back).
- He edifies (lifts or builds spiritually) both the teacher and the student.
- As one of his titles implies, he gives comfort. (CES, 2001, p. 12-13)

A primary goal of LDS religious education is for seminary students to be influenced by the Holy Ghost in the variety of cognitive and affective ways listed above, thus constituting an LDS spiritual experience. Mormon doctrine and S&I administration teach that if LDS seminary students are being spiritually influenced by the Holy Ghost, desired spiritual outcomes such as gospel knowledge, faith, testimony, and conversion will result (CES, 2003; LDS, 1979, 2004b; Ludlow, 1992; S&I, 2009b). Seminary and Institute of Religion Administrator Webb (2007), concluded that the desired “outcome [of LDS seminary classes] is the conversion of our students. Therefore, the challenge and the opportunity that is ours is to identify and implement ways of inviting the Holy Ghost into the learning experience more often” (p. 1). One of the primary methods currently emphasized by S&I administrators to help LDS seminary students be influenced by the Holy Ghost and have in-class spiritual experiences is through increased student oral
Increasing Student Oral Participation

In 2003 a curricular directive called the *Teaching Emphasis* (CES, 2003) was released to all seminary personnel in an effort to facilitate in-class spiritual experiences and deepen the “faith, testimony, and conversion” (CES, 2003, p. 1) of LDS seminary students. To help accomplish these spiritual outcomes, the *Teaching Emphasis* (CES, 2003) repeatedly encouraged student oral participation in the learning process. The *Teaching Emphasis* (CES, 2003) consisted of six areas of focus, three of which directly encouraged forms of student in-class oral participation. While the directives in the *Teaching Emphasis* (CES, 2003) were not new to S&I in some respects—such as encouraging LDS seminary students to develop habits of daily scripture study, apply gospel principles from the scriptures, and master key scriptural passages—there was a heightened emphasis on increased student participation in the learning process, specifically on student oral participation. The *Teaching Emphasis* (CES, 2003) encouraged LDS seminary teachers to have their students “teach by the Spirit,” to “help students learn to explain, share, and testify of the doctrines and principles of the restored gospel,” and to master key scriptural passages and “explain the doctrines and principles contained in those passages” (p. 1). The *Teaching Emphasis* (CES, 2003) provided direction to the teacher to “give [students] opportunities to do so [teach, explain, share, and testify] with each other in class” (p. 1). In one of the first public addresses to Seminaries and Institutes of Religion after the release of the *Teaching Emphasis* (CES, 2003), S&I Assistant Administrator, Hall (2003), explained that LDS seminary teachers
Help our students learn to explain, share, and testify of the doctrines and principles of the gospel and to give them appropriate opportunities to do so in class. Occasionally a student may be asked to teach part of a class but most of this sharing will be done with another class member or in small groups of three or four. (p. 10)

The following year in another global address to LDS seminary teachers, S&I Assistant Administrator Howell (2004) said that LDS seminary students should be able to explain doctrines and principles of LDS theology, and that this skill would “come with practice as seminary and institute teachers gave [them] opportunities in class, not just to talk, but to explain the gospel in [their] own words to other students” (p. 3). Head S&I Administrator Moore (2007) summarized the pedagogical principles of the Teaching Emphasis (CES, 2003).

The teaching emphasis implies a modification of roles. The teacher becomes more of a coach instead of the main performer, and the student becomes an active, participative learner rather than a passive observer…. The [student] is taught to search, identify, understand, explain, and testify of correct principles. (p. 4)

In 2009, the Teaching Emphasis (CES, 2003) was revised and renamed the Teaching and Learning Emphasis (S&I, 2009a). Although the document was reduced for clarity from 275 total words to just 63 words, the basic curricular content in the revised Teaching and Learning Emphasis (S&I, 2009a) remained the same (Webb, 2009a), particularly the focus on student oral participation.

The principles of the Teaching Emphasis (CES, 2003) and student oral participation have been a consistent theme in formal addresses given by S&I administration. Since the release of the Teaching Emphasis (CES, 2003), to date there have been 51 formal published addresses to LDS Seminaries and Institutes of Religion.
personnel worldwide. These addresses were given either by S&I administrators, members of the CES’s Board of Education, or by members of the LDS Church’s governing Quorum of the Twelve Apostles or First Presidency. In reviewing and analyzing each of these formal addresses given to LDS seminary and institute teachers and administrators since 2003, there is a repeated focus on the *Teaching Emphasis* (CES, 2003) and on student oral participation. Almost half (47.1%) of the addresses to Seminaries and Institutes of Religion since 2003 discuss the *Teaching Emphasis* (CES, 2003) or *Teaching and Learning Emphasis* (S&I, 2009a), and 41.2% (21 of the 51 addresses) specifically mention the need for seminary student oral participation in the learning process, as shown in Table 1.

For the purposes of this research study, most notable in Table 1 is the frequency in which S&I administration emphasize the facilitating relationship between the *Teaching Emphasis*/student oral participation and desired spiritual outcomes through the Holy Ghost. Nearly 40% of all published addresses by S&I administration since 2003 make reference to this theoretical relationship, which relationship is central to the research questions and hypotheses explored in this study.

**Oral Participation’s Relationship with Spiritual Outcomes**

It is theorized by S&I administration that LDS seminary students’ in-class oral participation facilitates students’ in-class spiritual experiences. Repeated consistently in the published addressed to S&I is the premise that LDS seminary students are influenced by the Holy Ghost in their mind and in their heart as they discuss, explain, share, testify,
Table 1

*Chronological Evaluation of Formal S&I Addresses Mentioning the Teaching Emphasis*

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Teaching emphasis</th>
<th>Oral participation</th>
<th>Spiritual outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hall</td>
<td>2003a</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hammond</td>
<td>2003c</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Johnson</td>
<td>2003c</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Johnson</td>
<td>2003d</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Scott &amp; Eyring</td>
<td>2003c</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tanner</td>
<td>2003c</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Anderson</td>
<td>2004c</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hall</td>
<td>2004c</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Scott</td>
<td>2005c</td>
<td>X</td>
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<td>X</td>
</tr>
<tr>
<td>Anderson</td>
<td>2006c</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Johnson</td>
<td>2006c</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Moore</td>
<td>2007c</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hall</td>
<td>2008c</td>
<td>X</td>
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<tr>
<td>Johnson</td>
<td>2008c</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Kerr</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Webb</td>
<td>2009c</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

*Table continues...*
and teach of LDS doctrines and principles in class. Those repeated spiritual experiences through the Holy Ghost, facilitated by in-class oral participation, eventually help to produce desired religious outcomes such as faith, testimony, and conversion. This facilitating relationship between student oral participation, the Holy Ghost, cognitive and affective in-class spiritual experiences, and desired religious outcomes was previously illustrated in Figure 1 of the introductory chapter of this research.

discuss what the gospel actually means in their lives, the more will be their inspiration,
growth, and joy” (CES, 2006, p. 12). Updated training documents for the revised
Teaching and Learning Emphasis (S&I, 2009a) link clarified understanding (a cognitive
result of spiritual influence by the Holy Ghost) and strengthened testimony to student oral
participation: “Explaining doctrines and principles, sharing relevant experiences, and
testifying of divine truth clarifies [students’] understanding, improves [students’] ability
to teach the gospel, and strengthens the testimony of both the speaker and listener” (S&I,
2009b, p. 1).

In analyzing the published talks given by S&I administration to worldwide
seminary personnel since 2003, 20 of the 51 addresses (39.2%) discuss how the Teaching
Emphasis (CES, 2003), the Teaching and Learning Emphasis (S&I, 2009a), and student
oral participation facilitate desired spiritual outcomes through the Holy Ghost, as
previously show in Table 1. The following are some chronological excerpts from these
published addresses expressing the consistent pedagogical directive to emphasize in-class
student oral participation because of its facilitating relationship with the Holy Ghost and
spiritual outcomes:

- Scott and Eyring (2003): A teacher can help one of the students prepare
briefly something related to the curriculum, and then have the student give
that. That experience of testifying or of teaching the other students can very
often generate a very powerful experience spiritually. (p. 9)

- Hall (2003): As [students] learn to explain, share, and testify of the doctrines
and principles of the restored gospel, they will come to greater understanding
and greater testimony. (p. 1)

- Howell (2004): The ideal student is also quick to share personal experiences
from her life that illustrate the application of a gospel principle or to share her
feelings about a given principle. This she does in seminary or institute
classes…. She knows that doing so allows the Holy Ghost to witness to others and to her own soul that the principle is true. (p. 3)

- Scott (2005): As students verbalize truths, they are confirmed in their souls and strengthen their personal testimonies. (p. 3)

- Anderson (2006): The great teacher…will study and understand how student participation, like teaching and testifying, facilitates learning. (p. 1)

- Hawks (2007): Students act in faith and invite the Spirit during class by explaining gospel principles to others. (p. 3)

- Webb (2007): There are other things we can do to invite the Holy Ghost into the learning experience. …We can create an atmosphere in our classrooms where students feel safe and needed and where they are encouraged to share their experiences, feelings, and testimonies of eternal principles. (p. 4)

- Kerr (2007): We can also assist in this by helping the students learn to explain, share, and testify and by inviting them to express their understanding and feelings about the principles they have been taught. The more active the learner becomes in the learning process, the greater the likelihood that both the mind and the heart will be penetrated [by the Holy Ghost]. (p. 4)

- Moore (2008): Active student participation in the learning process creates the possibility of individualized instruction by the Holy Ghost. …Our real task isn’t presenting information. It is helping students learn gospel principles and doctrines and to be able to explain and testify of their value in their own lives. (p. 3)

- Hall and colleagues (2009): Help the young people learn by study and by faith, [to] act. And when they act, it goes more into their hearts and into their lives, facilitated by the Spirit. …In a classroom like the one we’re talking about, you are trying to get students to act by speaking, presenting, talking, bearing testimony, and sharing experiences. (p. 3)

- Beck (2010): A “reservoir of insight and inspiration” can be present when our students are invited and encouraged to edify one another. Your efforts foster this type of learning by giving youth opportunities to explain, share, and testify of gospel truths. (p. 3)

In analyzing directives given by S&I leadership to LDS seminary teachers, it is evident that in-class student oral participation has been a consistent pedagogical theme
since 2003. It is also evident that the heightened focus on oral participation is theoretically linked with student spiritual experiences—or being influenced by the Holy Ghost in the mind and heart—which leads to primary desired outcomes for LDS seminary students. S&I head administrator Webb (Webb & Alford, 2009) summarized the facilitating relationship between forms of student oral participation and the Holy Ghost thus: “The more our students testify to each other, the more of an endowment of the Spirit will be in our classrooms” (p. 245).

**Oral Participation and Academic Outcomes**

The emphasis by S&I administration on student oral participation in seminary classes is theoretically linked to positive cognitive and affective outcomes through the Holy Ghost. However, there is only minimal research pertaining to LDS seminary linking student oral participation and cognitive and affective spiritual outcomes through the Holy Ghost (Hall, 2008; Hawks, 2007; Seastrand, 1996). Although there are limited research studies exploring this relationship in LDS seminary (hence, the need for this study), there is academic research supporting the philosophical underpinnings of S&I’s emphasis on student in-class oral participation. Multiple research studies indicate a positive relationship between student oral participation and both cognitive and affective outcomes in academic subjects. Repeatedly, researchers have found that student oral participation in academic classes—such as in history, math, English, social studies, and science—is positively associated with cognitive outcomes, such as improved test scores, factual memory recall, and reading comprehension, and also with affective outcomes such as increased self-confidence, class comfort, and class enjoyment.
Article Inclusion Criteria

To synthesize and analyze existing academic studies on the subject, research articles were located that examined cognitive and affective academic benefits related to student in-class oral participation. Admittedly, definitions of student oral participation are broad and varied, as most research studies located for this review incorporated and examined slightly differing criteria of student oral participation. For the purposes of this review, included was any academic research study that observed, measured, or reported the frequency, quality, or amount of meaningful student in-class oral participation and its relationship to cognitive or affective outcomes. Studies that focused on teacher-centered behaviors—such as the amount of questions a teacher asked or how much time a teacher spent lecturing—were omitted, as teacher behaviors are not necessarily direct indicators of purposeful student oral participation. Additionally, studies relating to cooperative learning were excluded in this review of student oral participation’s relationship to cognitive and affective academic outcomes. Although cooperative learning incorporates aspects of student oral participation, definitions of cooperative learning are varied (Bruffee, 1999) and do not necessarily measure the frequency, amount, or quality of student oral participation. Students may be collaborating in group projects and assignments with little time actually spent in oral discussion, or with only one or two members of the group doing most of the talking while other students are silent participants. Peer-to-peer teaching, student in-class presentations, and reciprocal teaching also incorporate forms of student oral participation. However, similar to cooperative learning, studies in these areas rarely quantify the frequency, amount, or quality of specific levels of student oral participation. Therefore, studies of cooperative
learning and peer-to-peer teaching fell outside the inclusion criteria for this review seeking for studies with specific measures of student oral participation and its relationship to cognitive and affective outcomes. Also, general practitioner articles related to student oral participation and academic outcomes that did not offer a quantitative or qualitative research study to support their conclusions were also excluded from the final studies included in this review.

Primary databases searched for research articles matching inclusion criteria were the Educational Resources Information Center (ERIC), Education Full Text, Digital Dissertations, PsycINFO, and Google Scholar. Search terms included phrases such as “oral participation,” “verbal participation,” “class discussion,” “dialogic instruction,” “monologic instruction,” “instructional conversations,” “talk time,” and “course talking.” Additional studies were located using applicable references in articles obtained. In all, 27 studies were located that fit the criteria of measuring frequency, amount, or quality of student oral participation’s relationship to cognitive and affective academic outcomes.

**Cognitive Academic Outcomes**

LDS spiritual experiences are linked to cognitive outcomes such as increased “knowledge, insights, understanding, and enlightenment” (CES, 2001, p. 12-13). Research indicates that oral participation in academic classes is also positively associated with similar cognitive outcomes, such as increased academic knowledge and achievement. Nystrand and colleagues’ (1997) *Opening Dialogue: Understanding the Dynamics of Language and Learning in the English Classroom* (1997) focused on the relationship between dialogic classroom discussion (i.e., class time spent in discussing
open-ended questions and instructional discourse between classroom participants) and student performance on spring literature tests. This study involved more than 1,100 students in over 100 eighth and ninth grade classes, drawn from a diverse sample of schools in Midwestern urban, suburban, and rural communities. Through observation, survey, and interview, Nystrand and colleagues (1997) coded and analyzed class discussion from more than 400 lessons, and the quality of student-teacher interaction in that classroom discourse. The researchers used multiple regression analysis to determine the variance that dialogic classroom discussion and student oral participation explained in the outcome variable of knowledge, understanding, and performance on spring literature tests. Nystrand and colleagues (1997) concluded that dialogic class discussion had a strong positive effect on literature achievement tests for ninth graders, and a “particularly large effect” ($R^2 = .428$) for eighth grade classes (p. 33). In a similar study, Nystrand and colleagues (1998) investigated the relationship between in-class student discourse and social studies knowledge. Analyzing data from 894 students in 48 ninth grade social studies classrooms, Nystrand and colleagues’ (1998) regression analysis showed an adjusted $R^2$ of .415 for the variance explained by dialogic oral participation on social studies knowledge. The researchers concluded that social studies test “performance was higher in classes in which more time was spent in oral activities” (p. 23). In yet another large scale study of 974 seventh and eighth grade students across 19 schools and 64 classrooms, Applebee and colleagues (2003) concluded that classroom discussion—even when controlling for other variables such as initial pretest literacy levels, gender, socioeconomic status, and ethnicity—has an effect size of $ES = .53$ on spring literature achievement tests, concluding that “an emphasis on discussion-based approaches…is
positively related to literacy performance across a diverse set of classrooms at the middle and high school levels” (p. 719).

Similar cognitive knowledge outcomes related to student oral participation are also reported in other academic subjects, such as in math by Berg (1993), Bradford (2007), and Morton (1993), and also in science (Russell, 2005). Morton measured amounts and quality of 213 college algebra students’ in-class oral participation and found that students’ in-class oral participation correlated at $r = .33$ and $r = .54$ with student knowledge and performance on two separate math department examinations. Berg reported an effect size of $ES = .48$ in end of unit math test performance between a treatment group of 11th grade Algebra II/Trigonometry students who received pedagogy that facilitated student oral participation over a control group that was taught using a “teacher-dominated classroom structure” (p. 9) that did not facilitate student in-class oral participation. Bradford also reported positive cognitive math gains by students in an oral participation treatment group over students in a nondiscussion control group, reporting 13% higher scores for the treatment over the control. In a science class, Russell found that student oral participation was positively related to performance on science knowledge tests for 9th graders. Controlling for pretest results, Russell found significant correlations between the frequency of student oral participation and performance on an end of unit science final examination ($r = .49$ and $r = .53$ when controlling for two separate pretests).

LDS spiritual experience is also related to cognitive outcomes through the Holy Ghost such as having “ideas, concepts, or principles back to remembrance” (CES, 2001, p. 12). Research by Pinner (1997) indicated that oral participation can be positively
associated with similar cognitive outcomes related to memory. Pinner conducted an experimental research study investigating the effect of group oral participation and memory recall. The researcher randomly placed 32 study participants into a control and treatment group. The participants individually read a mock news article about a basketball star that related 54 separate and distinct facts. After reading the article, each participant individually wrote down as many facts from the article that could be recalled by memory. The pretest facts remembered and written did not differ significantly between individuals in the control (38.0% of possible facts recalled) and treatment (38.9% of possible facts recalled). After the pretest, Pinner directed participants in the treatment group to openly discuss the article in groups of four, while the control group participants were instructed to monologically recite to a researcher what they remembered from the article, with no dialogic discussion back and forth permitted. After the group-discussion treatment/non group-discussion control, participants were asked again to write down as many details from the news article as could be remembered. In the posttest—after participating in group conversation—the participants in the treatment groups averaged 60.2% memory recall of the facts from the article, whereas the control group individual recall averaged only 38.2% recall. Additionally, Pinner found that treatment group participants remembered 51% of the new ideas they orally participated in through group conversation. Of the new ideas that were mentioned in the treatment group dialogue that the individual didn’t orally contribute to, only 28.9% of those ideas were remembered. If persons orally contributed to an idea in a group conversation, they scored almost one standard deviation higher ($ES = .90$) on factual recall than if they did not orally participate in discussing the idea. Pinner concluded that group conversation
significantly contributed to conversational remembering “due in part to active verbal participation in the group conversation” (p. 17) and said that “this effect on subsequent memory is more likely the result of active verbal participation than passive listening” (p. 19).

Qualitative studies also suggested a positive relationship between student oral participation and cognitive academic outcomes. In a beginning college Spanish class, Welch (1988) observed 25 university students over 10 weeks, evaluating the types and levels of their class participation, including the amount of in-class oral participation, or “utterances” for each student. Welch concluded that “students receiving the highest final grades also had…the highest number of verbal interactions with the instructors during class” (p. 179). In research on critical thinking, Tsui (2002) concluded that “encouraging students to verbalize and try out ideas” in class was a fundamental component in fostering critical thinking skills (p. 750). In a study of 46 tenth grade social studies students, Hess and Posselt (2002) reported “that participation in class discussions helped [students] learn more” (p. 299). Smith (2007) identified that student oral participation in class discussions was “important to literacy learning” (p. 16). Okolo and colleagues (2007)—who observed two history teachers for 3 years—found that the teacher who facilitated frequent student oral participation in class discussions “obtained the greatest gains in knowledge and understanding” (p. 164) in student history test scores. Each of these studies indicated a positive relationship between student oral participation and cognitive outcomes. Similar spiritual cognitive outcomes such as increased gospel “knowledge, insights, understanding, and enlightenment” (CES, 2001, pp. 12-13) are sought by S&I administration through LDS seminary student oral participation.
**Affective Academic Outcomes**

LDS seminary in-class spiritual experience—facilitated by student oral participation—is also linked to affective outcomes such as feelings of “joy, love, peace, patience, and gentleness” and “comfort” (CES, 2001, p. 12-13). Academic research indicates the possibility of this affective theoretical relationship. For example, using a large nationwide sample of 13,121 eighth graders, Voelkl (1995) found that student affective perceptions of school warmth (students feelings that teachers were interested in them, understood them, and cared for them) were significantly related to student classroom participation—including participation in class discussion—concluding that a strong “relationship exists between warmth and participation” (p. 7). Skinner and colleagues (1990) studied 200 students in third through sixth grades and found that affective student perceptions of school warmth were significantly correlated with student in-class active participation ($r = .23$). Dallimore and colleagues (2008) found that student oral participation was also positively related to the affective feeling of comfort in class. Using self-report data on levels of student oral participation and correlating it with an affective survey questionnaire, Dallimore and colleagues reported a correlation of $r = .54$ between student oral participation and feelings of class comfort. These academic affective outcomes of feeling warmth and comfort in class are similar to a desired spiritual outcome in LDS seminary classes, as LDS theology teaches that the Holy Ghost “gives comfort” (CES, 2001, p. 13).

Dallimore and colleagues (2008) also reported a correlation of $r = .83$ between student oral participation and affective feelings of confidence to participate in future classes. Investigating the benefits of discussion dialogue in group interaction, Webb
(1991) also reported that student engagement in task related group dialogue is positively related with reported self-confidence. LDS spiritual experience outcomes are related to this academic affective outcome of confidence, as the Holy Ghost gives confidence to “a person to speak with authority and boldness” (CES, 2001, p. 12). Other academic studies link student oral participation to overall affective outcomes. Summarizing research in the area of class discussion, Cooper (2002) reported that oral interactions between teacher and students led to “increased cognitive, social, and emotional benefits” (p. 54). In an experimental study investigating the benefits of college classes that facilitate student oral participation verses lecture, Byers and Hedrick (1976) reported that students find classes that facilitate discussion more interesting, enjoyable and “stimulating” (p. 30). In a study of tenth grade social studies classes, Hess and Posselt (2002) also reported the affective benefit of increased class enjoyment for students who participate in class discussion. Based on class observations, Hess and Posselt reported “talk scores” that measured amounts of student oral participation in 21 categories. The males in the class with high talk scores reported an $ES = .54$ for feelings of class enjoyment (difference between pre and post scores of class enjoyment), and female students with high talk scores reported that they were less likely to feel afraid of what other classmates thought about their ideas ($ES = -.48$).

**Oral Participation and Academic Outcomes Summary**

Summarizing the results of the studies obtained investigating student oral participation’s relationship with cognitive and affective outcomes in academic disciplines, 23 of the 27 studies (85.2%) obtained and reviewed concluded results that
were directionally positive (Applebee et al., 2003; Berg, 1993; Bradford, 2007; Cooper, 2002; Dallimore et al., 2008; Hess & Posselt, 2002; Morton, 1993; Nystrand & Gamoran, 1988; Nystrand et al., 1997, 1998; Okolo et al., 2007; Pierson, 2008; Pinner, 1997; Polite & Adams, 1996; Root, 1999; Russell, 2005; Saunders & Goldenberg, 1999; Skinner et al., 1990; Smith, 2007; Tsui, 2002; Voelkl, 1995; Webb, 1991; Welch, 1988)—three studies (11.1%) were directionally inconclusive, reporting both positive and negative results or a nondetectable direction (Byers & Hedrick, 1976; Moore, 2000; Pomerantz, 1998)—and one (3.7%) of the studies reported negative directional results of oral participation’s relationship with cognitive and affective academic outcomes (Fiandt, 1993). Overall, these 27 studies reviewed indicated a consistent positive relationship between student in-class oral participation and both cognitive and affective outcomes in academia. Although it is assumed there are other applicable studies that were not located for this review, it is concluded after in-depth searching that the studies obtained are a representative sample and provide an accurate state-of-knowledge of the existing research on the topic of student oral participation’s relationship to academic cognitive and affective outcomes. If student oral participation is consistently reported with positive cognitive and affective outcomes in academic disciplines, it is logical that student oral participation could also have a positive relationship with cognitive and affective LDS spiritual outcomes as well.

**Oral Participation and Spiritual Outcomes**

Although multiple studies positively associate student oral participation with cognitive and affective academic outcomes, there is only minimal research evidence to
support LDS seminary administration’s theory that student oral participation has a positive relationship to LDS cognitive and affective spiritual outcomes. Despite consistent emphasis on oral participation in LDS seminary since 2003 and its facilitating role with the Holy Ghost, relatively little research exists that examines this theoretical relationship. To locate and review available studies related to LDS seminary student oral participation and perceptions of in-class spiritual experiences, the researcher searched existing and available databases for any studies pertaining to the Teaching Emphasis (CES, 2003), LDS seminary student oral participation, or LDS seminary students’ perceptions of in-class spiritual experiences.

**Seminary Article Inclusion Criteria**

Databases searched for articles were ERIC, Education Full Text, Digital Dissertations, PsycINFO, and Google Scholar. Search terms included phrases such as “LDS seminary” “LDS seminary,” “LDS spiritual experiences,” and “Teaching Emphasis.” Also, all published articles by Seminaries and Institutes of Religion administration posted on S&I’s intranet website—available to the researcher—were searched to locate any reported research connecting student oral participation and in-class spiritual experiences. Additionally, the researcher was provided a searchable database of “Dissertation Abstracts” compiled by the research department of Seminaries and Institutes of Religion. This database contains abstracts and full-text articles of 379 doctoral dissertations and master’s thesis studies about LDS Seminaries and Institutes of Religion, or completed by S&I employees. This database was also searched using similar key terms listed above.
After in-depth searching, only three studies were obtained that indicated a relationship connecting LDS seminary student in-class oral participation and in-class spiritual experience (Hall, 2008; Hawks, 2007; Seastrand, 1996). One study closely related but excluded was by Riggins (2006), who evaluated the effect of two different teaching methods on LDS seminary students’ cognitive and behavioral outcomes: a treatment group taught using an experimental method called “Teaching for Understanding” and a control group who was taught using “traditional” S&I methods from the Teaching Emphasis (CES, 2003). Although this study examined cognitive and behavioral outcomes of LDS seminary, this study did not provide any data or direct measures related to LDS seminary students’ in-class spiritual experiences or perceptions of being influenced by the Holy Ghost. Additionally, Riggins did not evaluate nor provide measures as to whether or not, or to what degree, principles from the Teaching Emphasis (CES, 2003) were actually implemented in the control group. It is possible that the teachers selected in the control group did not actually implement Teaching Emphasis (CES, 2003) principles, or did so in varying degrees. Last, there was no data or direct measure of amounts, types, or quality of student oral participation in either the treatment or the control group, and thus—although results from Riggins’ study included measures of cognitive outcomes in LDS seminary and their relationship to the Teaching Emphasis (CES, 2003)—this study was excluded as evidence for or against LDS seminary students’ oral participation and its relationship to cognitive and affective in-class spiritual experiences.
In-Class Activities That Elicit Spirituality

One study that indicated a relationship between in-class student oral participation and perceived in-class spiritual experiences was Seastrand’s (1996) *A Study of Latter-day Saint High School Seminary Students’ Perceptions of Their Spirituality*. Seastrand’s problem statement centered on the idea that the purposes of LDS seminary are spiritual in nature, yet S&I “religious educators have limited formal inquiry into what constitutes and elicits the spirituality of LDS [seminary students]” (Seastrand, 1996, p. 7). One of Seastrand’s research questions specifically centered on which in-class events were perceived by students to elicit their spirituality—a question that is directly connected to the hypotheses being tested in this study regarding oral participation’s relationship to LDS seminary students’ perceptions of in-class spiritual experiences. As part of Seastrand’s study, 20 LDS seminary students from the same seminary class, over a 3 month period of time, recorded in individual journals each time they perceived they were having a spiritual experience in their seminary class. Each time spiritual experiences were perceived and recorded, participating students were also asked to record what event they perceived caused the spiritual experiences to occur. Seastrand then met with each student individually to analyze what had been written and ensure common understanding of each entry being reported.

In analyzing the summary of the “in-class activities which are perceived by students to elicit their spirituality” (Seastrand, 1996, p. 107), 50 of the 58 written responses (86%) were connected to forms of student oral participation, such as testimony bearing, class discussions, and singing. Examples of frequent entries describing the in-
class activities that elicited in-class spiritual experiences were, “When bore testimony,” and, “During dis [discussion] on Ten commandments” or “During testimonies by…” (p. 107). The most frequently mentioned form of student oral participation that elicited student spirituality was student expressions of belief (testimony), with 26 (44%) of the written comments. In the conclusion of the study, Seastrand (1996) commented about the frequent mention of testimony sharing as an elicitor of perceived in-class spiritual experience:

The fact that so many journal entries referred to testimony sharing as the source of the spiritual elicitation did not mean that many class testimony sharing sessions took place. It simply indicated that the majority of students were spiritually touched during just a few sessions and made note of it in their journals. (p. 125)

Seastrand (1996) concluded that, “testimony sharing is obviously perceived by students as a powerful tool for the elicitation of the Spirit” (p. 125), and that “in addition to testimony sharing, students perceived class discussion sessions as powerful, group-involved, methodology for the elicitation of spirituality” (p. 125). Both major conclusions from Seastrand’s study of in-class activities that elicit student in-class spiritual experiences centered on student oral participation.

Teaching Emphasis 2007 and 2008 Studies

In addition to Seastrand (1996), two separate studies regarding the effectiveness of the Teaching Emphasis (CES, 2003)—which emphasis encourages student oral participation in three of its six areas of focus—conducted by independent researchers for the LDS Church’s Research Information Division also suggested a relationship between LDS student oral participation and perceived in-class spiritual experiences (Hall, 2008; Hawks, 2007). These studies were not published publicly, but results were communicated
through summary reports in addresses given by Seminaries and Institutes of Religion Assistant Administrators Hawks (2007) and Hall (2008). However, through contacting the LDS Church’s Research Information Division (RID), the researcher was granted access to unpublished reports of more complete information regarding the methods and findings of these two studies (RID, personal communication, October 27, 2010).

Hawks (2007) reported results for a study that included more than 2,000 LDS seminary students and teachers across the US. As part of the LDS Church’s RID analyses—through observation and survey data—seminary classrooms were rated as higher implementing Teaching Emphasis (CES, 2003) classrooms, or lower implementing classrooms. Higher/lower implementing Teaching Emphasis (CES, 2003) classes were determined by 5-point Likert scale responses to 12 items designed to measure different aspects of the Teaching Emphasis (CES, 2003), such as rating how often the students were “given opportunity to testify of gospel doctrines and principles” (Hawks, 2007, p. 2), how often students were given opportunities to share gospel insights and experiences with other students, or teach other students about the gospel (RID, personal communication, October 27, 2010). Based on these ratings, classes identified as the top one-third implementers of the Teaching Emphasis (CES, 2003) were labeled as “higher-implementing” classes, and those in the bottom one-third were labeled as “lower-implementing” classes (RID, Personal Communication, October 27, 2010). Student responses to questions about their beliefs, testimonies, spirituality, and gospel knowledge were compared between higher implementing and lower implementing Teaching Emphasis (CES, 2003) classrooms. The researchers concluded that students in “higher-implementing classes reported that they had gained a stronger testimony of the restored
gospel, through seminary, more than did students of lower-implementing classes” (Hawks, 2007, p. 3). It should be noted that according to LDS theology, a “testimony” (or personal belief) is an outcome of a spiritual experience through the Holy Ghost. Additional findings related to student perception of in-class spiritual experiences were that “when asked if they feel the influence of the Holy Ghost during class, students of higher-implementing [Teaching Emphasis] classes said that they did, much more than did the students of lower implementing classes” (Hawks, 2007, p. 3). Also related to spiritual outcomes, seminary students from higher implementing Teaching Emphasis (CES, 2003) classes reported higher levels of gospel knowledge and insights (RID, personal communication, October 27, 2010). Specific to findings related to oral participation and spiritual experiences, Hawks (2007) reported that, “When asked if they ‘feel the Spirit when explaining the gospel to others,’ students of higher-implementing classes responded that this was, ‘usually true’ or ‘always true.’ In contrast, students from lower-implementing classes generally responded with, ‘sometimes true’” (Hawks, 2007, p. 3). These findings related to the Teaching Emphasis (CES, 2003) link student oral participation and spiritual outcomes and provide research evidence for the hypotheses tested in the present study.

In 2007, researchers from the LDS Church’s RID conducted a similar study with over 2,000 LDS institute students (ages 18-30, as opposed to LDS seminary students, ages 14-18). Methods similar to the 2007 seminary study reported by Hawks (2007) were implemented in this study to determine higher and lower implementing Teaching Emphasis (CES, 2003) classes. In measures of how the Teaching Emphasis (CES, 2003) related to perceived spiritual outcomes, Hall (2008) reported that students from higher
implementing *Teaching Emphasis* classes “reported feeling a greater influence of the Holy Ghost during class” (p. 3). Students of higher implementing classes reported higher levels of additional spiritual outcomes such as gaining insights into the gospel, having a stronger testimony, and feeling closer to God (RID, personal communication, October 27, 2010). One specific and direct indicator of oral participation’s relationship with perceived spiritual experiences was student responses on a Likert scale to the question, “I feel the Spirit when I have explained gospel principles to others” (Hall, 2008, p. 3), which results were “statistically significantly higher” (Hall, 2008, p. 3) for students in higher implementing *Teaching Emphasis* (CES, 2003) classes compared to lower implementing classes.

**Conclusions from LDS Seminary Studies**

These three studies (Hall, 2008; Hawks 2007; Seastrand, 1996) indicated a possible relationship between student oral participation and perceived in-class spiritual experiences for LDS seminary students. However, to a certain extent this relationship can only be implied from these studies. One shortcoming from each of these studies is the assumption that students correctly understand—and therefore can report on—what the Holy Ghost or spiritual experience is according to LDS theology. For example, both studies by the LDS Church’s Research Information Division asked students if they “feel the influence of the Holy Ghost during class” (Hall, 2008, p. 3). However, the responses to this question depended upon students’ level of understanding of what “the influence of the Holy Ghost” is or is not. It is possible that students reported answers to that question which were inaccurate due to insufficient knowledge of what constitutes a cognitive or
affective spiritual experience through the Holy Ghost according to LDS theology. Seastrand’s (1996) study is similar, in that students were asked to write on events that elicited spirituality—yet it is possible that spiritual events occurred and were not recorded because the student had a false perception of what was or was not a spiritual experience according to LDS theology. A study with survey questions that articulate LDS theology on the Holy Ghost and allow students to respond accordingly—regardless of the student’s understanding of LDS theology on the Holy Ghost—would provide a more accurate measure of perceived cognitive and affective spiritual experience through the Holy Ghost. The survey instrument designed and used in the present study (Appendix A) accomplishes such an objective.

Additionally, while providing positive evidence for the facilitating relationship between student oral participation and spiritual experience, the studies by Seastrand (1996) and reported by Hawks (2007) and Hall (2008) do not provide direct measures of the varied types or amounts of in-class student oral participation. From these three studies it is not known whether increased amounts of student oral participation are related to increases in perceived in-class spiritual experiences. Furthermore, these studies do not inform which types of student oral participation—such as explaining doctrines and principles, sharing personal experiences, or testifying of personal beliefs—contribute most to student perceptions of in-class spiritual experiences. Both Hawks and Hall reported that students feel the Holy Ghost when explaining the gospel to others. However, as valuable as this finding is, it does not answer whether explaining the gospel to others contributes more to perceived in-class spiritual experiences than students singing, or teaching one another, or sharing relevant personal experiences, or bearing
testimony—which Seastrand’s study indicated was the most frequent elicitor of in-class student spiritual experiences—or any other forms of student in-class oral participation. If student oral participation has a facilitating relationship with cognitive and affective influence by the Holy Ghost, then knowing which type of student oral participation contributes most to those perceived spiritual experiences is valuable to better inform pedagogy in LDS seminary. The present study is designed to provide information regarding the variance explained by differing oral participatory factors in LDS seminary students’ perceived in-class spiritual experiences.

To more effectively explore the relationship between student oral participation and perceived in-class spiritual experiences for LDS seminary students, there needs to be a direct measure providing data of both the level and type of student oral participation and of perceived in-class spiritual experience. The studies by Seastrand (1996) and reported by Hawks (2007) and Hall (2008) do not directly measure these variables. Therefore, this study sought to obtain this data and explore the relationship between student oral participation and perceived in-class spiritual experiences by LDS seminary students to further inform policy and practice for LDS Seminary and Institute of Religion teachers and administrators.

**Literature Review Summary Conclusion**

The purposes of LDS seminary—such as increased faith, testimony, and conversion in LDS seminary students—are spiritual in nature, and therefore dependent upon LDS seminary students having in-class spiritual experiences (CES, 2001; S&I, 2009b). LDS theology teaches that spiritual experiences are the result of being
influenced by the Holy Ghost in the mind and in the heart (Doctrine and Covenants 8:2; LDS, 2004b). Cognitive influence by the Holy Ghost can come in the form of enlightened thoughts, ideas, clarified understanding, remembrance of spiritual truths, directive action, and ability to discern more clearly between truth and error (Doctrine and Covenants 6:14-15; LDS, 2004a; Ludlow, 1992). Affective spiritual influence through the Holy Ghost can come to an individual through uplifting feelings such as comfort, love, joy, peace, patience, meekness, gentleness, confidence (Doctrine and Covenants 9:8; LDS, 2004a, 2004b; Galatians 5:22-23, King James Version). When an LDS seminary student is influenced by the Holy Ghost cognitively in the mind or affectively in the heart in ways similar to the ones listed above, he or she is having a spiritual experience according to LDS theology (CES, 2001; LDS, 2004b).

LDS theology and S&I administration state that as LDS seminary students are influenced in the mind and heart by the Holy Ghost, desired religious outcomes such as faith, testimony, and conversion will result (CES, 2003). To facilitate in-class spiritual experiences through the Holy Ghost and help produce desired religious outcomes, S&I administration released the Teaching Emphasis (CES, 2003), which emphasis repeatedly promotes student in-class oral participation. Students are encouraged to participate orally in LDS seminary classes by explaining LDS doctrines and principles, sharing relevant person experiences, testifying to one another by expressing personal beliefs, and teaching one another (Anderson, 2006; CES, 2003; Hall, 2004, 2009; Howell, 2004; Kerr, 2007; Moore, 2007, 2008; Scott, 2005; S&I, 2009a; Webb, 2007). Since 2003, S&I leadership have consistently emphasized the relationship between LDS seminary students’ in-class oral participation and desired religious outcomes through the Holy Ghost (Anderson,
multiple academic research studies indicated a positive relationship between student oral participation and both cognitive and affective outcomes in academic subjects. Repeatedly, researchers have found that student oral participation in academic classes—such as in history, math, English, social studies, and science—is positively associated with cognitive outcomes, such as improved test scores, factual memory recall, and reading comprehension, and also with affective outcomes such as increased self-confidence, class comfort, and class enjoyment (Applebee et al., 2003; Berg, 1993; Bradford, 2007; Cooper, 2002; Dallimore et al., 2008; Hess & Posselt, 2002; Morton, 1993; Nystrand & Gamoran, 1988; Nystrand et al., 1997, 1998; Okolo et al., 2007; Pierson, 2008; Pinner, 1997; Polite & Adams, 1996; Root, 1999; Russell, 2005; Saunders & Goldenberg, 1999; Skinner et al., 1990; Smith, 2007; Tsui, 2002; Voelkl, 1995; Webb, 1991; Welch, 1988).

Three known studies also suggested a relationship between LDS seminary student in-class oral participation and perceived cognitive and affective in-class spiritual experiences (Hall 2008; Hawks 2007; Seastrand, 1996). The results from these studies indicated that student perceptions of in-class spiritual experiences are related to in-class oral participatory behaviors such as explaining the gospel to others and expressing personal beliefs. However, these studies that implied a relationship do not provide data
specific to varied amounts or types of student oral participation nor perceptions of in-class spiritual experience to more accurately examine their association. For example, it is not known whether increased amounts of student oral participation are related to increases in perceived in-class spiritual experiences. Furthermore, it is unknown from these studies which forms of student oral participation—such as explaining doctrines and principles, sharing personal experiences, or testifying of personal beliefs—contributes most to student perceptions of in-class spiritual experiences. No known studies to date provide data on the varied amounts and types of LDS seminary student oral participation or the varied cognitive and affective areas of perceived in-class spiritual experience to determine their relationship. Because this pedagogy of student oral participation has been consistently emphasized since 2003 in LDS seminary classes worldwide as means to facilitate in-class spiritual experiences, a study specifically exploring the relationship between student oral participation and perceived spiritual experiences of LDS seminary students was necessary to validate this pedagogical directive and inform future curricular decisions by S&I teachers and administrators.
CHAPTER III
METHODS

The purpose of this study was to explore the relationship between LDS seminary students’ in-class oral participation and their perceived in-class spiritual experiences according to LDS theology. Pedagogy of student oral participation in LDS seminary classes has been consistently emphasized since 2003 in LDS seminary classes because of a theoretical link between in-class student oral participation and desired spiritual outcomes. However, there is only minimal research evidence to support this relationship. Furthermore, no known studies to date have obtained data specific to varied amounts of LDS seminary students’ in-class oral participation and perceptions of in-class spiritual experiences to examine their association. Therefore, the purpose of this study was to obtain and analyze necessary data to investigate this relationship. The following chapter outlines the research questions, hypotheses, and methods used in obtaining and analyzing data to explore the relationship between LDS seminary students’ in-class oral participation and perceived spiritual experiences.

Research Questions

This study was guided by the following primary research questions.

1. What is the relationship between self-reported in-class oral participation and perceived in-class spiritual experiences of LDS seminary students?

2. Which variables of self-reported in-class student oral participation are significant predictors of perceived student in-class spiritual experiences?
3. Is there a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students?

**Research Hypotheses**

Derived from the research questions, the following research hypotheses were tested using data gathered.

\[ \text{H}_01: \text{There is not a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.} \]

\[ \text{H}_11: \text{There is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.} \]

\[ \text{H}_02: \text{There are no statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.} \]

\[ \text{H}_12: \text{There are statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.} \]

\[ \text{H}_03: \text{There is no statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.} \]

\[ \text{H}_13: \text{There is a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.} \]
Independent Variable

The independent variable for this study was LDS seminary students’ self-reported in-class oral participation. For the purposes of this study, LDS seminary student in-class oral participation was defined as vocalized in-class utterances related to classroom learning in the following categories: singing, praying, reading/reciting out loud, answering questions out loud, asking the teacher questions, explaining something related to the gospel, sharing a personal experience from life, testifying to others by expressing belief, discussing in partners/groups, or standing up front and teaching the class.

Dependent Variable

The dependent variable for this study was LDS seminary students’ self-reported perceptions of spiritual experiences according to LDS theology. Spiritual experience survey items of LDS theology were established from the list of “functions of the Holy Ghost [spiritual experience] that are directly related to gospel teaching and learning” (p. 12) published in the LDS Church’s official handbook for S&I teachers *Teaching the Gospel: A Handbook for CES Teachers and Leaders* (CES, 2001). Development and content validity related evidence of these spiritual experience survey items is detailed in the validity section of this chapter and thus will not be described here.

Population and Sample

The target population for this study is LDS released-time seminary students. As reported in the *Seminaries and Institutes of Religion Annual Report* for 2010 there are
115,787 LDS released-time seminary students, primarily in Utah and the surrounding Western United States and Canada (S&I, 2010). Released-time seminary classes are held during school hours each day that the adjacent local public school is in session. These classes are primarily taught by LDS Church employed teachers in an LDS Church-owned seminary building near the public school. Enrolled LDS seminary students in grades 9-12 are released from public school for one class period to attend LDS seminary. Released-time classes differ from early morning or daily LDS seminary classes, which are generally taught by volunteer teachers in a local LDS Church member’s home or LDS Church-owned building. As the accessible sample for this study drew from released-time LDS seminary students only, and not early morning/daily seminary students, the target population for the results of this study is specific to released-time LDS seminary students.

The accessible population for this study was all released-time LDS seminary students within the S&I Salt Lake Valley East, West, and South areas. These three areas comprise all released-time LDS seminaries within Utah’s Salt Lake, Summit, and Wasatch Counties. Selection of seminary classes within these three areas provided a diverse and representative sample of students from urban, suburban, and rural communities, making conclusions more generalizable to the target population of released-time LDS seminary students. The 2010 combined LDS seminary enrollment for the S&I Salt Lake Valley East, West, and South areas is 25,221 (S. Lubbars, personal communication, July 7, 2010). Thus, the accessible population for this study represents 22% of the target population of all released-time LDS seminary students.
Sample

A sample of 25 LDS seminary classes was drawn from the accessible population of released-time LDS seminary students within the S&I Salt Lake East, West, and South areas. From this sample of 25 released-time LDS seminary classes, a total of 563 LDS seminary students volunteered to participate and completed surveys for this study. Prior to obtaining this sample, permission was sought and granted from the Seminaries and Institutes of Religion Research Committee to select 25 classes and survey at least 500 LDS seminary students for this study (see Appendices B and C).

According to the statistical software package G*Power 3.1.0, a sample size of 500 participants provides robust power for the statistical methods proposed in this study. To test hypothesis #1 regarding the correlation between LDS seminary student oral participation and perceived in-class spiritual experiences, a power analysis suggests a sample size of 115 participants for a one-tail directional test with a moderate correlation of .30 to obtain a power of .95. To test hypothesis #2 concerning oral participatory predictor variables of perceived in-class spiritual experience of LDS seminary students, power analysis for a multiple regression of ten predictor variables at a medium effect size of .15 requires a sample size of 172 participants to obtain .95 power. For hypothesis #3 testing for significant differences of perceived in-class spiritual experiences between low, medium, and high oral participating LDS seminary students, a .95 power analysis for an ANOVA with three groups seeking a medium effect size of .25 requires a sample size of 252 participants.
Participants

Participants for this study were released-time LDS seminary students in grades 9-12, between the ages of 14-18 years old, enrolled in released-time LDS seminary classes taught by full-time professional LDS seminary teachers in the S&I Salt Lake Valley East, West, and South areas. Of the participants who reported their age, there were 88 fourteen year olds, 146 fifteen year olds, 131 sixteen year olds, 117 seventeen year olds, and 41 eighteen year olds included in the sample (40 participants did not report their age). There were 255 male and 269 female participants (39 participants did not report their gender).

The 563 study participants were drawn from 25 separate released-time LDS seminary teachers’ classrooms, at 20 different LDS seminaries throughout six Utah school districts in the S&I Salt Lake Valley East, West, and South S&I areas. All study participants were taught by full-time S&I teachers in a released-time seminary class setting. All participants in selected teachers’ classes voluntarily agreed to participate in this research study. Prior to participating the researcher explained to participant students the nature, purpose, possible risks and benefits associated with this study, and answered any questions about the research raised by participants. In accordance with direction from Utah State University’s Institutional Review Board, participant students were sent home with a Letter of Information to be given to their parents explaining the nature, purpose, possible risks and benefits associated with this study, and the reason for their student’s selection to participate in this study (Appendix D).

Selection

Full-time LDS seminary teachers within the S&I Salt Lake Valley East, West, and
South areas were randomly selected to obtain permission to survey released-time LDS seminary students in one class of each randomly selected teacher. Through personnel directories available to the researcher, each full-time LDS seminary teacher in the S&I Salt Lake East, West, and South areas was assigned a number within his or her respective S&I area. There were 44 full-time S&I teachers in the S&I Salt Lake East area, 66 teachers in the S&I Salt Lake West area, and 78 teachers in the S&I Salt Lake South area. Using a random number generator at www.random.org, eight LDS seminary teachers were randomly selected from the S&I Salt Lake Valley East area, eight LDS seminary teachers were randomly selected from the S&I Salt Lake Valley West area, and nine LDS seminary teachers were randomly selected from the largest of the three S&I Salt Lake areas, the S&I Salt Lake Valley South area. Selecting similar numbers of classes from each of the three accessible S&I areas helped ensure a broad range of participants from LDS seminaries in urban, suburban, and rural schools, thus helping to provide representative ethnic and socio-economic backgrounds of LDS seminary students within the sample and target population. This selection process helped mitigate bias toward any one particular ethnic group or social class and makes findings more applicable and representative of the diverse students within the target population of LDS released-time seminary students.

The 25 randomly selected released-time LDS seminary teachers were contacted by the researcher via e-mail to gain consent to survey one released-time LDS seminary class for this study (Appendix E). The mean years of full-time teaching experience with S&I for randomly selected LDS seminary teachers was 9.6 years, with the newest teacher having one year of full-time teaching experience and the most seasoned having 35 years
of full-time teaching experience with S&I. Each randomly selected LDS seminary teacher’s seminary principal and area director were also contacted for permission to survey students in selected classes. Upon receiving e-mail consent from the randomly selected teacher, the researcher contacted the teacher to arrange a convenient time to survey students from one of the teacher’s seminary classes. In cases where the randomly selected S&I teacher taught more than one released-time LDS seminary class, a class was selected based upon scheduling convenience and availability between the selected teacher and the researcher. Although classes were conveniently scheduled, the researcher maintained an equal distribution of participant class periods throughout the school day to ensure findings remained generalizable to LDS released-time seminary classes that begin and end at varied time periods. Of the conveniently scheduled classes, 12 released-time LDS seminary classes were morning classes between 7:00 am-11:00 am, and 13 classes were afternoon classes between 11:00 am-3:00 pm. Seven surveyed classes were held during the first period/quarter of the school day (7:00 am-9:00 am), five classes during the second (9:00 am-11:00 am), seven classes during the third (11:00 am-1:00 pm), and six classes during the fourth (1:00 pm-3:00 pm).

Data Collection

To obtain necessary data regarding student oral participation and perceived spiritual experience, students in participating classes were administered a short self-report survey (Appendix A) during the last 10 minutes of their seminary class period. The researcher entered participating LDS seminary classrooms during the last 10-15 minutes of class just prior to the survey being conducted, thus helping to mitigate “observer
effect” (Gall, Gall, & Borg, 2007, p. 273) on students’ natural in-class oral participation and perceived spiritual experience. Before administering the survey, the researcher provided brief instructions to each participating class, stating the purpose, potential risks, benefits, and voluntary nature of participating in this research study. The researcher emphasized to participants that survey answers were completely anonymous, would be kept confidential, would not get participants in trouble, influence the students’ grades, nor affect their teacher’s job in any way. Participating students were also encouraged to answer questions as honestly and accurately as possible, and were reminded that survey answers should be based solely on the student’s experience and participation in class on the day surveyed. After these brief instructions, surveys were distributed to and completed by participant students. The researcher stood unobtrusively silent at the front of class while survey questions were answered and turned in by participants in a private manila folder placed at the front of the class. All classes were surveyed and data collected between 11/22/10 and 12/10/10.

There is evidence that some self-report surveys can produce unreliable data and therefore invalid results (Anderson, 1981; Morsbach & Prinz, 2006; Richardson, 2004). Self-report items that are unclear, ask respondents to recall behaviors in the distant past (Morsbach & Prinz, 2006), or pressure participants to edit responses for social desirability can contribute to unreliable self-report information (Anderson, 1981). However, as Anderson (1981) details, self-report is one of only two general ways to gather affective data (p. 74), and therefore is acceptable for this study of an affective characteristic such as perceived spiritual experience. To limit misinformation from self-report surveys, researchers recommend procedures such as providing respondent
anonymity, lack of perceived social reward, avoiding vague or complex survey item language, using retrieval cues to spur memory, and validating self-reports with third party observation (Anderson, 1981; Morsbach & Prinz, 2006; Richardson, 2004). These recommendations were followed and implemented in the present study. Participant responses were completely anonymous, as no student names or identifiers were used in this study. Survey instructions reviewed at the top of each participant’s survey reminded students that their responses “will not get you or your teacher in trouble nor affect your teacher’s job,” thus helping to mitigate self-report misinformation for social desirability. Also, providing participant students with the retrieval cue, “In today’s class…” on each survey item lessened self-report misinformation by helping students to recall and focus on experiences of the present class period and not class periods in the distant past. Additionally, survey item language was developed and tested with a sample population focus-group to ensure age appropriate language and assist in survey item clarity and understandability. Last, as described later in the validity section of this chapter, pilot-study student survey responses regarding amounts of oral participation were validated through third party researcher observation to ensure survey instrument accuracy of self-reported in-class oral participation. Each of these factors helped to mitigate unreliable data that could result from the self-report survey instrument used in this study.

**Instrumentation**

The researcher sought an existing survey instrument to acquire desired data to conduct this research. However, no previously established survey instruments were available to provide specific measures of in-class student oral participation and perceived
spiritual experience according to LDS theology. Therefore, a survey instrument to collect desired data for this study was created and validated by the researcher. Survey instrumentation for this study was developed using approved methods as outlined in *Educational Research* (Gall et al., 2007), *Assessing Affective Characteristics in Schools* (Anderson, 1981), *Survey Research Methods* (Fowler, 1993), *Handbook of Survey Research* (Rossi, Wright, & Anderson, 1983), and an article by Covert (1977) entitled *Guidelines and Criteria for Constructing Questionnaires*.

**Validity**

The *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999) defines validity as the “degree to which evidence and theory support the interpretation of test scores entailed by proposed uses of tests” (p. 9). Validity is a unitary concept based on multiple areas of evidence (Gall et al., 2007; Linn & Gronlund, 2000). The following areas demonstrate validity-related evidence for the survey instrument developed for this research study.

**Content-related evidence.** Content validity for the spiritual experience survey items was established from the following list of “functions of the Holy Ghost [spiritual experience] that are directly related to gospel teaching and learning” (p. 12) published in the LDS Church’s official handbook *Teaching the Gospel: A Handbook for CES Teachers and Leaders*:

- He [The Holy Ghost] bestows the ‘fruits of the Spirit,’ which include such things as joy, love, peace, patience, and gentleness.
- He gives the ‘gifts’ of the Spirit [such as the working of miracles, visions, healings, revelation, and prophecy].
- He allows a person to speak with authority and boldness.
- He testifies to the truthfulness of God and other gospel principles.
- He helps us discern the thoughts or intents of others.
- He gives us truth, knowledge, insights, understanding, and enlightenment.
- He can bring ideas, concepts, or principles back to remembrance.
- He can inspire a person in what to say in the very hour it is needed.
- He brings sanctification and remission of sins.
- He can carry truth to the hearts of people and soften them.
- He can enhance a person’s skills and abilities to perform a task.
- He sometimes either constrains (impels forward) or restrains (holds back).
- He edifies (lifts or builds spiritually) both the teacher and the student.
- As one of his titles implies, he gives comfort. (CES, 2001, pp. 12-13)

These statements from *Teaching the Gospel* (CES, 2001) provided the foundational constructs to write survey items intended to measure the outcome variable of LDS seminary students’ perception of in-class spiritual experience according to LDS theology. Table 2 demonstrates how each of the 14 foundational *Teaching the Gospel* (CES, 2001) statements was represented in the survey instrument developed for this study.

Independent variable items of self-reported student in-class oral participation were derived from LDS seminary class observations, LDS seminary student focus group interviews, and content area expert feedback. The primary construct in the development of the oral participation items was the answer to the following question: In what ways do LDS seminary students most commonly orally participate in LDS seminary classes? The following 10 items formed the definition of LDS seminary student oral participation for this study and are represented in the survey instrument designed to measure in-class oral participation as follows:

- In today's class I sang a song out loud…
- In today's class I prayed out loud…
- In today's class I read/recited something out loud…

...
Table 2

Survey Items Developed from Teaching the Gospel “Functions of the Holy Ghost”

<table>
<thead>
<tr>
<th>Teaching the Gospel statement</th>
<th>Survey item question</th>
</tr>
</thead>
</table>
| He [The Holy Ghost] bestows the ‘fruits of the Spirit,’ which include such things as joy, love, peace, patience, and gentleness. | Question #2: In today’s class I felt joy.  
Question #1: In today's class I felt God's love for me.  
Question #9: In today’s class I felt gratitude toward God.  
Question #5: In today's class I felt peace of mind.  
Question #7: In today's class I felt a desire to be more patient.  
Question #12: In today's class I felt a desire to treat others kindly.  
Question #13: In today's class I felt a desire to forgive others. |
| He gives the ‘gifts’ of the Spirit.                                                            | Question #20: In today's class I felt the influence of the Holy Ghost.                 |
| He allows a person to speak with authority and boldness.                                      | Question #11: In today's class I felt confidence to speak to others about the gospel.  |
| He testifies to the truthfulness of God and other gospel principles.                          | Question #19: In today's class my belief in Jesus Christ was strengthened.              |
| He helps us discern the thoughts or intents of others.                                        | Question #17: In today's class I was able to more clearly see right from wrong in the world.  
Question #14: In today's class I was helped to see the divine worth of others.                |
| He gives us truth, knowledge, insights, understanding, and enlightenment.                     | Question #16: In today's class my understanding of gospel truths increased.             |
| He can bring ideas, concepts, or principles back to remembrance.                             | Question #15: In today's class I was reminded of things I believe are true.              |
| He can inspire a person in what to say in the very hour it is needed.                         | Question #11: In today's class I felt confidence to speak to others about the gospel.  |
| He brings sanctification and remission of sins.                                               | Question #6: In today's class I felt a desire to repent of my mistakes.               |
| He can carry truth to the hearts of people and soften them.                                  | Question #8: In today's class I felt a desire to be more obedient to God's commandments.  |
| He can enhance a person’s skills and abilities to perform a task.                             | Question #18: In today's class my ability to understand the scriptures was enhanced.  |
| He sometimes either constrains (impels forward) or restrains (holds back).                   | Question #10: In today's class I felt prompted to do something good.                   |
| He edifies (lifts or builds spiritually) both the teacher and the student.                    | Question #4: In today's class I felt uplifted.                                         |
| As one of his titles implies, he gives comfort.                                               | Question #3: In today's class I felt comforted.                                        |
In today's class I answered a question out loud…
In today's class I asked my teacher a question…
In today's class I explained something about the gospel to others…
In today's class I shared an experience from my life with others…
In today's class I testified to others by expressing my belief in something…
In today's class I discussed what we were learning in partners/groups…
In today's class I stood up front and taught the class…

Content area experts. Initial survey items were developed in conjunction with three of the researcher’s S&I faculty colleagues. After multiple revisions of survey items, drafts were sent to 13 content experts for their review and suggested input. These content experts were purposefully chosen because of their LDS theological knowledge, understanding of LDS seminary student oral participation, and LDS seminary teaching expertise. This group consisted of LDS seminary and institute teachers and administrators who have a combined 140 years of experiences with S&I. The least experienced teacher had four years of professional teaching within S&I, and the most seasoned had 24 years experience. A survey (Appendix F) was sent to each of these 13 content area experts for feedback in the following areas: to ensure that spiritual experience survey items were consistent with LDS theology, that survey items accurately represented the list of the functions of the Holy Ghost as outlined in the S&I handbook Teaching the Gospel (CES, 2001) from which they were based, and to receive input on survey items measuring student in-class oral participation. All 13 content area expert surveys were returned. However, three of the 13 surveys did not answer the scale questions regarding the representativeness and accurateness of spiritual experience survey items. Of the 10 content experts who did respond, 90% said that the survey items were a “very accurate” description of the spiritual experience items on pages 12-13 of the Teaching the Gospel (CES, 2001) handbook, and 10% said “accurate.” Additionally, content area experts
provided suggestions on proposed in-class oral participation items and survey item language.

**Student focus groups.** Another key component to validating survey items was feedback from an LDS seminary student focus group. A convenience sample of 15 students from the accessible population met with the researcher to review each proposed survey item in detail. Focus group students ranged in ages from 14 to 18 years old. There were 10 males and five females. Eleven of the students were Caucasian, three were Pacific Islanders, and one was Latino. Four students spoke languages other than English as the primary language in their home. Students in the focus group were given the survey items without the associated Likert scale and instructed to write in their own words what they interpreted each item to mean. Additionally, focus group students were asked to identify which survey items were unclear or confusing, and which items seemed to be repetitive or asking similar questions as other survey items. After independently writing their interpretation of the meaning of each item and noting items which were unclear or redundant, focus group participants discussed their answers as a whole group with the researcher. Based on feedback and data collected from this focus group, survey items were adjusted and improved for clarity.

**Construct-related evidence.** An exploratory factor analysis was conducted on the 20 perceived spiritual experience survey items and the 10 in-class student oral participation items to establish construct validity. One purpose of factor analysis is to validate a measurement scale by demonstrating that its items load (or intracorrelate) at a sufficient level (.30) on the same factor, and do not cross-load onto another unintended factor (Brown, 2006; Thompson, 2004). The survey instrument developed for this study
loaded acceptably on the two intended factors of spiritual experience items (loadings between .75 to .44) and oral participation items (.81 to .30). There were two spiritual experience survey items cross-loading on the oral participation factor, but both were relatively low (.33 and .41) and less than their loading onto the principal factor. One oral participation factor loaded on the spiritual experience survey item factor at a higher level than its intended factor. All other factors loaded acceptably at a .30 level on their intended factor (see Appendix G). It was determined to leave these few cross-loading items not only because of the higher loading on the principal factor and relatively low cross-load, but more importantly because keeping the spiritual experience items was deemed necessary by the researcher to maintain content validity with the list of roles and functions of the Holy Ghost as outlined in Teaching the Gospel: A Handbook for CES Teachers and Leaders (CES, 2001).

**Pilot Testing and Student Self-Report Reliability**

Upon survey item refinement from content expert and participant focus group feedback, a pilot study was conducted with 85 students in four separate classes at West High LDS seminary in Salt Lake City, Utah. Each of the 85 pilot-study participants was unobtrusively observed by the researcher, and the frequency and type of individual student oral participation for each student was recorded. Student self-reports of in-class oral participation from the developed survey instrument were then compared with the students’ observed oral participation as recorded by the researcher. The Pearson correlation coefficient between students’ self-reported in-class oral participation and the researcher’s third party recorded observations of students’ in-class oral participation was
$r = .68$, which was lower than accepted $r = .80$ for the self-reported accuracy desired for this study (Linn & Gronlund, 2000). Therefore, based on the researcher’s observations and feedback from the 85 initial pilot study students, oral participation survey items were refined by the researcher. A second pilot study of 82 different student participants in three separate West High LDS Seminary classes was conducted to establish the reliability of student oral participation self-report data. Once again, each of the 82 pilot study participants was unobtrusively observed by the researcher and the frequency and type of individual student oral participation for each student was recorded. Student self-reports of in-class oral participation from the developed survey instrument were again compared with the student’s observed oral participation recorded by the researcher. The Pearson correlation coefficient between students’ self-reported in-class oral participation and the researcher’s third party recorded observations of students’ in-class oral participation was $r = .82$, thus producing sufficiently reliable self-report oral participation data for this study (Linn & Gronlund, 2000).

**Spiritual Experience Item Internal Consistency**

A final pilot test was conducted with 160 seminary students in eight classes at West High LDS Seminary to test the internal consistency of perceived spiritual experience survey items. Data obtained from this pilot study were entered and analyzed through the software Statistical Processing for the Social Sciences (SPSS) version 17.0. For the internal consistency of the final 20 spiritual experience survey items, SPSS reported high internal consistency, obtaining a Cronbach’s $\alpha = .93$ ($N = 160$). Cronbach’s alpha is a widely accepted statistical measure to demonstrate that survey items are
measuring a unidimensional construct (Gall et al., 2007), such as perceived spiritual experience. Additionally, a correlation matrix was analyzed to determine the inter correlation and independence of each spiritual experience survey item. Statistical correlation analysis showed that most survey items had low inter correlation between \( r = .2 \) and \( r = .5 \), thus displaying desired item independence while still maintaining internal consistency. The highest inter-correlation among the 20 items was \( r = .66 \).

Based upon the high degree of representativeness of the spiritual experience survey items with the foundational Teaching the Gospel (CES, 2001) list (90% of the 13 content experts reported the items as “very accurate”), item refinement through the student-focus group, the intended loadings of the exploratory factor analysis, the high degree of observed and self-reported student oral participation scores \( (r = .82) \), and the high degree of internal consistency (Cronbach’s \( \alpha = .93 \)) with low degree of inter correlation among survey items, it is concluded that the survey instrument developed for this study produced scores that were reliable and from which valid conclusions about the relationship between LDS seminary student oral participation and perceived in-class spiritual experiences could be drawn.

**Analysis**

Data obtained via participant survey responses regarding self-reported in-class spiritual experience and in-class oral participation were entered into SPSS 17.0 for statistical analysis. Numerical values to Likert survey responses of self-reported perceived spiritual experience items were assigned as follows:

1 point = strongly disagree
2 points = disagree
3 points = not sure
4 points = agree
5 points = strongly agree

A total perceived spiritual experience score for each participant was calculated by combining the numerical value of each response for the 20 perceived spiritual experience survey items. Thus, the highest perceived spiritual experience score a participant could receive was 100 (20 x 5) and the lowest was 20 (20 x 1). In the few cases where a perceived spiritual experience survey item was left blank or skipped by a participant, a middle “not sure” score of 3 was input by the researcher, as it represented the middle value on the 5-point Likert scale of an unsure/unknown answer that neither agreed nor disagreed with the statement left blank. Of the 11,260 total spiritual experience data points (563 participants x 20 survey line items), inputting blank data with a mid-point score of 3 was only done for 27 missing data points (or 0.2% of the total data). Although minimal, this was still necessary to ensure that each participant’s composite score remained comparable to all other scores on the same 20-100 scale totaled from each of the 20 spiritual experience survey line items.

A total in-class oral participation score was calculated for each participant by summing the total number of responses indicated in each of the 10 surveyed oral participatory categories. However, because amounts of self-reported student in-class oral participation were partly affected by differing class lengths of randomly selected LDS seminary classes, the researcher mathematically adjusted participating students’ reported in-class oral participation scores to an equivalent scale of self-reported in-class oral
participation per hour. This mathematically adjusted score was necessary as correlating the frequency of self-reported in-class oral participation from non-equivalent class lengths (such as 45-minute and 90-minute LDS seminary classes) could result in invalid conclusions. This is because participants in a 90 minute LDS seminary class have double the available class time to orally participate as compared to participants in a 45 minute LDS seminary class, while being correlated on the same 20-100 perceived spiritual experience scoring scale. Due to differing school bell schedules, length of randomly selected teachers’ LDS seminary classes for this study were 42, 45, 50, 68, 75, 78, 80, 82, 84, 85, 86, 87, 90, and 94 minutes. The mean class length of all participating LDS seminary classes was 76 minutes. Thus, total self-reported in-class oral participation scores for each participant of varying LDS seminary class lengths were mathematically adjusted by the researcher by dividing the self-reported oral participation score for each oral participation category by the number of minutes in class (class length), and then multiplying it by 60 (reported oral participation/class length x 60) as demonstrated for a 45-minute class in Table 3, and a 90-minute class in Table 4.

Equalizing self-reported in-class oral participation data from differing LDS seminary class lengths in responses per hour enabled data from differing class lengths of randomly selected LDS seminary classes to be more accurately compared and statistically analyzed, thus making findings and conclusions more valid.

Data Analysis

After calculating total scores for perceived spiritual experience and in-class oral participation for each study participant, the following statistical analyses were performed
Table 3

*Example of Equalized “Per Hour” Self-Reported In-Class Oral Participation for a 45-Minute Class*

<table>
<thead>
<tr>
<th>Oral participation category</th>
<th>Actual responses in 45-minute class</th>
<th>Responses per hour score</th>
</tr>
</thead>
<tbody>
<tr>
<td>I sang a song out loud</td>
<td>1</td>
<td>1.33</td>
</tr>
<tr>
<td>I prayed out loud</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>I read/recited something out loud</td>
<td>4</td>
<td>5.33</td>
</tr>
<tr>
<td>I answered a question out loud</td>
<td>3</td>
<td>4.00</td>
</tr>
<tr>
<td>I asked my teacher a question out loud</td>
<td>1</td>
<td>1.33</td>
</tr>
<tr>
<td>I explained something about the gospel to others</td>
<td>2</td>
<td>2.67</td>
</tr>
<tr>
<td>I shared an experience from my life with others</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>I testified to others by expressing my belief in something</td>
<td>1</td>
<td>1.33</td>
</tr>
<tr>
<td>I discussed what we were learning in partners/groups</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>I stood up in front and taught the class</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>16.00</strong></td>
</tr>
</tbody>
</table>

Table 4

*Example of Equalized “Per Hour” Self-Reported In-Class Oral Participation for a 90-Minute Class*

<table>
<thead>
<tr>
<th>Oral participation category</th>
<th>Actual responses in 45-minute class</th>
<th>Responses per hour score</th>
</tr>
</thead>
<tbody>
<tr>
<td>I sang a song out loud</td>
<td>1</td>
<td>.67</td>
</tr>
<tr>
<td>I prayed out loud</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>I read/recited something out loud</td>
<td>4</td>
<td>2.67</td>
</tr>
<tr>
<td>I answered a question out loud</td>
<td>3</td>
<td>2.00</td>
</tr>
<tr>
<td>I asked my teacher a question out loud</td>
<td>1</td>
<td>.67</td>
</tr>
<tr>
<td>I explained something about the gospel to others</td>
<td>2</td>
<td>1.33</td>
</tr>
<tr>
<td>I shared an experience from my life with others</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>I testified to others by expressing my belief in something</td>
<td>1</td>
<td>.67</td>
</tr>
<tr>
<td>I discussed what we were learning in partners/groups</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>I stood up in front and taught the class</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>8.00</strong></td>
</tr>
</tbody>
</table>
to determine findings.

1. Pearson correlation coefficient for research question #1: *What is the relationship between self-reported in-class oral participation and perceived in-class spiritual experiences of LDS seminary students?* Total student in-class oral participation and perceived in-class spiritual experience scores were statistically correlated and analyzed for significance.

2. Multiple regression for research question #2: *Which variables of self-reported in-class student oral participation are significant predictors of perceived student in-class spiritual experiences?* Student oral participation predictor variables were analyzed individually for amounts of explained variance ($R^2$) in the predicted outcome of total perceived in-class student spiritual experience scores.

3. Analysis of variance (ANOVA) for research question #3: *Is there a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students?* Total student in-class oral participation scores were grouped as high (top 20%), medium (middle 20%), or low (bottom 20%) oral participating students. An ANOVA and post-hoc Tukey HSD test were conducted to detect any statistically significant differences in total perceived in-class spiritual experience scores between these three groups.

For all statistical tests data assumptions were checked before statistical analyses were performed, as detailed in Chapter IV. When statistical assumptions were not met, appropriate statistical methods as described in Chapter IV were used to account for or mitigate violations of statistical assumptions.
Summary

The methods outlined in this chapter were designed to obtain and analyze necessary data to investigate the relationship between in-class oral participation and perceived spiritual experiences of LDS seminary students as outlined in this study’s research questions and hypotheses. The target population for this study is all LDS released-time seminary students. The accessible population for this study was released-time LDS seminary students within the S&I Salt Lake Valley East, West, and South areas, which areas represent 22% of the target population of all released-time LDS seminary students. A random sample of 25 LDS seminary teachers was drawn from the accessible population. Based upon scheduling convenience, one LDS released-time seminary class from each randomly selected teacher was surveyed, resulting in 563 LDS seminary participants who volunteered and completed surveys for this study. Study participants were released-time LDS seminary students from 20 different LDS seminaries in six Utah school districts. Study participants were 14-18 years old in grades 9-12, enrolled in released-time LDS seminary classes taught by full-time professional LDS seminary teachers in the S&I Salt Lake Valley East, West, and South areas.

Data regarding LDS seminary student in-class perceived spiritual experiences and in-class oral participation was gathered through a short self-report survey (Appendix A) developed by the researcher. Participants rated their level of agreement to 20 spiritual experience survey items according to LDS theology, and self-reported amounts of in-class oral participation in 10 various categories. Based on these self-reported data, participant students received a total in-class perceived spiritual experience score, and a
total in-class oral participation score based upon their reported oral responses per hour. The relationship between these scores was statistically analyzed through varying statistical methods, such as correlation coefficients, regression analyses, and ANOVA. Based on participant sample size and selection, survey instrumentation validity related evidence, and procedures regarding data collection and analyses, it is concluded that the methods employed in this study produced reliable data to analyze the relationship between LDS seminary student in-class oral participation and perceived in-class spiritual experiences.
CHAPTER IV
ANALYSIS OF DATA

The purpose of this study was to explore the relationship between LDS seminary students’ in-class oral participation and their perceived in-class spiritual experiences according to LDS theology. Since the release of the *Teaching Emphasis* (CES, 2003), LDS seminary leadership has consistently emphasized the facilitating relationship between student in-class oral participation and desired spiritual outcomes of LDS seminary students. Although some studies indicated the possibility of an association (Hall, 2008; Hawks, 2007; Seastrand, 1996), no known studies to date have gathered and analyzed data specific to varied amounts of LDS seminary student in-class oral participation or perceptions of in-class spiritual experience according to LDS theology to evaluate the relationship between these two variables. Therefore, the objectives of this study were related to obtaining and analyzing data specific to LDS seminary student in-class oral participation and perceived spiritual experience to examine their association.

Self-report data regarding in-class oral participation and perceived spiritual experience according to LDS theology was obtained via survey from 563 LDS seminary students. Participants were from the classes of 25 randomly selected released-time LDS seminary teachers in Salt Lake, Summit, and Wasatch counties in the state of Utah. Data regarding LDS seminary student in-class perceived spiritual experiences and in-class oral participation was gathered through a short self-report survey (Appendix A) developed by the researcher. Based on participants’ answers to 20 in-class spiritual experience survey items on a 5-point Likert scale, participant students received a total score ranging from
20-100 for the dependent variable of perceived in-class spiritual experience according to LDS theology. From self-reported data of 10 independent variable in-class oral participation items, students received a total in-class oral participation score. Final in-class oral participation scores for each participant were adjusted based upon responses per hour in each oral participation category to equalize responses across varied class lengths of participating LDS seminary classes.

The present chapter provides data analysis for each research question regarding the relationship between student in-class oral participation per hour scores and perceived in-class spiritual experience scores in LDS seminary. Research questions and associated hypotheses for this study are first presented, followed by general descriptive data. Following the presentation of descriptive data, data analysis and findings are organized by research question. For each research question and its respective statistical analysis, data assumptions of each statistical procedure will first be presented, followed by the analysis of data and the acceptance or rejection of proposed hypotheses.

**Research Questions and Associated Hypotheses**

The following primary research questions guided data analysis.

1. What is the relationship between self-reported in-class oral participation and perceived in-class spiritual experiences of LDS seminary students?

2. Which variables of self-reported in-class student oral participation are significant predictors of perceived student in-class spiritual experiences?

3. Is there a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS...
seminary students?

Derived from the research questions, the following research hypotheses were tested using data gathered.

H01: There is not a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

H11: There is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

H02: There are no statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.

H12: There are statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.

H03: There is no statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.

H13: There is a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.

Descriptive Data

There were 563 total participants who completed surveys for this study from 25 randomly selected LDS released-time seminary teacher’s classes in 20 different LDS
seminaries throughout six Utah school districts in the Salt Lake Valley East, West, and South S&I areas. There were 255 male participants (49%) and 269 female participants (51%) of those in the sample who reported their age. Male participants reported slightly lower amounts of average total in-class oral participation per hour ($M = 4.67$) than did females ($M = 5.27$) and had a slightly lower average of total perceived in-class spiritual experience (Males, $M = 78.60$; Females, $M = 79.46$). However, there were no significant differences ($p = <.05$) of total in-class oral participation scores by gender (one-way ANOVA, $F(1, 522) = 2.76, p = .096$) nor statistically significant differences in total perceived in-class spiritual experiences scores by gender (one-way ANOVA, $F(1, 522) = .651, p = .420$). Participants ranged in age between 14-18 years old, with the average age of participants being 15.76 years old. Table 5 depicts total in-class oral participation per hour and perceived spiritual experience descriptive data by age.

A one-way ANOVA, $F(4, 519) = .188, p = .945$ indicated no statistically significant differences in perceived spiritual experience scores by age. However, a one-way ANOVA, $F(4, 519) = 5.00, p = .001$ showed significant differences in total in-class oral participation scores by age for LDS seminary students in the sample. A post-hoc Tukey HSD test indicated that 14-year old participants had significantly more ($p = < .05$) total in-class oral participation scores than all other age groups (ages 15, 16, 17, and 18), as can be seen in Table 6.

However, in Tukey HSD post-hoc comparisons between ages 15-18 there were no statistically significant mean differences in total in-class oral participation scores by age.
Table 5

Descriptive Data for Total Oral Participation and Spiritual Experience Scores by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>88</td>
<td>6.52</td>
<td>4.95</td>
<td>21.3</td>
<td>78.68</td>
<td>10.80</td>
<td>53</td>
</tr>
<tr>
<td>15</td>
<td>146</td>
<td>4.43</td>
<td>3.53</td>
<td>22.7</td>
<td>78.77</td>
<td>11.05</td>
<td>51</td>
</tr>
<tr>
<td>16</td>
<td>131</td>
<td>4.84</td>
<td>4.29</td>
<td>23.7</td>
<td>79.62</td>
<td>14.15</td>
<td>20</td>
</tr>
<tr>
<td>17</td>
<td>117</td>
<td>4.83</td>
<td>3.31</td>
<td>14.4</td>
<td>79.38</td>
<td>11.87</td>
<td>64</td>
</tr>
<tr>
<td>18</td>
<td>41</td>
<td>4.32</td>
<td>3.00</td>
<td>11.2</td>
<td>78.51</td>
<td>12.68</td>
<td>44</td>
</tr>
</tbody>
</table>

Table 6

Tukey HSD Results of In-Class Oral Participation Significant Mean Differences by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Comparison group age</th>
<th>Mean difference</th>
<th>Std. error</th>
<th>Sig.</th>
<th>95% CI LL</th>
<th>95% CI UL</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>15</td>
<td>2.083</td>
<td>0.529</td>
<td>0.00*</td>
<td>0.634</td>
<td>3.531</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>1.679</td>
<td>0.540</td>
<td>0.01*</td>
<td>0.199</td>
<td>3.158</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>1.691</td>
<td>0.553</td>
<td>0.02*</td>
<td>0.176</td>
<td>3.205</td>
</tr>
<tr>
<td>18</td>
<td>2.197</td>
<td>0.741</td>
<td>0.02*</td>
<td></td>
<td>0.167</td>
<td>4.226</td>
</tr>
</tbody>
</table>

Note. N = 523.

*CI = confidence interval; LL = lower limit, UL = upper limit.

*p < .05.

Independent Variable Descriptives

Table 7 displays general descriptive data for the 10 independent variable items of LDS seminary student in-class oral participation used in the correlation, regression, and ANOVA statistical analyses for this study.

As demonstrated in Table 7, the most frequent self-reported in-class oral participation variable by participant LDS seminary students was singing a song out loud
Table 7

Descriptive Data for In-Class Oral Participation Independent Variables

<table>
<thead>
<tr>
<th>In-class oral participation variable</th>
<th>M</th>
<th>SD</th>
<th>Variance</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sang a song</td>
<td>0.87</td>
<td>0.72</td>
<td>0.52</td>
<td>5.7</td>
</tr>
<tr>
<td>Answered a question</td>
<td>0.83</td>
<td>1.03</td>
<td>1.07</td>
<td>5.3</td>
</tr>
<tr>
<td>Read/recited something out loud</td>
<td>0.71</td>
<td>0.98</td>
<td>0.97</td>
<td>5.7</td>
</tr>
<tr>
<td>Discussed in partners/groups</td>
<td>0.63</td>
<td>0.89</td>
<td>0.80</td>
<td>5.3</td>
</tr>
<tr>
<td>Explained something about the gospel</td>
<td>0.48</td>
<td>0.77</td>
<td>0.60</td>
<td>5.3</td>
</tr>
<tr>
<td>Asked a question</td>
<td>0.44</td>
<td>0.77</td>
<td>0.59</td>
<td>4.8</td>
</tr>
<tr>
<td>Shared an experience from my life</td>
<td>0.39</td>
<td>0.65</td>
<td>0.42</td>
<td>5.7</td>
</tr>
<tr>
<td>Testified to others</td>
<td>0.33</td>
<td>0.63</td>
<td>0.40</td>
<td>5.3</td>
</tr>
<tr>
<td>Taught the class up front</td>
<td>0.17</td>
<td>0.45</td>
<td>0.21</td>
<td>4.0</td>
</tr>
<tr>
<td>Prayed out loud</td>
<td>0.10</td>
<td>0.32</td>
<td>0.10</td>
<td>3.5</td>
</tr>
</tbody>
</table>

*Note.* In-class oral participation data is based on responses per hour.

(M = 0.87 per hour) and the least frequent was praying out loud (M = 0.10 per hour).

There were notable differences in means for amounts of varied in-class oral participation variables, as some forms of in-class oral participation—such as answering a question out loud (M = .83 instances per hour)—were reported significantly more often by participants than other forms of in-class oral participation, such as testifying to others (M = .33), or up-front teaching (M = .17). The matrix in Table 8 summarizes the significance levels of pairwise *t* tests comparing means of the 10 self-reported aspects of in-class oral participation by LDS seminary students in the sample.

Pairwise comparison *t* tests indicated significant differences (*p* < .05) of reported in-class oral participation means for all but four pairs comparing reported amounts of varying types of in-class oral participation by LDS seminary students sampled.
Table 8  

Significance Level Matrix of Pair Wise Comparisons of In-Class Oral Participation Means

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sang</th>
<th>Prayed</th>
<th>Read</th>
<th>Answered</th>
<th>Asked</th>
<th>Explained</th>
<th>Shared</th>
<th>Testified</th>
<th>Groups</th>
<th>Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sang</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Prayed</td>
<td>.000*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Read</td>
<td>.001*</td>
<td>.000*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Answered</td>
<td>.385</td>
<td>.000*</td>
<td>.023*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Asked</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Explained</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.354</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Shared</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.119</td>
<td>.006*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Testified</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.001*</td>
<td>.000*</td>
<td>.030*</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Groups</td>
<td>.000*</td>
<td>.000*</td>
<td>.097</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Taught</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>.000*</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. Paired samples *t* tests with 95% confidence intervals (*N* = 563).  
*p < .05.

Dependent Variable Descriptives

Table 9 displays descriptive data for the 20 dependent variable items used to calculate total participant perceived in-class spiritual experience scores according to LDS theology.

Histograms of each dependent variable related to perceived in-class spiritual experience displayed slight negative skews, with means above the midpoint of 3.0 on the 5-point Likert scale. Half of the 20 in-class spiritual experience items had means above 4.0, which corresponded to “agree” on the 5-point Likert scale.

Based on participant LDS seminary students’ responses, each participant received a total perceived in-class spiritual experience score and a total in-class oral participation
Table 9

*Descriptive Data for Perceived In-Class Spiritual Experience Dependent Variables*

<table>
<thead>
<tr>
<th>In-class perceived spiritual experience item</th>
<th>M</th>
<th>SD</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt gratitude toward God</td>
<td>4.26</td>
<td>0.80</td>
<td>0.64</td>
</tr>
<tr>
<td>I felt a desire to treat others kindly</td>
<td>4.20</td>
<td>0.76</td>
<td>0.58</td>
</tr>
<tr>
<td>I was reminded of things I believe are true</td>
<td>4.20</td>
<td>0.89</td>
<td>0.79</td>
</tr>
<tr>
<td>I felt a desire to be more obedient</td>
<td>4.17</td>
<td>0.82</td>
<td>0.68</td>
</tr>
<tr>
<td>I felt prompted to do something good</td>
<td>4.16</td>
<td>0.89</td>
<td>0.80</td>
</tr>
<tr>
<td>I felt joy</td>
<td>4.15</td>
<td>0.87</td>
<td>0.76</td>
</tr>
<tr>
<td>I felt uplifted</td>
<td>4.05</td>
<td>0.84</td>
<td>0.71</td>
</tr>
<tr>
<td>I felt God's love for me</td>
<td>4.03</td>
<td>0.82</td>
<td>0.67</td>
</tr>
<tr>
<td>My belief in Jesus Christ was strengthened</td>
<td>4.02</td>
<td>0.92</td>
<td>0.85</td>
</tr>
<tr>
<td>I felt comforted</td>
<td>4.02</td>
<td>0.85</td>
<td>0.72</td>
</tr>
<tr>
<td>My understanding of gospel truths increased</td>
<td>3.97</td>
<td>0.95</td>
<td>0.90</td>
</tr>
<tr>
<td>I was able to more clearly see right from wrong</td>
<td>3.95</td>
<td>0.89</td>
<td>0.79</td>
</tr>
<tr>
<td>I felt the influence of the Holy Ghost</td>
<td>3.94</td>
<td>1.00</td>
<td>0.96</td>
</tr>
<tr>
<td>I felt peace</td>
<td>3.89</td>
<td>0.90</td>
<td>0.81</td>
</tr>
<tr>
<td>I felt a desire to repent of my mistakes</td>
<td>3.88</td>
<td>1.01</td>
<td>1.03</td>
</tr>
<tr>
<td>I felt a desire to forgive others</td>
<td>3.85</td>
<td>0.88</td>
<td>0.78</td>
</tr>
<tr>
<td>I was helped to see the divine worth of others</td>
<td>3.74</td>
<td>0.90</td>
<td>0.81</td>
</tr>
<tr>
<td>My ability to understand the scriptures was enhanced</td>
<td>3.63</td>
<td>0.96</td>
<td>0.93</td>
</tr>
<tr>
<td>I felt a desire to be more patient</td>
<td>3.54</td>
<td>0.99</td>
<td>0.98</td>
</tr>
<tr>
<td>I felt confidence to speak to others about the gospel</td>
<td>3.48</td>
<td>1.10</td>
<td>1.14</td>
</tr>
</tbody>
</table>

*Note.* Data based on a 5-point Likert scale, with 1 = Strongly Disagree and 5 = Strongly Agree.

score. Total perceived in-class spiritual experience scores for sampled LDS seminary students were calculated by combining the numerical values of each response to the 5-point Likert scale for all 20 in-class spiritual experience items, with 20 (20 x 1) being the lowest potential score and 100 (20 x 5) being the highest potential score. Total in-class oral participation scores for each participant were calculated by totaling self-reported data
of 10 in-class oral participation variables transformed into responses per hour as described in Chapter III. Table 10 displays descriptive data for total in-class oral participation scores and perceived spiritual experience scores of the participants.

Data for total in-class oral participation per hour scores were mostly normally distributed, with a positive skew and potential outliers as displayed in the histogram of Figure 2. Total perceived in-class spiritual experience scores for LDS seminary participants were normally distributed with some potential outliers, as demonstrated in Figure 3.

Based on participant survey responses, a Cronbach’s α was calculated in SPSS to verify the internal consistency of the 20 in-class spiritual experience survey items from which students’ total in-class perceived spiritual experience scores were calculated. High internal consistency was confirmed in SPSS, obtaining a Cronbach’s α = .94 (N = 563), nearly identical to the Cronbach’s α = .93 (N = 160) from the pilot study analysis.

**Research Question # 1**

The first research question to be examined from gathered data was: What is the relationship between self-reported in-class oral participation and perceived in-class

| Table 10 |

**Descriptive Data for Total In-Class Oral Participation Responses per Hour and Total Perceived Spiritual Experience Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Variance</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-class oral participation</td>
<td>4.94</td>
<td>4.03</td>
<td>16.20</td>
<td>23.70</td>
</tr>
<tr>
<td>Perceived spiritual experience</td>
<td>79.14</td>
<td>12.42</td>
<td>154.14</td>
<td>80.00</td>
</tr>
</tbody>
</table>

*Note. N = 563.*
Figure 2. Histogram displaying total in-class oral participation scores for participating LDS seminary students ($N = 563$, $M = 4.94$, $SD = 4.03$).

Figure 3. Histogram displaying total in-class perceived spiritual experiences scores for participating LDS seminary students ($N = 563$, $M = 79.14$, $SD = 12.42$). Potential score range was 20-100.
spiritual experiences of LDS seminary students? From this question, the following hypotheses were tested.

H0₁: There is not a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

H₁₁: There is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

The statistical method used to test H₀₁ and H₁₁ was a one-tailed Pearson correlation coefficient (r). The Pearson correlation coefficient determines the direction and magnitude of a relationship between two variables that yield continuous scores (Gall et al., 2007). There are three major data assumptions necessary for the Pearson correlation to accurately determine the direction and strength of a relationship between two variables (Cohen, Cohen, West, & Aiken, 2003; Gall et al., 2007; Gravetter & Wallnau, 2009).

- A linear relationship exists between X and Y.
- Both X and Y are continuous random variables.
- Both variables are approximately normally distributed.

Figure 4 displays the linear relationship between the two variables associated in the present study, LDS seminary student total in-class oral participation scores (X) and LDS seminary student perceived in-class spiritual experience (Y).

The best fit line in Figure 4 and the loess fit line—which line makes no assumptions about the relationship between X and Y and thus is perhaps a better indicator
Figure 4. Scatterplot matrix of LDS seminary student total in-class oral participation scores ($X$) and perceived in-class spiritual experience ($Y$) with best fit line and loess fit line with 60% kernel density plot.

of the true linear relationship between the two variables (Cohen et al., 2003)—both indicated a positive linear relationship between LDS seminary student in-class oral participation and perceived in-class spiritual experience scores, thus meeting the first assumption necessary for Pearson correlation. Also, to meet the second data assumption of Pearson $r$, both variables were continuous random variables, with total scores forming an indefinite number of points along their respective continua ranging from 20-100 for perceived in-class spiritual experience scores ($Y$) and 0-23.72 (max reported) for in-class
oral participation per hour scores ($X$). Last, as previously demonstrated in Figures 2 and 3, data for both variables to be correlated in the present study were approximately normally distributed. Although the distribution for self-reported in-class oral participation was positively skewed, most statistical texts suggest that large sample sizes help mitigate from slight deviations of normality (Cohen et al., 2003; Gall et al., 2007; Gravetter & Wallnau, 2009). The sample size obtained for this study was large ($N = 563$) when compared to the suggested sample size of 115 participants for a one-tail directional test with a moderate correlation of .30 to obtain a power of .95.

Last, Cohen and colleagues (2003) recommend identifying and removing any extreme outliers before performing correlation analysis, as extreme outliers can skew best fit lines determining the relationship between two variables. Through statistical analyses described in detail in the multiple regression assumptions and diagnostics for research question #2, one case (#196) was identified as an extreme outlier that had large influence on the correlation/regression coefficients, and was removed before performing the correlation analyses. Thus, it was determined that all three major data assumptions necessary to perform and accurately interpret the Pearson $r$ correlation coefficient were met to test $H_{01}$ and $H_{11}$ regarding the direction and magnitude of the relationship between LDS seminary student in-class oral participation and perceived spiritual experience.

**Correlation Results**

The Pearson correlation coefficient between LDS seminary in-class oral participation per hour and perceived spiritual experience scores indicated a statistically significant ($p < .01$) positive relationship, obtaining a Pearson $r = .318$ ($N = 562$, $p =$
The explained variance, or coefficient of determination, was \( r^2 = .10 \), or in other words, that LDS seminary student in-class oral participation \( (X) \) explained 10% of the variance in LDS seminary student perceived spiritual experience scores \( (Y) \) in the sample. When examining in-class oral participation variables individually, nine of the 10 variables were significantly correlated \((p < .01)\). Table 11 contains Pearson \( r \) data examining the relationship between each individual in-class oral participatory variable and total perceived in-class spiritual experience scores. Further correlations by age and gender also indicated statistically significant results, as shown in Table 12.

**Correlation Conclusions**

Based on the statistically significant \((p < .01)\) result of the Pearson \( r = .318 \) (one-tailed, \( N = 562 \)) between total in-class oral participation and perceived spiritual experience scores, the following correlations were observed:

<table>
<thead>
<tr>
<th>In-class oral participation variable</th>
<th>Perceived spiritual experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explained something about the gospel</td>
<td>.257**</td>
</tr>
<tr>
<td>Testified to others</td>
<td>.244**</td>
</tr>
<tr>
<td>Read /recited something out loud</td>
<td>.242**</td>
</tr>
<tr>
<td>Answered a question</td>
<td>.191**</td>
</tr>
<tr>
<td>Sang a song</td>
<td>.172**</td>
</tr>
<tr>
<td>Shared an experience from my life</td>
<td>.159**</td>
</tr>
<tr>
<td>Discussed in partners/groups</td>
<td>.134**</td>
</tr>
<tr>
<td>Asked a question</td>
<td>.126**</td>
</tr>
<tr>
<td>Taught the class up front</td>
<td>.102**</td>
</tr>
<tr>
<td>Prayed out loud</td>
<td>.007</td>
</tr>
</tbody>
</table>

*Note. Pearson \( r \) one-tailed tests of significance \((N = 562)\).**

**\( **p < .01.**
Table 12

Correlation of In-Class Oral Participation and Total Perceived Spiritual Experience Scores by Gender and Age Subgroups

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>OP(^a) and PSE(^b) correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>254</td>
<td>.358**</td>
</tr>
<tr>
<td>Females</td>
<td>269</td>
<td>.348**</td>
</tr>
<tr>
<td>14-year olds</td>
<td>88</td>
<td>.344**</td>
</tr>
<tr>
<td>15-year olds</td>
<td>146</td>
<td>.284**</td>
</tr>
<tr>
<td>16-year olds</td>
<td>131</td>
<td>.364**</td>
</tr>
<tr>
<td>17-year olds</td>
<td>117</td>
<td>.443**</td>
</tr>
<tr>
<td>18-year olds</td>
<td>41</td>
<td>.524**</td>
</tr>
</tbody>
</table>

Note. Pearson r one-tailed tests of significance.
\(^a\) = Total in-class oral participation per hour score.
\(^b\) = Total perceived in-class spiritual experience score.
**p < .01.

experience scores, the researcher rejects H0\(_1\) and accepts H1\(_1\), stating that there is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

Research Question # 2

Research question #2 is a question of prediction: Which variables of self-reported in-class student oral participation are significant predictors of perceived student in-class spiritual experiences? Derived from this question are the following null and direction hypotheses:

H0\(_2\): There are no statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.
H1 sub 2: There are statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.

To test which LDS seminary student in-class oral participation variables were significant predictors of perceived in-class spiritual experiences of LDS seminary students, the researcher employed multiple regression statistical analyses. Cohen and colleagues (2003) stated that, “questions about causal impact are generally best answered with regression coefficients” (p. 152). Multiple regression makes prediction based on correlation, and predicts the dependent variable of perceived in-class spiritual experiences according to LDS theology (\( \hat{Y} \)) using the known data of self-reported in-class oral participation of LDS seminary students (\( X_1 \) through \( X_{10} \)) and can designate which of the predictors (\( X \)) are significant predictors of (\( \hat{Y} \)). Additionally, regression analysis also determines how much of the explained variance (\( R^2 \)) the in-class oral participatory predictors account for in the predicted dependent variable of perceived in-class spiritual experience. Multiple regression can also be used to determine the unique semi-partial contribution of each predictor variable in the total explained variance, also called the \( R^2 \) change or \( \Delta R^2 \) (Cohen et al., 2003; Gravetter & Wallnau, 2009).

**Data Assumptions**

Before performing multiple regression statistical analyses it is necessary to analyze the dataset to confirm assumptions. Multiple linear regression analyses involve a variety of assumptions that should be verified and checked, otherwise results can be problematic because of unusual characteristics in the data (Cohen et al., 2003). There are five primary assumptions of linear regression: (a) a linear relationship between the
dependent and independent variables, (b) independence between predictor/predicted values and regression residuals, (c) consistent variance or residuals (homoscedasticity), (d) independence of regression residuals, and (e) normality of regression residuals. To enhance confidence in multiple regression analyses and subsequent conclusions, it is also recommended that researchers examine extreme outliers that can affect accuracy of regression coefficients and subsequent \( R^2 \) statistics (Cohen et al., 2003). Last, predictor variables are to be examined for multicollinearity, as predictor variables too highly intercorrelated can lead to unreliable regression coefficients and excessive standard errors. Inspection of data in each of these areas provides increased confidence in the results of the regression analyses (Cohen et al., 2003). Each of these assumptions and criteria are first examined before presenting analysis of the multiple regression testing \( H_0_2 \) and \( H_1_2 \).

**Linear relationship between dependent and independent variables.** A linear relationship is assumed for each predictor variable and the independent variable for multiple regression analysis. Figure 5 displays this linear relationship between each of the 10 predictor independent variables of in-class oral participation \( (X) \) and the dependent variable of perceived in-class spiritual experience \( (Y) \).

As Figure 5 shows, a linear relationship was demonstrated by the best fit regression line and loess line for each independent variable of in-class LDS seminary student oral participation on the dependent variable of total perceived in-class spiritual experience scores. The only suspect independent variable was *prayed*, as it indicated an almost zero linear relationship with the outcome of perceived in-class spiritual experience. However, data analysis indicated a slight positive linear relationship with \( r = .007 \) and was determined by the researcher to remain in the regression equation for
Figure 5. Scatterplots with regression line and loess line of fit (50% kernel density) depicting the linear relationship between predicted in-class oral participation variables ($X$) and perceived in-class spiritual experience ($Y$) scores of participant LDS seminary students.
content-related validity reasons discussed in Chapter III. Thus, the regression assumption of a linear relationship for each in-class oral participation predictor variable with the dependent variable of perceived in-class spiritual experience according to LDS theology was assumed.

**Independence between predictors/predicted values and residuals.** This assumption for linear regression examines the relationship between the predictor $X$ variables and the residuals of $Y$ and requires them to *not* have a linear relationship. Residuals are the errors, or the “portion of each case’s score on $Y$ that cannot be
accounted for by the regression model” (Cohen et al., 2003, p. 125). Figure 6 displays the correlation between each predictor variable $X$ (in-class oral participation) and the residuals ($Y-\hat{Y}$) of the dependent variable of perceived in-class spiritual experience scores to examine the independence assumption.

As seen in the respective regression line and resultant $R^2$ of the 10 scatterplots depicted in Figure 6, there were no correlational relationships between the predictor variables and the residuals as is normally seen by a directional regression line. In other words, measurement errors (residuals) did not increase or decrease as the independent variables increased on the X-axis, showing no directional or correlational relationship. Thus, the requirement of independence between the predictor variables and the residuals was assumed and met for the regression analyses of this study.

This same zero relationship assumption for multiple regression also applies to the correlation between predicted values ($\hat{Y}$) and residuals ($Y-\hat{Y}$). Figure 7 displays the independence of the predicted values and the residuals. The scatterplot and resultant $R^2$ showed no relationship as indicated by the regression line, thus meeting this criteria for valid multiple regression analysis.

**Homoscedasticity of residuals.** Homoscedasticity implies that distributions of $Y$ scores should have roughly equal variances for any given score across the X-axis. In other words, the spread of $Y$ scores should be consistent across the regression line over the entire range of $X$ scores. Prediction errors (residuals) should not dramatically increase for larger $X$ scores than smaller $X$ scores, and vice versa. Figure 8 shows a scatterplot with good homoscedasticity, as the variance of scores across the X-axis
Figure 6. Scatterplots displaying the independence of each in-class oral participation predictor variable $X$ from the predicted variable (perceived in-class spiritual experience) residuals ($Y-\hat{Y}$).
(Answered as the predictor variable) remained consistent as indicated by the inserted upper and lower bars.

As can be seen in previously displayed scatterplots in Figure 6, most of the 10 in-class oral participation predictor variables used in this regression analysis showed homoscedasticity across the X-axis for the majority of the spread of residual scores. However, a few of the in-class oral participatory predictor variables—such as Explained and Testified—did not display ideal homoscedasticity as variance decreased with
Figure 7. Scatterplots displaying the independence of unstandardized predicted values ($\hat{Y}$) and residuals ($Y-\hat{Y}$).

Increases across the X-axis as shown in Figure 9.

Where there is heteroscedasticity, the estimates of the regression coefficients remain unbiased, but the standard errors, significance tests, and confidence intervals can be incorrect (Cohen et al., 2003). Although some of the predictor variables displayed some heteroscedasticity, it was judged by the researcher that they were not major in their violation of the assumption requiring homoscedasticity. Cohen and colleagues (2003) provide a general rule of thumb for identifying major violations of homoscedasticity of
Figure 8. Scatterplot displaying homoscedasticity of variance in residuals ($Y-\hat{Y}$) across X-axis predictor variable *Answered* (how many times participant students answered a question out loud in class).

variance if the majority of $\hat{Y}$ values increase/decrease 10 points for each increase on the X-axis, which the cases across the X-axis in the predictor variables of *Explained* and *Testified* did not. Thus, homoscedasticity of residuals was considered sufficient for valid results in the standard errors and significance tests indicated in the multiple regression output.

**Normality of residuals.** Multiple regression does not require normal distributions of the dependent and independent variables. However, it does require a normal
Figure 9. Scatterplot displaying some heteroscedasticity of variance in residuals (\(Y - \hat{Y}\)) across X-axis predictor variable Testified (how many times participant students testified in class by expressing beliefs).

distribution of the residuals as shown in Figure 10 for the dataset of the present study, thus meeting this assumption.

**Multivariate outliers.** Outliers can distort results of correlation and regression analyses, but a large sample size helps mitigate the influence that a singular outlier can have on statistical results (Cohen et al., 2003; Gall et al., 2007). Regression diagnostics aid in the detection of outliers or unusual data points that can skew the best predicted regression line. The researcher employed three primary regression diagnostics to identify outliers before performing the regression: leverage, distance, and influence.
Figure 10. Histogram of in-class spiritual experience residuals ($Y - \hat{Y}$), displaying a normal distribution.

Leverage. Leverage statistics are concerned with the independent or predictor variables only. For each participant, a leverage statistic indicates how far from the multivariate mean (or centroid) a particular case deviates, and thus is considered an outlier. Using the recommended cut-off levels for extreme outliers of $+\text{ or } -3.0$ standard deviations from the centered leverage mean as recommended by Cohen and colleagues (2003), 13 of the 563 cases were identified as potential outliers in the predictor variables of in-class oral participation scores.

Distance. The researcher used studentized residual statistics to determine outlier cases in the dependent variable of perceived in-class spiritual experience by LDS seminary students in the present sample. Studentized residual statistics examine the
discrepancy of predicted \( \hat{Y} \) scores from actual \( Y \) scores in terms of standard deviation units to detect potential outliers. Thus, using standardized scores, studentized residual scores above or below 3.0 standard deviations are considered extreme outliers (Cohen et al., 2003). Of the 563 cases, only four cases were identified below -3.0.

**Influence.** Measures of influence combine information from measures of leverage and distance to inform about how the regression equation would change if certain cases were removed from the data set. The researcher examined two measures of influence: Cook’s Distance and DFFIT. Cook’s Distance \( D \) recommends removing outliers with scores over 1.0. Results indicated that there were no cases in the sample with Cook’s \( D \) scores above 1.0. However, it is recommended by Cohen and colleagues (2003) to use a cut-off score for Cook’s \( D \) that corresponds to the critical \( F \)-value in the \( F \)-distribution, with \( \alpha = .50 \) and \( df = (k + 1, N – k – 1) \), or for this regression equation \( F(11, 552) = .941 \). Using \( F = .941 \) there was one outlier with a Cook’s \( D = .994 \) identified as having high influence on the regression equation. Last, the DFFIT statistic identifies outliers with high influence if the outlier exceeds a DFFIT absolute value of 2. Using the rule of + or – 3.0 standard deviations from DFFIT mean statistics, 10 cases were identified as potential outliers.

Case #196 was consistently identified as an extreme outlier by these various diagnostic analyses. It had the highest DFFIT score (-4.49), and was the only case identified that exceeded the cut-off value for Cook’s \( D \) (.994). Therefore, it was determined by the researcher that case #196 would be removed when performing the correlation and regression statistical analyses to minimize this case’s influence on the best fit regression line.
**Multicollinearity.** Multicollinearity implies extensive overlap between predictor variables in the regression equation that can bias regression coefficients, minimizing the accurate potential impact of predictor variables on the dependent variable in the regression analysis. There are three primary indicators of multicollinearity: (a) the squared bivariate correlation of predictor variables, (b) the variance inflation factor (VIF) statistic, and (c) the tolerance statistic (Cohen et al., 2003). Each of these statistics was examined to ensure the data in the present study did not exhibit problems with multicollinearity.

Although there is no firm cut off level for intercorrelation, it is recommended that bivariate correlations among predictor variables above $r = .80$ assume multicollinearity (Cohen et al., 2003). Table 13 displays the correlation matrix between each set of predictor variables used in the regression analysis of this study. As seen in Table 13, none of the predictor variables exceeded $r = .80$, as the highest bivariate correlation

Table 13

*Bivariate Correlation Matrix of LDS Seminary In-Class Oral Participation Predictor Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sang</th>
<th>Prayed</th>
<th>Read</th>
<th>Answered</th>
<th>Asked</th>
<th>Explained</th>
<th>Shared</th>
<th>Testified</th>
<th>Groups</th>
<th>Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sang</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prayed</td>
<td>.079</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read</td>
<td>.161</td>
<td>.039</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Answered</td>
<td>.149</td>
<td>-.020</td>
<td>.247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asked</td>
<td>.166</td>
<td>.008</td>
<td>.142</td>
<td>.332</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explained</td>
<td>.122</td>
<td>.021</td>
<td>.231</td>
<td>.391</td>
<td>.204</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared</td>
<td>.186</td>
<td>.037</td>
<td>.152</td>
<td>.269</td>
<td>.251</td>
<td>.341</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testified</td>
<td>.196</td>
<td>.007</td>
<td>.247</td>
<td>.360</td>
<td>.296</td>
<td>.497</td>
<td>.474</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td>.145</td>
<td>.088</td>
<td>.270</td>
<td>.261</td>
<td>.100</td>
<td>.422</td>
<td>.157</td>
<td>.293</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Taught</td>
<td>.104</td>
<td>.057</td>
<td>.312</td>
<td>.208</td>
<td>.151</td>
<td>.270</td>
<td>.283</td>
<td>.294</td>
<td>.215</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note.* Two-tailed Pearson $r$ correlation coefficients ($N = 563$).
among predictor variables was between Explained and Testified at \( r = .50 \).

A VIF of 10.0 or larger is also evidence of multicollinearity. For the 10 in-class oral predictor variables in the present dataset, the highest VIF obtained was 1.66, far below any VIF cut-off levels of multicollinearity. Similarly, the tolerance statistic indicates the amount of variance in a predictor that is not overlapping with any other predictors and, thus, the higher or closer to 1.0 the better. Any tolerance statistic below .10 indicates multicollinearity. The lowest tolerance statistic in the present set of LDS seminary in-class oral participation predictors was .60, well above the cut off level of tolerance < .10.

Based on these statistics examining the varied assumptions required for accurate multiple regression analysis, it was concluded by the researcher that the present data set met the necessary assumptions to perform and accurately interpret multiple linear regression statistics. Data displayed a linear relationship between the dependent and independent variables, independence between predictor/predicted values and regression residuals, sufficient homoscedasticity, and normality of regression residuals. Also, consistent and problematic extreme outliers were identified and removed from the dataset to minimize bias on the regression line. Last, predictor variables did not violate assumptions of multicollinearity and thus could be safely used in the multiple regression analyses. Additionally, large sample sizes help mitigate violations of assumptions in multiple linear regression (Cohen et al., 2003). As a power analysis for a multiple regression of 10 predictor variables at a medium effect size of .15 required a sample size of 172 participants to obtain .95 power, and as the present study far exceeded this number \( (N = 562) \), it was concluded that the multiple regression analysis could be safely
performed and would yield valid statistical outputs.

**Multiple Linear Regression Results**

Multiple linear regression analyses were performed entering the following 10 in-class oral participation predictor variables ($X_1$ through $X_{10}$).

- **Sang** = How many times participants reported singing a song out loud in class.
- **Prayed** = How many times participants reported praying out loud in class.
- **Read** = How many times participants reported reading/reciting something (usually LDS scripture or statements from LDS Church leaders) out loud in class.
- **Answered** = How many times participants reported answering a question out loud in class.
- **Asked** = How many times participants reported asking their teacher a question out loud in class.
- **Explained** = How many times participants reported explaining something about the gospel (LDS beliefs) to others out loud in class.
- **Shared** = How many times participants reported sharing a personal experience from their life with others out loud in class.
- **Testified** = How many times participants reported expressing their personal beliefs to others out loud in class.
- **Groups** = How many times participants reported discussing in partners or groups with others what they were learning in class.
- **Taught** = How many times participants reported standing up front to teach others in the class.
The dependent variable was student total perceived in-class spiritual experience scores. Table 14 displays the model summary of the multiple regression results. Table 14 indicates that the correlation between actual \( Y \) scores and predicted \( Y \) scores \( (\hat{Y}) \) was \( R = .356 \). Thus, \( R^2 = .127 \), suggesting that the effect size of the 10 in-class oral participation variables entered into the multiple regression equation accounted for 12.7% of the total variance explained in predicted perceived in-class spiritual experience scores from the sample. Due to the large sample size \( (N = 562) \) the more conservative adjusted \( R^2 \) or shrunken \( R^2 \) adjusted for the population was not noticeably different at \( R^2 = .111 \), or 11.1% of the variance explained in predicted perceived in-class spiritual experience scores for the population. The ANOVA table provided with the multiple regression output indicated that the 10 in-class oral participation predictor variables used in the regression equation predicted the outcome of in-class perceived spiritual experience at a statistically significant level \( F(10,551) = 7.999, p = .000 \).

Table 15 provides the regression coefficients examining which particular variables of in-class oral participation significantly predicted perceived in-class spiritual experience scores in LDS seminary participants. Table 15 indicates that four in-class oral

### Table 14

| Model Summary of In-Class Oral Participation Predictors on Perceived In-Class Spiritual Experience Scores of LDS Seminary Students |
|---|---|---|---|---|---|
| \( R \) | \( R^2 \) | Adjusted \( R^2 \) | Std. Error | \( df1 \) | \( df2 \) |
| .356 \(^a\) | .127 | .111 | 11.7 | 10 | 551 |

*Note.* \( (N = 562) \).  
\(^a\) = Predictors: (Constant), Sang, Prayed, Read, Answered, Asked, Explained, Shared, Testified, Groups, Taught. Dependent variable = perceived in-class spiritual experience total score.
Table 15

Multiple Regression Coefficients and Significance Levels for In-Class Oral Participation Predictor Variables on Predicted In-Class Spiritual Experience Scores

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>95% confidence interval for b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>74.031</td>
<td>.889</td>
<td>83.260 83.260</td>
</tr>
<tr>
<td>Sang</td>
<td>1.783</td>
<td>.713</td>
<td>2.501 .013</td>
</tr>
<tr>
<td>Prayed</td>
<td>-.309</td>
<td>1.571</td>
<td>-.197 .844</td>
</tr>
<tr>
<td>Read</td>
<td>2.164</td>
<td>.558</td>
<td>3.880 .000**</td>
</tr>
<tr>
<td>Answered</td>
<td>.589</td>
<td>.567</td>
<td>1.039 .299</td>
</tr>
<tr>
<td>Asked</td>
<td>0.198</td>
<td>.706</td>
<td>.281 .779</td>
</tr>
<tr>
<td>Explained</td>
<td>2.375</td>
<td>.816</td>
<td>2.911 .004**</td>
</tr>
<tr>
<td>Shared</td>
<td>.235</td>
<td>.900</td>
<td>.261 .794</td>
</tr>
<tr>
<td>Testified</td>
<td>1.982</td>
<td>1.010</td>
<td>1.962 .050*</td>
</tr>
<tr>
<td>Groups</td>
<td>-.363</td>
<td>.632</td>
<td>-.575 .566</td>
</tr>
<tr>
<td>Taught</td>
<td>-.955</td>
<td>1.230</td>
<td>-.777 .438</td>
</tr>
</tbody>
</table>

Note. (N = 562).
* p < .05.
** p < .01.

...participation predictors were significant predictors of perceived in-class spiritual experience scores for sampled LDS seminary students at the p < .05 level: Read (p = .000), Explained (p = .004), Sang (p = .013), and Testified (p = .050). The other six independent in-class oral participation variables were not significant predictors of in-class spiritual experience scores.

Table 15 also yields the standardized regression coefficients, or Betas (β). The standardized regression coefficients are helpful in understanding the effect that each predictor variable has on predicted scores. Beta statistics change unstandardized data into standardized Z scores for both the predictor variables X and the predicted Y. Thus,
the standardized regression coefficients indicate how much of an increase in $Y$ that a 1.0-unit change in $X$ would predict in terms of standard deviation unit changes in $Y$. Thus, the $\beta = .148$ for Explained indicates that for a 1.0-unit standard deviation increase in explaining something about the gospel to others, a .148 standard deviation unit increase would be predicted for the dependent variable of perceived in-class spiritual experience. Using descriptive data, this implies that increasing the amount of explaining the gospel to others out loud in class from .482 instances per hour (the mean) to 1.25 instances per hour [$((SD) .773 + (M).482 = 1.25]$ would result in a 1.84 point increase on a total perceived in-class spiritual experience score. Summing all the Beta’s for the predictor variables ($\beta_{X1} + \beta_{X2} + \beta_{X3} \ldots \beta_{X10} = \beta_{total}$) = .525, or in other words that a 1.0 standard deviation unit increase of total in-class oral participation would predict a .525 standard deviation unit increase of perceived in-class spiritual experience. Using descriptive data, the standard deviation of total in-class oral participation per hour was $SD = 4.026$, and the mean was $M = 4.943$. The mean total in-class perceived spiritual experience score was $M = 79.135$, and the standard deviation was $SD = 12.415$. Therefore, an increase of 1.0 standard deviation units of total in-class oral participation from 5.0 instances per hour to 9.0 instances per hour would result in an increase in predicted perceived in-class spiritual experience score from 79.0 to 85.5 [$((M) 79.135 + (SD)12.415 * (\beta_{total}) .525) = 6.51$ point increase in total perceived in-class spiritual experience score].

A forward regression was also performed to determine the relevant individual contribution of each in-class oral participation predictor variable on predicted perceived in-class spiritual experience scores. Forward regression is a stepwise procedure that mathematically enters the predictor variable with the largest correlation with the
dependent variable first. The independent variable that has the next largest partial correlation is then entered, and so on until the procedure stops when there are no variables that meet the entry criterion of a partial correlation explaining any significant portion of the predicted outcome variable. Table 16 displays the results of the forward regression.

The results of the forward regression confirmed that only four predictor variables—explained, read, sang, and testified—explained significant changes ($p < .05$) in predicted perceived in-class spiritual experience scores. Furthermore, the forward regression indicated that these four in-class oral participation predictor variables had an $R^2 = .123$, whereas all 10 of the in-class oral participation predictor variables had an $R^2 = .127$. In other words, the remaining nonsignificant six in-class oral participatory predictor variables explained only $R^2 = .004$, or 0.4% of predicted perceived in-class spiritual experience scores. Explained, Read, Sang, and Testified explained 12.3% of the total 12.7% variance accounted for by all 10 predictors.

Table 16

**Forward Multiple Regression Determining Significant $R^2$ Change Predictor Variables**

<table>
<thead>
<tr>
<th>Predictors</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. error</th>
<th>$R^2$ change</th>
<th>$F$ change</th>
<th>$d_f1$</th>
<th>$d_f2$</th>
<th>Sig. $F$ change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explained</td>
<td>.257</td>
<td>.066</td>
<td>.064</td>
<td>12.004</td>
<td>.066</td>
<td>39.553</td>
<td>1</td>
<td>560</td>
<td>.000</td>
</tr>
<tr>
<td>Explained, read</td>
<td>.317</td>
<td>.100</td>
<td>.097</td>
<td>11.792</td>
<td>.034</td>
<td>21.348</td>
<td>1</td>
<td>559</td>
<td>.000</td>
</tr>
<tr>
<td>Explained, read, sang</td>
<td>.338</td>
<td>.114</td>
<td>.109</td>
<td>11.712</td>
<td>.014</td>
<td>8.720</td>
<td>1</td>
<td>558</td>
<td>.003</td>
</tr>
<tr>
<td>Explained, read, sang, testified</td>
<td>.351</td>
<td>.123</td>
<td>.117</td>
<td>11.664</td>
<td>.009</td>
<td>5.513</td>
<td>1</td>
<td>557</td>
<td>.019</td>
</tr>
</tbody>
</table>

*Note.* Dependent variable = perceived in-class spiritual experience total score.
Table 17 displays the semi-partial (or part) correlations, which provide the uniqueness of each individual predictor after separating out the partial correlations with other predictors. The unique variance explained by each unique predictor is the $\Delta R^2$ change.

Similar to results in Table 16, in-class oral participation predictors *Explained*, *Read*, *Sang*, and *Testified* were the only predictors with significant amounts of unique variance, with the other six predictors accounting for only $\Delta R^2 = .004$, or 0.4% uniqueness in the predicted outcome of perceived in-class spiritual experience for LDS seminary students.

**Multiple Regression Conclusions**

Based on the results of the multiple regression analyses, there were four in-class

### Table 17

*Part Correlation and Delta $R^2$ Change Explaining the Unique Contribution of Each Predictor*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Part correlation</th>
<th>$\Delta R^2$ change</th>
<th>$\Delta R^2$ change sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read</td>
<td>.154</td>
<td>.024</td>
<td>.000**</td>
</tr>
<tr>
<td>Explained</td>
<td>.116</td>
<td>.013</td>
<td>.004**</td>
</tr>
<tr>
<td>Sang</td>
<td>.100</td>
<td>.010</td>
<td>.013*</td>
</tr>
<tr>
<td>Testified</td>
<td>.078</td>
<td>.006</td>
<td>.050*</td>
</tr>
<tr>
<td>Answered</td>
<td>.041</td>
<td>.002</td>
<td>.299</td>
</tr>
<tr>
<td>Taught</td>
<td>-.031</td>
<td>.001</td>
<td>.438</td>
</tr>
<tr>
<td>Taught</td>
<td>-.023</td>
<td>.001</td>
<td>.566</td>
</tr>
<tr>
<td>Groups</td>
<td>.011</td>
<td>.000</td>
<td>.779</td>
</tr>
<tr>
<td>Shared</td>
<td>.010</td>
<td>.000</td>
<td>.794</td>
</tr>
<tr>
<td>Prayed</td>
<td>-.008</td>
<td>.000</td>
<td>.844</td>
</tr>
</tbody>
</table>

*Note. (N = 562).*

* $p < .05$.

** $p < .01$. 
oral participation independent variables—*Read* (*p* = .000), *Explained* (*p* = .004), *Sang* (*p* = .013), and *Testified* (*p* = .050)—that significantly predicted the dependent variable of perceived in-class spiritual experience according to LDS theology. Thus, the null hypothesis (H02) that there are no statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students is rejected, and H12 is retained affirming that there are statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students.

**Research Question #3**

As data from research question #1 indicated a significant relationship between in-class oral participation and perceived in-class spiritual experience of LDS seminary students (*r* = .32, *p* < .01), and as results from research question #2 designated four significant in-class oral participatory predictors of perceived spiritual experience, research question #3 is concerned with the quantity of in-class oral participation’s relationship with perceived spiritual experience: Is there a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students?

H03: There is no statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.

H13: There is a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students.
seminary students.

To investigate question #3 and test H03 and H13, participant LDS seminary students were ranked by self-reported amounts of in-class oral participation and designated as either high (top 20%), medium (middle 20%) or low (bottom 20%) in-class oral participators. Using one-way analysis of variance (ANOVA), perceived in-class spiritual experience mean scores for high, medium, and low oral participating groups were compared for statistically significant differences.

**ANOVA Data Assumptions**

There are three primary assumptions for one-way ANOVA: (a) Independence of observation between samples, (b) a normal distribution of group means, and (c) homogeneity of variance between group means (Gall et al., 2007; Osborne, 2008). Independence of observation implies that samples are independent of one another and participants randomly selected. This assumption is primarily determined by the design of the study. The present study meets the independence of observation as participants’ answers were individual and not dependent upon others in the sample, participants were from randomly selected teachers’ classes, and no repeated-measures from participants were included in the analysis.

The second assumption implies a normal distribution of means. Figure 11 displays histograms with approximately normal curve distributions for each comparable group, thus meeting the assumption of distribution normality.

The third assumption for one-way ANOVA is homogeneity of variance, or equal variances in the standard deviations of each group. This assumption is most commonly
Figure 11. Histograms displaying normal distribution of perceived in-class spiritual experience for high ($n = 113, M = 84.74, SD = 9.841$), medium ($n = 113, M = 80.59, SD = 10.587$), and low ($n = 113, M = 72.21, SD = 13.737$) in-class oral participating groups.

checked through the Levene’s homogeneity of variance statistic ($F_{\text{Levene}}$), which statistic performs an ANOVA on the dependent variable variances within each group, rather than on the means of the dependent variable for each group. An $F_{\text{Levene}}(2, 336) = 6.555, p = .002$ was obtained comparing dependent variable variances between high, medium, and low in-class oral participating groups in the sample. $F_{\text{Levene}}(2, 336) = 6.555, p = .002$ indicated significant differences in variance and non-homogeneity between groups, thus not meeting the third assumption necessary for one-way ANOVA. However, most statistical texts agree that a large sample size and equal group participants in ANOVA help mitigate violations of this assumption, as ANOVA is a robust statistical method and can handle slight deviations from the equal variance assumption (Gall et al., 2007; Gravetter & Wallnau, 2009; Osborne, 2008). The present study had a sample size of $N = 339$, well above the required sample size of 252 participants needed to obtain a .95 power with three comparison groups, and each comparison group had equal number of participants ($n = 113$). Therefore, a traditional one-way ANOVA with post-hoc Tukey HSD test was still performed to test $H_{03}$ and $H_{13}$ for statistical differences in perceived in-
class spiritual experience scores between high, medium, and low in-class oral participation groups. However, non-parametric post-hoc tests for groups with nonequal variances (Tamhane, Dunnett T3, Games-Howell) were also performed to verify any significant findings in the traditional one-way ANOVA Tukey HSD post-hoc test.

**ANOVA Results**

Table 18 displays the one-way ANOVA results testing for significant mean differences of perceived in-class spiritual experience scores between high, medium, and low oral participating LDS seminary students.

The one-way ANOVA indicated a statistically significant difference of perceived in-class spiritual experience scores between high, medium, and low oral participating LDS seminary students ($p = .000$). Table 19 contains the post-hoc Tukey HSD test indicating groups with statistically significant mean differences.

The post-hoc Tukey HSD test indicated significant statistical mean differences in perceived in-class spiritual experience scores between all three groups. The mean dependent variable difference between high oral participating groups and medium oral

Table 18

<table>
<thead>
<tr>
<th>Model</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>9208.926</td>
<td>2</td>
<td>4604.46</td>
<td>34.738</td>
<td>.000**</td>
</tr>
<tr>
<td>Within groups</td>
<td>44535.735</td>
<td>336</td>
<td>132.547</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>53744.661</td>
<td>338</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ($N = 339$).

**p < .01.
Table 19

Post-Hoc Tukey HSD Test of Multiple Comparisons Between Three Oral Participating Groups

<table>
<thead>
<tr>
<th>ANOVA group</th>
<th>Comparison group</th>
<th>Mean difference</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% CI*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>High oral participation</td>
<td>Medium oral participation</td>
<td>4.150</td>
<td>1.532</td>
<td>.019*</td>
<td>.540</td>
</tr>
<tr>
<td></td>
<td>Low oral participation</td>
<td>12.531</td>
<td>1.532</td>
<td>.000**</td>
<td>8.930</td>
</tr>
<tr>
<td>Medium oral participation</td>
<td>High oral participation</td>
<td>-4.150</td>
<td>1.532</td>
<td>.019*</td>
<td>-7.760</td>
</tr>
<tr>
<td></td>
<td>Low oral participation</td>
<td>8.381</td>
<td>1.532</td>
<td>.000**</td>
<td>4.770</td>
</tr>
<tr>
<td>Low oral participation</td>
<td>High oral participation</td>
<td>-12.531</td>
<td>1.532</td>
<td>.000**</td>
<td>-16.140</td>
</tr>
<tr>
<td></td>
<td>Medium oral participation</td>
<td>-8.381</td>
<td>1.532</td>
<td>.000**</td>
<td>-11.990</td>
</tr>
</tbody>
</table>

Note. N = 339.
CI* = confidence interval; LL = lower limit, UL = upper limit.
*p < .05. **p < .01.

participating groups was statistically significant (p = .019) as was the difference between medium oral participating groups and low oral participating groups (p = .000).

Nonparametric post-hoc tests for groups with non-equal variances (Tamhane, Dunnett’s T3, and the Games-Howell test) confirmed similar significance findings as the Tukey HSD post-hoc test. The difference between perceived in class spiritual experiences scores between high and medium oral participating groups was Tamhane p = .008, Dunnett’s T3 = .008, and Games-Howell = .007, and the statistical difference from medium to low oral participating groups was Tamhane p = .000, Dunnett’s T3 = .000, Games-Howell = .000, confirming that although the assumption of homogeneity of variance between groups was not met, the results of the Tukey HSD post-hoc were still valid.
ANOVA Conclusions

Therefore, based on the results of the one-way ANOVA comparing perceived in-class spiritual experience mean differences between high, medium, and low participating LDS seminary students, H03 is rejected and H13 retained, stating that there is a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students, as statistically significant mean differences were found between high to medium ($p = .019$), high to low ($p = .000$), and medium to low oral participating LDS seminary students ($p = .000$).

Data Analysis Summary

Results from the Pearson $r$ correlation suggested a statistically significant relationship between reported in-class oral participation per hour scores and perceived in-class spiritual experience scores ($r = .318$, $N = 562$), thus rejecting H01 and retaining H11 that there is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students. Based on multiple regression analysis results for research question #2, data indicated four in-class oral participation independent variables (Read ($p = .000$), Explained ($p = .004$), Sang ($p = .013$), and Testified ($p = .050$)) that significantly predicted the dependent variable of perceived in-class spiritual experience according to LDS theology. Thus, H02 was rejected and H12 retained, stating that there are statistically significant self-reported student oral participatory variables that predict perceived in-class spiritual experiences of LDS seminary students. Last, based on one-way ANOVA results comparing perceived in-class spiritual experience mean differences between high,
medium, and low participating LDS seminary students, H0₃ was rejected and H1₃
retained, as statistically significant mean differences of perceived in-class spiritual
experience were found between high to medium (p = .019), high to low (p = .000), and
medium to low (p = .000) in-class oral participating LDS seminary students. The
conclusions and practical implications for each of these findings are discussed in detail in
Chapter V.
CHAPTER V
FINDINGS, CONCLUSIONS, AND IMPLICATIONS

The purpose of this chapter is to summarize the findings, conclusions, and practical implications of the present study examining the relationship between LDS seminary students’ in-class oral participation and perceived in-class spiritual experiences according to LDS theology. First, an overall summary of the purpose and methods of the study will be reviewed, followed by findings and conclusions from data analyses. From these findings and conclusions, four specific practical implications for LDS seminary teachers and administrators are explored. Last, the limitations of and suggestions for further research from the findings of the present study are outlined, followed by a final summary conclusion regarding the relationship between LDS seminary students’ in-class oral participation and perceived spiritual experiences.

Study Purpose Summary

Since the release of the *Teaching Emphasis* (CES, 2003), perhaps no pedagogy in LDS S&I has been emphasized more than student in-class oral participation. Of the 41 formal addresses given by S&I leadership since 2003, 41% make mention of the need for student in-class oral participation in the learning process, and 39% link student in-class oral participation’s relationship with desired spiritual experiences of LDS seminary students. LDS theology teaches that personal spiritual experiences are related to cognitive effects of the mind and affective feelings of the heart, as a person is influenced by the Holy Ghost (CES, 2001; *Doctrine and Covenants* 8:2; LDS, 2004b).
Administrators for LDS seminaries theorize that in-class student oral participation has a facilitating relationship with LDS seminary students’ in-class spiritual experiences and desired spiritual outcomes (Anderson, 2006; CES, 2003; Hall, 2009; Kerr, 2007; Moore, 2008; Scott, 2005; S&I, 2009b). Although untested in LDS seminaries, this theoretical premise is supported by findings from research in secular education, as multiple studies indicated a positive relationship between student in-class oral participation and cognitive and affective outcomes in academic settings (Applebee et al., 2003; Berg, 1993; Bradford, 2007; Dallimore et al., 2008; Hess & Posselt, 2002; Morton, 1993; Nystrand et al., 1997, 1998; Pinner, 1997; Russell, 2005; Skinner et al., 1990; Voelkl, 1995).

Additionally, some studies of LDS seminary also confirmed the possibility of a relationship between in-class oral participation and spiritual experiences in LDS seminary and institute classes (Hall, 2008; Hawks, 2007; Seastrand, 1996). However, no known studies to date have collected data specific to varied amounts of LDS seminary student in-class oral participation or perceptions of in-class spiritual experiences to examine their association. Therefore, the purpose of this study was to obtain and analyze data related to LDS seminary student in-class oral participation and perceptions of in-class spiritual experience to more accurately determine their relationship.

Study Methods Summary

Through a self-report survey instrument developed by the researcher (Appendix A), data pertaining to amounts of in-class oral participation and perceived in-class spiritual experience were collected from 563 released-time LDS seminary students. Students were from the classes of 25 randomly selected released-time LDS seminary
teachers, at 20 different LDS seminaries across six school districts in the Salt Lake Valley East, West, and South S&I areas. Students completed the self-report survey during the last 10 minutes of class-time, rating their level of agreement on a 5-point Likert scale to 20 in-class spiritual experience items according to LDS theology. Based upon Likert scale responses, participant students received a perceived spiritual experience score ranging from 20 (low) to 100 (high). Students also self-reported individual amounts of in-class oral participation in 10 different areas. Based on these self-reported amounts of in-class oral participation, students received a total individual in-class oral participation per hour score. The relationship between student in-class oral participation and perceived spiritual experience scores was examined using correlation, multiple regression, and ANOVA statistical analyses.

**Research Findings and Conclusions**

Three primary research questions guided this study.

1. What is the relationship between self-reported in-class oral participation and perceived in-class spiritual experiences of LDS seminary students?

2. Which variables of self-reported in-class student oral participation are significant predictors of perceived student in-class spiritual experiences?

3. Is there a statistically significant difference of perceived in-class spiritual experiences between low, medium, and high self-reporting oral participating LDS seminary students?

From these research questions, the following findings and conclusions were determined.
Research Question #1 Findings and Conclusions

Using Pearson r correlation analysis, a statistically significant positive correlation between self-reported LDS seminary student in-class oral participation and perceived in-class spiritual experience was found ($r = .32$, $p < .01$, $N = 562$, one-tailed). The explained variance, or coefficient of determination, was $r^2 = .10$. Thus, LDS seminary student in-class oral participation explained 10% of the variance in LDS seminary student perceived spiritual experience scores in the sample. Statistically significant correlations with perceived in-class spiritual experience were not only found for total in-class oral participation per hour scores, but also for nine of the 10 individual in-class oral participation variables used to create the total in-class oral participation per hour score (see Table 11 in chapter 4). Based on the statistically significant ($p < .01$) result of the Pearson $r = .32$, the researcher rejected $H_0$ and accepted $H_1$, stating that there is a statistically significant positive correlation between self-reported in-class student oral participation and perceived in-class spiritual experiences of LDS seminary students.

Research Question #2 Findings and Conclusions

Multiple regression analyses were used to determine which variables of in-class oral participation were significant predictors of perceived in-class spiritual experience according to LDS theology. Results indicated that the 10 in-class oral participation independent variables predicted a significant portion of the variance in the dependent variable of perceived in-class spiritual experiences of LDS seminary students, $F(10,551) = 7.999$, $p = .000$, with an $R^2 = .127$. In other words, the 10 in-class oral participation
predictor variables explained 12.7% of the total variance in predicted in-class spiritual experience scores. However, only four of the 10 in-class oral participation predictor variables were found to be statistically significant predictors at the $p < .05$ level: read ($p = .000$), explained ($p = .004$), sang ($p = .013$), and testified ($p = .050$). Using forward multiple regression analysis, data indicated that these four predictors alone accounted for 12.3% of the total 12.7% variance in predicted in-class spiritual experience scores. The other six independent in-class oral participation variables were not significant predictors of in-class spiritual experience scores, combining for only 0.4% of the dependent variable variance. As data indicated four in-class oral participation variables were significant predictors of in-class spiritual experience scores, H02 was rejected and H12 retained, stating that statistically significant self-reported student oral participatory variables exist that predict perceived in-class spiritual experiences of LDS seminary students.

**Research Question #3 Findings and Conclusions**

The third research question investigated whether greater amounts of total in-class oral participation predicted significantly higher perceived in-class spiritual experience scores than lesser amounts of total in-class oral participation by LDS seminary students. Based on self-reported total in-class oral participation scores, student participants were designated as either high (top 20%), medium (middle 20%), or low (bottom 20%) in-class oral participators. Using ANOVA and post-hoc Tukey HSD analysis, average perceived in-class spiritual experience scores for each of these three groups were compared to detect any statistically significant mean differences. The ANOVA found significant differences, $F(2, 336) = 34.738, p = .000$, between group means, with the post-hoc Tukey
HSD indicating statistically significant mean differences in perceived in-class spiritual experience scores between high to medium ($p = .019$), high to low ($p = .000$), and medium to low oral participating LDS seminary students ($p = .000$). Thus, $H_{03}$ was rejected and $H_{13}$ retained stating that statistically significant mean differences of perceived in-class spiritual experiences exist between low, medium, and high self-reporting oral participating LDS seminary students.

**Practical Implications**

Based on the findings and conclusions of the relationship between self-reported in-class oral participation and perceived in-class spiritual experience scores of participating LDS seminary students, the following four major practical implications are concluded:

**Implication #1**

*A statistically significant, moderate practical relationship exists between in-class oral participation and perceived spiritual experience scores of LDS seminary students.*

This first implication—confirming a statistically significant relationship between LDS seminary students’ reported in-class oral participation and perceived spiritual experience —cannot be understated, as the primary purpose of this study was to ascertain if such an association between these two variables even existed. Data from this study confirm for LDS religious educators what previous studies by Hall (2008), Hawks (2007), and Seastrand (1996) only implied, and which S&I administrators have long since promoted: that positive perceived spiritual experiences are significantly related to LDS
seminary student in-class oral participation. For religious educators—and particularly S&I religious educators—who reject oral participative pedagogy’s relationship with desired spiritual outcomes and subscribe to more sermonic pedagogy with claims like, “the Sermon on the Mount was not a cooperative learning experience” (Bull, 2002, p. 164), the data seem to indicate otherwise. Findings from three separate statistical analyses in the present study—correlation, multiple regression, and ANOVA—suggest that LDS seminary students’ oral participation is significantly related to their perceived spiritual experiences in class, and that therefore LDS religious educators should promote in-class student oral participative pedagogy as it has a relationship with desired spiritual objectives. Statements made by LDS seminary administration, such as the following by Kerr (2007), appear to have merit:

> We can also assist in this by helping the students learn to explain, share, and testify and by inviting them to express their understanding and feelings about the principles they have been taught. The more active the learner becomes in the learning process, the greater the likelihood that both the mind and the heart will be penetrated [by the Holy Ghost]. (p. 4)

This finding may also have practical application outside of the limited context of LDS Seminaries and Institutes of Religion to those in academic settings. An $r = .32$ adds further support to existing literature that student in-class oral participation has a positive relationship to both cognitive and affective outcomes. An $r = .32$ indicates that participant LDS seminary students’ in-class oral participation is linked to cognitive outcomes such as increased “knowledge, insights, understanding, and enlightenment” (CES, 2001, p. 12-13), similar to academic studies indicating that students who orally participated in class showed significant gains in factual remembering, knowledge, and understanding on academic tests (Applebee et al., 2003; Berg, 1993; Bradford, 2007;
Morton, 1993; Nystrand et al., 1997, 1998; Pinner, 1997; Russell, 2005). An $r = .32$ also indicates that student in-class oral participation is linked to LDS affective outcomes such as feelings of “joy, love, peace, patience, and gentleness” and “comfort” (CES, 2001, p. 12-13), similar to the academic studies which reported that student oral participation was related to affective outcomes such as school warmth and comfort (Dallimore et al., 2008; Skinner et al., 1990; Voelkl, 1995), and also class enjoyment (Byers & Hedrick, 1976; Hess & Posselt, 2002). Therefore, although this study and its findings primarily operate within an LDS religious education context, the finding that a significant relationship ($r = .32$) exists between LDS seminary student in-class oral participation and positive cognitive and affective outcomes may have application to those seeking similar cognitive and affective outcomes in broader academic settings.

This primary finding has some cautions, however. Although results of the Pearson $r = .32$ correlation coefficient obtained in the present study indicated a statistically significant relationship ($p < .01$) between in-class oral participation scores and perceived in-class spiritual experience scores, the practical significance of that finding is only moderate. Statistical significance “provides only a very pale reflection of the effect size” (Cohen et al., 2003, p. 5). Using the widely accepted standard (Lipsey & Wilson, 2001) of Cohen’s (1988) delineation’s for apprising the practical significance of obtained Pearson correlation coefficient’s in the behavioral and social sciences, $r = .32$ has moderate, or medium, practical significance ($r \leq .10 = \text{small}$, $r = .25 = \text{medium}$, $r \geq .40 = \text{large}$). This notion of the moderate practical finding of $r = .32$ for the relationship between in-class oral participation and perceived in-class spiritual experiences of LDS seminary students is supported by the finding that only 10% of the variance of actual
perceived in-class spiritual experience scores was explained by in-class oral participation scores ($r^2 = .10$). Therefore, although findings from this study support many of the statements made since 2003 by LDS seminary administration regarding the relationship between in-class oral participation and spiritual experience, the practical implication is that this relationship is only moderate and explains but a small percentage of students’ perceived spiritual experience.

Furthermore, none of methods or findings of the present study indicate that in-class oral participation causes in-class spiritual experiences of LDS seminary students. It is understood that correlation does not imply causation (Cohen et al., 2003; Gall et al., 2007; Gravetter & Wallnau, 2009); this is true in the case of in-class oral participation and perceived spiritual experiences. The primary purpose of this study was to verify if a relationship between in-class oral participation and in-class spiritual experiences for LDS seminary students even existed, which relationship was statistically confirmed. However, this finding does not imply that an LDS seminary student’s in-class spiritual experience was caused by his or her in-class oral participation, as causality was outside the scope of this study. One requisite to imply causality is that “$X$ precedes $Y$ in time” (Cohen et al., 2003, p. 64). It is not possible from the data collected or the analyses of the present study to determine which variable precedes the other. Perhaps a student experiencing spiritual experience phenomena is motivated to speak up in class, and thus perceived spiritual experience precedes and causes in-class oral participation, reversing the relationship from the implied $X \ Y$ model of this study. In a previous unpublished, qualitative study conducted by the researcher (Sweat, 2008) exploring the relationship between in-class oral participation and perceived spiritual experience, one LDS seminary student indicated
that spiritual experience can precede and cause oral participation, saying:

> When I want to contribute, um, I think I am prompted [by the Holy Ghost] to contribute. … There is almost this burning in me that says, “Oh share that.” … When you feel prompted to raise your hand and share an experience, I think that is the Spirit prompting you to do it. (p. 18)

Or, perhaps there is a third confounding variable (or more) which determines both the amount of in-class oral participation and perceived spiritual experiences of LDS seminary students. One study related to LDS seminary indicated that measures of LDS seminary teachers’ effectiveness—from a student’s perspective—were mostly measures of rapport, or the level of warmth in the relationship between teacher and student (Rogers, 2005). Rapport, or perhaps another factor, could be a confounding variable that mitigates both in-class oral participation and perceived spiritual experience. Overall, caution from this first implication is advised to teachers and administrators in LDS seminary to not interpret a moderate correlation of \( r = .32 \) to suggest that in-class oral participation causes the in-class spiritual experiences of LDS seminary students.

Generally only an experimental study between a control and treatment group can determine causality (Gall et al., 2007), which idea is explored later in this chapter as one of the suggestions for further research.

**Implication #2**

*There is much more to perceived in-class spiritual experience than only in-class oral participation.*

Of note from the multiple regression analysis was the finding that in-class spiritual experience predicted 12.7% of a student’s perceived in-class spiritual experience \( (R^2 = .127) \). This means that 87.3% of an LDS seminary student’s predicted perceived in-
class spiritual experience is explained by unaccounted variables other than the 10 in-class oral participation predictor variables examined in this study. For S&I, this finding is important, as student in-class oral participation is among the single most sounded pedagogical notes by LDS seminary administration since the release of the *Teaching Emphasis* (CES, 2003). As indicated in this study’s review of literature, 41% of all published addresses given by S&I leadership since 2003 specifically mentioned the need for student in-class oral participation in the learning process, and 39% of the addresses linked oral participation, such as “explain, share, and testify” (CES, 2003, p. 1) to desired spiritual outcomes. However, data from the multiple regression analysis indicated that the greater percentage (87.3%) of an LDS seminary student’s predicted perceived spiritual experience wasn’t accounted for by oral participative measures such as explaining, sharing, and testifying of gospel doctrines and principles. This is a significant finding with practical implications for LDS seminary teachers or administrators who focus mostly on in-class oral participative pedagogy to help achieve desired spiritual outcomes. [Note: this finding does not take into account the relationship that hearing other students’ oral participation has with individual seminary student’s perceived spiritual experience scores. Seastrand (1996) found that hearing other students express testimony was among the most common elicitors of spiritual experience for LDS seminary students, and thus hearing other students testify could account for some of the unexplained variance in the perceived spiritual experience scores in the present study.]

One irony of this implication is that the *Teaching Emphasis* (CES, 2003) and updated *Teaching and Learning Emphasis* (S&I, 2009a) encourage multiple variables that are theoretically related (by S&I administration) to desired spiritual outcomes in LDS
seminary, but that perhaps are not being given voice as often as “explain, share, and testify” (CES, 2003, p. 1) by S&I administrators and teachers. Some of the variables mentioned in the Teaching and Learning Emphasis (S&I, 2009a) that could account for the other 87.3% of perceived in-class spiritual experience include the classroom environment, teacher and student rapport, the sense of purpose in the class, time spent studying the LDS scriptures, how well the content and context of those scriptures are understood by students, and the relevance and application of what is learned to students’ lives. Additional student level factors that could contribute to perceived in-class spiritual experiences are variables such as journal writing, note taking, quiet time to think and ponder, visual/auditory/tactile learning experiences, levels of mutual trust between fellow students, student internal motivation, student teachability, and—from an LDS theological context—the degree to which an LDS seminary student lives the teachings and standards of the LDS Church, as LDS doctrine suggests that, “as you bring your life in harmony with God’s will, you gradually receive the Holy Ghost” (LDS, 2004b, p. 84; see also Book of Mormon, Helaman 4:24; Doctrine and Covenants 97:17, 121:37).

There may also be teacher level variables—such as lesson preparation, subject knowledge, student expectations, and teaching abilities, or spiritual variables such as the teacher’s beliefs, faith, testimony, and conversion—that influence or contribute to the unaccounted 87.3% variance in perceived spiritual experience scores by sampled LDS seminary students. An address given by S&I Assistant Administrator Webb (2007) suggested multiple potential student and teacher level variables that could influence LDS seminary students’ perceived in-class spiritual experience, stating that, “There are other things we can do to invite the Holy Ghost into the learning experience” (p. 4). Based on
the finding that the 10 in-class oral participation variables in this study explained only
12.7% of predicted in-class spiritual experience, it is recommended that LDS seminary
teachers and administrators find, evaluate, implement, and emphasize additional factors
that account for the 87.3% unexplained variance in perceived in-class spiritual experience
scores, and not focus solely on variables related to student in-class oral participation as
the primary pedagogy related to desired spiritual outcomes.

Implication #3

*LDS seminary students should read, explain, sing, and testify in LDS seminary
classes.*

Of the 10 in-class oral participation variables examined in this study, four
variables were found to be statistically significant predictors ($p < .05$) of perceived in-
class spiritual experience scores. Additionally, these same four variables accounted for
12.3% of the total 12.7% variance explained by the 10 predictors in the multiple
regression analysis. The four significant predictor variables were as follows.

*Read* = How many times participants reported reading/reciting something (usually
LDS scripture or statements from LDS Church leaders) out loud in class.

*Explained* = How many times participants reported explaining something about
the gospel (LDS beliefs) to others out loud in class.

*Sang* = How many times participants reporting singing a song (usually an LDS
hymn) out loud in class.

*Testified* = How many times participants reported expressing their personal beliefs
to others out loud in class.
The other six variables of in-class oral participation that were examined did not independently predict significant amounts of perceived in-class spiritual experience scores, combining for only 0.4% in the explained variance ($R^2$). The implications from this finding are straightforward: LDS seminary teachers should encourage students to read out loud from LDS scriptures and statements from LDS Church leaders, explain LDS doctrines and principles to one another, sing LDS hymns in class, and testify to one another by expressing personal beliefs out loud. The data suggest that if a student participates orally in those four areas, his or her predicted perceived in-class spiritual experience score will be nearly equal to a student who participates in all 10 areas of oral participation measured in this study. This is not to suggest that pedagogy that promotes LDS seminary students to share personal experiences, discuss in partners or groups, or ask and answer questions is unnecessary or ineffective. Some of these statistically insignificant predictors appear to be means to a statistically significant end, as many insignificant predictors had high inter correlation with significant predictors. For example, the predictor variables taught and read had a high inter correlation ($r = .31$), as did groups and explained ($r = .42$), and shared and testified ($r = .47$). These data suggest that LDS seminary teachers often do, and should, use statistically insignificant in-class oral participative variables to facilitate significant in-class oral participative variables. For example, if an LDS seminary teacher asks a student to share something about his or her family out loud in class, that form of oral participation probably won’t predict much of a perceived spiritual experience for the student sharing the experience ($b = .235, p = .794$). However, if the teacher asks the student to share something about his or her family and then also to explain why LDS place such heavy emphasis on the family in their
theology, or to testify why the student personally believes family relationships to be valuable, then a greater perceived spiritual experience would be predicted for that student. Similarly, if a student asks a question \((b = .198, p = .779)\), it is recommended to LDS seminary teachers that instead of directly answering the question for the student, to instead have the student read a verse of LDS scripture \((b = 2.164, p = .000)\) to help with the answer, or to turn the question back to other students in the class to explain something about LDS beliefs \((b = 2.375, p = .004)\), as these methods would predict greater perceived spiritual experiences. Last, singing LDS hymns should continue to be encouraged in LDS seminary classes \((b = 1.783, p = .013)\), and perhaps more often than the traditional once-per-class at the very beginning of LDS seminary classes. For example, if an LDS seminary class was learning about the gospel topic of repentance, a teacher could choose to invite students to sing a hymn about the subject. If singing a hymn is the third strongest significant predictor of perceived in-class spiritual experience, perhaps encouraging LDS seminary students to sing about a gospel subject would do more for their perceived in-class spiritual experience than other methods that might be employed to discuss the subject.

**Implication #4**

*Students have significantly greater perceived spiritual experiences when moving from low to medium to high levels of oral participation.*

The results of the three-group, one-way ANOVA indicated that LDS seminary students who orally participated in class in greater quantities had significantly higher perceived in-class spiritual experience scores than those who orally participated in lesser
quantities. The practical implication from this finding is readily apparent: LDS seminary teachers and administrators should promote pedagogy that encourages student in-class oral participation to move students from low to medium levels of in-class oral participation, and from medium to high levels, particularly in the four areas of in-class oral participation mentioned in implication #3. However, it is notable that the larger statistically significant difference in perceived in-class spiritual experiences scores was obtained between the low-medium oral participating groups ($p < .01$) as compared to the medium-high oral participating groups ($p < .05$). This notable difference is augmented by the fact that the mean in-class oral participation per hour score for the low oral participating group was $M = 0.85$, and the mean for the middle group was $M = 4.01$ instances per hour, indicating there was a difference of only 3.16 instances of reported in-class oral participation per hour that accounted for the $p < .01$ statistical difference in perceived in-class spiritual experience scores between the groups. This is notable when compared to the difference of 7.2 instances of reported in-class oral participation between the medium ($M = 4.01$) and the high ($M = 11.21$) orally participating groups, which resulted in smaller statistical significance ($p < .05$).

This finding suggests that LDS seminary administrators and teachers should encourage LDS seminary students to move from the low to medium in-class oral participating groups. Although only an experimental study can confirm the causal effect of students moving from low to medium levels of in-class oral participation, the ANOVA results of the present study indicated that LDS seminary students who did so experienced significantly ($p < .01$) greater perceived in-class spiritual experiences. Thus, LDS seminary teachers are encouraged to help LDS seminary students to move from low to
medium in-class oral participating groups by facilitating in-class oral participation from once per hour to four times per hour. Students moving from one to four times per hour have significantly greater perceived spiritual experience scores than those who remain at one instance of in-class oral participation per hour, even more so than students improving their in-class oral participation from four times per hour to 11 times per hour (medium to high). The data suggest that if LDS seminary teachers desire students to have significantly greater perceived spiritual experience scores, less amounts are required from low to medium in-class oral participation (three more instances of oral participation per hour)—with greater result—than from medium to high (seven more instances of in-class oral participation per hour). Therefore, it is recommended that LDS seminary teachers and administrators implement pedagogy that facilitate relatively quiet students (less than one instance of in-class oral participation per hour) to increase their in-class oral participation a few more times to three or four instances per hour, as the data indicated statistically significant differences for those who did so. It is also recommended that in helping students increase their in-class oral participation from one to four times per hour, that LDS seminary teachers promote the in-class oral participative variables that most strongly predict perceived in-class spiritual experiences discussed in implication #3, namely read, explained, sang, and testified.

Limitations and Recommendations for Future Research

The findings of the present research study are limited in several aspects, which limitations suggest the need for caution in applying its findings, conclusions, and recommendations. These limitations also serve as foundational stepping-off points for
further research to be conducted related to LDS seminary student in-class oral participation and perceived spiritual experience. Based on these limitations, the researcher suggests the following recommendations for future research as natural extensions of the present study:

**Recommendation #1**

*Replicate the present study in other LDS seminary and institute settings.*

The findings of the present study are limited to the population of LDS released-time seminary students in the Salt Lake East, West, and South S&I areas. Although the sample from this population was relatively large and diversified, this sample represents only 22% of the target population of all released-time LDS seminary students. Replicating this study in other LDS released-time seminary settings from different parts of the country to validate the present study’s findings is recommended. Additionally, almost two-thirds of all LDS seminary students do not participate in a released-time seminary setting (S&I, 2010), but participate in daily seminary settings (early-morning or after-school). It is recommended that the methods of the present study be implemented in a daily seminary setting to determine if the relationship between in-class student oral participation and perceived spiritual experiences are shared in a different environment (usually an LDS chapel or LDS member’s home as opposed to an LDS seminary) at a different time (usually before or after school) with students who are taught by non-professional seminary teachers (usually volunteers).

Also, the *Teaching and Learning Emphasis* (S&I, 2009a) and its desired spiritual outcomes serve as a foundational curricular directive to not only LDS seminary teachers,
but also LDS institute teachers. LDS institutes provide weekday religious education to single and married post-secondary students (generally 18-30 years old). There were 337,352 LDS institute students enrolled in 2010 (S&I, 2010), just under the 363,048 students enrolled in LDS seminary classes. Therefore, as LDS seminary represents only half of the Seminaries and Institutes of Religion program, and as the desired outcome remains consistent between LDS seminary and institute programs, it is recommended that the present study be conducted on the level of LDS institute to determine the relationship between student in-class oral participation and perceived spiritual experience in a post-secondary setting. Data from the present study indicated potential significance in studying this relationship on an LDS institute level, as Pearson $r$ correlation coefficients did not change notably by gender (males $r = .35$, females $r = .34$) but changed notably by age, seeming to increase for older participants (14 year-old $r = .34$, 15 year-old $r = .28$, 16 year-old $r = .36$, 17 year-old $r = .44$, 18 year-old $r = .52$). Additionally, one of the major studies reviewed in the present study was Hall’s (2008) study taken from a large sample of LDS institute students, which results suggested a relationship between in-class oral participation and spiritual outcomes on an LDS institute level.

**Recommendation #2**

*Conduct an experimental study controlling variables related to in-class oral participation.*

Although the present study confirmed a statistically significant relationship between in-class oral participation and perceived spiritual experiences of LDS seminary students, this finding did not imply causation. However, many of the statements made by
S&I leadership suggest a cause and effect relationship, with in-class oral participation being the independent variable and desired spiritual outcomes being the dependent variable. Notice how spiritual outcomes according to LDS theology (such as understanding, testimony, and learning) are preceded by oral participative variables in the following examples.

- Hall (2003): “As [students] learn to explain, share, and testify of the doctrines and principles of the restored gospel, they will come to greater understanding and greater testimony” (p. 1).
- Scott (2005): “As students verbalize truths, they are confirmed in their souls and strengthen their personal testimonies” (p. 3).
- Anderson (2006): “The great teacher…will study and understand how student participation, like teaching and testifying, facilitates learning” (p. 1).
- Hawks (2007): “Students act in faith and invite the Spirit during class by explaining gospel principles to others” (p. 3).

Therefore, as the present study confirmed a statistically significant relationship exists between in-class oral participation and perceived spiritual experiences of LDS seminary students—which finding was heretofore largely undetermined—a logical next step in further evaluating this relationship is an experimental study to help determine causation. The researcher recommends a study with equal control and treatment groups where the control group is taught using standard S&I pedagogy, and treatment groups receive either no/minimal opportunities for in-class oral participation (treatment #1) or a treatment that heavily promotes in-class student oral participation (treatment #2). An experimental study of this nature would help determine the causal relationship between LDS seminary student in-class oral participation and perceived spiritual experiences.
Recommendation #3

Conduct a qualitative study exploring LDS seminary students’ perspectives of the relationship between in-class oral participation and perceived spiritual experiences.

One oft-repeated word in the present study is “perceived”—as in a student’s perceived in-class spiritual experience according to LDS theology. This word implies a logical follow up study, perhaps more qualitative in nature, than the present study and its methods allow: What are LDS seminary students’ perceptions of the relationship between in-class oral participation and in-class spiritual experiences? Interviews and qualitative analysis of LDS seminary students’ answers to the following questions could provide insightful additions to the limited findings of the present study.

1. Previous studies indicate a relationship between a student’s in-class oral participation and perceived spiritual experiences. Why do you think those two items seem to be related? Are they related for you? What has been your experience with how in-class oral participation influences you?

2. Does one cause the other? In other words, do you feel the Holy Ghost after you say something, or does feeling the Holy Ghost cause you to say something, or both?

3. How does testifying of your beliefs influence your in-class spiritual experience? How does hearing other students’ testimony influence your spiritual experience?

4. How does singing hymns influence you spiritually?

5. If oral participation is related to spiritual experience in LDS seminary classes, then why do you think some of the more quiet students still flourish and report high levels of in-class spiritual experience?
As spiritual experience is personal perception, a qualitative study exploring the nature of those perceptions—and their relationship to in-class oral participation—could provide insightful and necessary follow-up data to the findings of the present study.

**Recommendation #4**

*Find and evaluate variables that account for the 87.3% unexplained variance in perceived in-class spiritual experience scores of LDS seminary students.*

Based on the finding that oral participative variables in the present study explained only 12.7% of predicted in-class spiritual experience scores of LDS seminary students, it is recommended that future research finds and evaluates additional factors that account for the 87.3% unexplained variance in perceived in-class spiritual experience scores. Specifically, it is recommended that a study be conducted that evaluates how much explained variance is accounted for by all aspects of the *Teaching and Learning Emphasis* (S&I, 2009a), as the present study primarily only investigates the “explain, share, and testify” (p. 1) portion. The *Teaching and Learning Emphasis* (S&I, 2009a) suggests multiple variables that could contribute to perceived in-class spiritual experience, such as student expectations, the sense of class purpose, the seminary classroom environment, teacher and student rapport, time spent studying the LDS scriptures, how well the content and context of those scriptures are understood by students, the relevance and practical application of what is learned to students’ lives, and mastery of key scriptural passages and basic LDS doctrines (see *Teaching and Learning Emphasis Training Document*, S&I, 2009b). A study that evaluates the overall explained variance in perceived in-class spiritual experience scores by the combined variables
suggested in the *Teaching and Learning Emphasis* (S&I, 2009a) could prove valuable to LDS Seminaries and Institutes of Religion and help identify other leading factors contributing to perceived in-class spiritual experience that are unaccounted for by the findings of the present study.

**Summary Conclusion**

The primary aim of this study was to explore whether or not a positive, significant relationship exists between LDS seminary students in-class oral participation and their perceived spiritual experiences according to LDS theology. Based on results from three separate statistical methods—Pearson $r$ correlation, multiple regression analysis, and ANOVA—the researcher concludes that a statistically significant, positive relationship exists between LDS seminary students’ in-class oral participation and their perceived in-class spiritual experience. The findings indicating this relationship also carry practical significance, as S&I administration has repeatedly emphasized the relationship between LDS seminary students’ in-class oral participation and desired spiritual outcomes, with no known study to date specifically measuring these two variables to confirm their association. The findings of the present study—Pearson $r = .32$, four significant oral participatory predictors of perceived spiritual experience (*Read*, *Explained*, *Sang*, and *Testified*), and significant mean differences of perceived in-class spiritual experience between low, medium, and high oral participating students—appear to validate on a statistically significant level ($p < .05$) what S&I administrators have routinely promoted since the release of the *Teaching Emphasis* (CES, 2003): that LDS seminary students’ perceived in-class spiritual experiences are related to their in-class oral participation.
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APPENDICES
Appendix A

Perceived Student Spiritual Experience and Oral Participation Survey Instrument
# My Experience in Seminary Today

Your honest answers to this survey: (1) will help us better understand your experience in seminary, (2) should be based on your experiences in class TODAY, (3) will be kept anonymous (your teacher will not be able to trace your answers back to you), (4) will not get you or your teacher trouble nor affect your teacher’s job. Thank you for taking the time to provide honest and helpful feedback. This survey would take between 5-6 minutes.

### Part 1 INSTRUCTIONS: Circle the option that best describes how much you agree with each statement below:

1. In today's class I felt God's love for me
2. In today's class I felt joy
3. In today's class I felt comforted
4. In today's class I felt uplifted
5. In today's class I felt peace of mind
6. In today's class I felt a desire to repent of any mistakes
7. In today's class I felt a desire to be more patient
8. In today's class I felt a desire to be more patient
9. In today's class I felt a desire to be more diligent to God's commandments
10. In today's class I felt gratitude toward God
11. In today's class I felt prompted to do something good
12. In today's class I felt confidence to speak to others about the gospel
13. In today's class I felt a desire to treat others kindly
14. In today's class I felt a desire to forgive others
15. In today's class I was helped to see the divine worth of others
16. In today's class I was reminded of things believe are true
17. In today's class my understanding of gospel truths increased
18. In today's class I was able to more clearly see right from wrong in the world
19. In today's class my ability to understand the scriptures was enhanced
20. In today's class I believe in Jesus Christ was strengthened
21. In today's class I felt the influence of the Holy Ghost

### Part 2 INSTRUCTIONS: Circle how many times you participated in each of the following areas in today’s class:

22. In today’s class I sang a song out loud
23. In today’s class I bled out loud
24. In today’s class I read/revived something out loud
25. In today’s class I asked a question out loud
26. In today’s class I asked my teacher a question
27. In today’s class I explained something about the gospel to others
28. In today’s class I shared an experience from my life with others
29. In today’s class I testified to others by expressing my belief in something
30. In today’s class I discussed what we were learning in groups
31. In today’s class I stood up front and taught the class

### Gender, Age, Class ID

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Appendix B

Study Proposal Summary Sent to S&I Education Research Committee
The Relationship between Student Oral Participation and Perceived In-class Spiritual Experiences in LDS Seminary

by

Anthony Sweat

This dissertation study seeks to examine the relationship between student oral participation and perceived in-class spiritual experiences of LDS seminary students. This relationship will be examined by statistically comparing student self-report survey data of in-class spiritual experiences with amounts of student in-class oral participation. The results of this study will have the potential to further inform practice for LDS Seminary teachers and administrators regarding the implementation and effectiveness of oral participatory aspects of the Teaching and Learning Emphasis. The following research questions will be explored in this dissertation study:

1. What is the relationship between student oral participation and in-class spiritual experiences of LDS seminary students?
2. Which variables of student oral participation are significant predictors of student in-class spiritual experiences?
3. Is there a statistically significant difference of in-class spiritual experiences between low, medium, and high oral participating seminary students and classes?

A preliminary pilot study suggests statistically significant positive results to these research questions.

Oral participation will be measured by the individual student participatory variables of singing, praying, reading/reciting, answering and asking questions, explaining gospel doctrines or principles, sharing relevant experiences, testifying by
expressing beliefs to others, partner/group discussion, and up front peer-to-peer teaching. Perceptions of in-class spiritual will be obtained through survey items derived from the list of “functions of the Holy Ghost that are directly related to gospel teaching and learning” (p. 12) published in Teaching the Gospel: A Handbook for CES Teachers and Leaders (CES, 2001, p. 12-13). Criterion and content validity for survey items has been established using accepted practices of content expert feedback, student focus groups, pilot testing, and statistical analysis (Cronbach’s alpha and exploratory factor analysis). In pilot studies, average survey completion time is 7 minutes. Requested sample size is 20-25 seminary classes, or roughly 500 individual seminary students to provide robust statistical power. It is requested that sample population be randomly selected from all seminaries within the Salt Lake Valley East, West, and South areas.
Appendix C

S&I Education Research Committee Approval Letter
24 June 2010

Anthony R. Sweat
RT Salt Lake City West
175 North 300 West
Salt Lake City, Utah 84103

Dear Brother Sweat:

The S&I Education Research Committee has approved your research project under the following conditions:

1. The collection of data will be limited to those efforts outlined in your proposal.
2. Any changes to your instrumentation or procedures will be submitted to the committee for approval.
3. You will contact your research subjects and their supervisors well in advance to permit maximum flexibility in managing their schedules.
4. You will obtain S&I approval to publish or present any of your research findings.
5. You will provide S&I with an electronic copy of your research report upon completion of your degree. The copy should be in pdf format and include the signatures on the signature page. Please submit document to: eds-research@ldschurch.org.

We look forward to learning from your research and using it to improve S&I programs.

Sincerely,

[Signature]

Randall Hall
Associate Administrator
Appendix D

Parental Letter of Information
LETTER OF INFORMATION

Student Oral Participation and Perceived Spiritual Experiences in LDS Seminary

Introduction/Purpose: Doctoral student Anthony Sweat and Dr. Scott Hunsaker in the Department of Education at Utah State University are conducting a research study to find out more about the relationship between LDS seminary students’ in-class oral participation and their perceptions of in-class spiritual experiences. Your son/daughter has been asked to take part because his/her LDS seminary class was randomly selected to be surveyed. There will be approximately 25 participants at this site. There will be approximately 500 total participants in this research.

Procedures: If your son/daughter agrees to be in this research study, he/she will be asked to complete an anonymous, one-time, ten-minute survey about his/her experience in an upcoming seminary class. Survey questions ask your son/daughter how many times he/she orally participated in class that day (such as how many times he/she asked the teacher a question, or how many times he/she answered a question out loud) and their level of agreement to statements describing their experience in seminary class that day (such as “In today’s class I felt uplifted” or “In today’s class my belief in Jesus Christ was strengthened”).

Risks: Participation in this research study may involve some added risks or discomforts. These include feelings of discomfort about the amount of oral participation in class, or discomfort about perceptions of in-class spiritual experiences according to the categories surveyed, and whether or not answers to these survey questions will be kept confidential. There is a small risk of loss of confidentiality, but all necessary action to reduce this risk and maintain strict confidentiality will be taken.

Benefits: There are no direct benefits to your son/daughter for participation in this research study. An indirect benefit in the future may be improved teaching in LDS seminary classes as a result of information gathered from this research study.

Voluntary nature of participation and right to withdraw without consequence: Participation in research is entirely voluntary. Your son/daughter may refuse to participate or withdraw at any time without consequence or loss of benefits. If your son/daughter refuses to participate on the day the survey is given to his/her seminary class he/she may leave the survey or any survey questions unanswered without consequence.

Confidentiality: Participant surveys are anonymous. No personal identifiable information will be obtained linking your son/daughter to this research study. Only the investigators will have access to the data which will be kept in a locked file cabinet or on a password protected computer in a locked room.

IRB Approval Statement: The Institutional Review Board for the protection of human participants at Utah State University has approved this research study. If you have any questions or concerns about your rights or research-related injury and would like to contact someone other than the research team, you may contact the IRB Administrator at 435) 797-0567 or email irb@usu.edu to obtain information or to offer input.

Dr. Scott L. Hunsaker, Principal Investigator
435-797-0386; scott.hunsaker@usu.edu

Anthony R. Sweat, Student Researcher
801-378-6683; sweatar@ldschurch.org
Appendix E

Letter of Informed Consent for Randomly Selected Teachers
INFORMED CONSENT
Student Oral Participation and Perceived Spiritual Experiences in LDS Seminary

Introduction/Purpose  Doctoral student Anthony Sweat and Dr. Scott Hunsaker in the Department of Education at Utah State University are conducting a research study to find out more about the relationship between LDS seminary students' in-class oral participation and their perceptions of in-class spiritual experiences. With the approval of the administration of LDS Seminaries & Institutes of Religion we are surveying 25 randomly selected seminary classes and 500 seminary students across the Salt Lake East, West, and South areas. You have been asked to take part because your name was randomly selected to obtain your consent to come and survey the students in one of your seminary classes.

Procedures  If you agree to be part of this research study, Anthony Sweat will contact you to arrange a convenient time to explain the purposes, risks and benefits of this study, and answer any questions you and your students may have about this research. Anthony Sweat will then arrange with you a convenient time to come to your seminary building on another day and administer a one-time, ten-minute, anonymous survey to your seminary class at the end of the class period. The survey to be taken asks students about their oral participation and their perceived in-class spiritual experience on the day they are surveyed, and is attached at the end of this letter. An information letter has been prepared for parents and students will be asked to provide a copy to his/her parent.

Risks  Participation in this research study may involve some added risks or discomforts. These include:
1. Feelings of personal discomfort about students’ perceptions of their in-class spiritual experiences and amounts of oral participation.
2. Feelings of personal discomfort about whether information obtained can be connected to you or affect your professional position positively or negatively.

Benefits  There may or may not be any direct benefit to you from these procedures. The investigator, however, may learn more about the relationship between LDS seminary student oral participation and perceived spiritual experiences in LDS seminary, thus benefiting future teaching and learning within the field of LDS religious education.

Payment/Compensation  There is no payment or compensation for your participation in this study.

Voluntary nature of participation and right to withdraw without consequence  Participation in research is entirely voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits.

Confidentiality  Research records will be kept confidential, consistent with federal and state regulations. Only the investigators will have access to the data which will be kept in a locked file cabinet in a locked room. There is no personal, identifiable information obtained that can be connected to you or your participating students as a result of this research study.

IRB Approval Statement  The Institutional Review Board for the protection of human participants at USU has approved this research study. If you have any pertinent questions or concerns about your rights or a research-related injury, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu. If you have a concern or complaint about the research and you would like to contact
INFORMED CONSENT

Student Oral Participation and Perceived Spiritual Experiences in LDS Seminary

someone other than the research team, you may contact the IRB Administrator to obtain information or to offer input.

Copy of consent You have been given two copies of this Informed Consent. Please sign both copies and keep one copy for your files.

Investigator Statement “I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered.”

Dr. Scott L. Hansaker  
Principal Investigator  
435-797-0386  
scott.hansaker@usu.edu

Anthony R. Sweat  
Student Researcher  
801.578.6683  
sweetar@ldschurch.org

Signature of Participant By signing below, I agree to participate.

Participant’s signature Date
Appendix F

S&I Content Expert Feedback Survey
1. The in-class spiritual experience statements on Part 1 of this survey are adapted from pages 12-13 of *Teaching the Gospel (The Role or Functions of the Holy Ghost)*. How accurate do you feel the survey statements reflect the bullet points listed on pages 12-13?

   Not accurate     Somewhat accurate     Accurate     Very accurate

2. How representative of an average student’s in-class spiritual experience do you feel the statements on the survey are?

   Not representative     Somewhat representative     Representative     Very representative

3. What indicators of a student’s in-class spiritual experience would you add that you feel might be missing?

4. Which spiritual experience statements would you re-word for clarification, and can you provide an example of how you might re-word them?

5. From part 2 of the form, are there any common areas of in-class student verbal participation that are not represented in the verbal participation statements? If so, please list which area of verbal participation you might add:

6. From part 2 of the form, which verbal participation statements would you re-word for clarification, and can you provide an example of how you might re-word it?

7. Are there any other suggestions or comments you have to improve this survey?
Appendix G

Factor Analysis of Spiritual Experience and Oral Participation Survey Items
<table>
<thead>
<tr>
<th>Survey Item (In today’s class…)</th>
<th>Factor 1</th>
<th>Factor 2</th>
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<tbody>
<tr>
<td>my belief in Jesus Christ was strengthened</td>
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<tr>
<td>my ability to understand the scriptures was enhanced</td>
<td>.74</td>
<td></td>
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<tr>
<td>my understanding of gospel truths increased</td>
<td>.73</td>
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<tr>
<td>I felt the influence of the Holy Ghost</td>
<td>.71</td>
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<tr>
<td>I was able to more clearly see right from wrong in the world</td>
<td>.71</td>
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<tr>
<td>I felt a desire to be more obedient to God's commandments</td>
<td>.70</td>
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<tr>
<td>I was reminded of things I believe are true</td>
<td>.67</td>
<td></td>
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<tr>
<td>I felt uplifted</td>
<td>.67</td>
<td></td>
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<tr>
<td>I felt comforted</td>
<td>.65</td>
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<tr>
<td>I felt a desire to forgive others</td>
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<tr>
<td>I felt gratitude toward God</td>
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<td>I felt prompted to do something good</td>
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<td>I was helped to see the divine worth of others</td>
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<td>I felt God's love for me</td>
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<tr>
<td>I felt peace of mind</td>
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<td></td>
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<td>I felt a desire to be more patient</td>
<td>.61</td>
<td></td>
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<tr>
<td>I felt a desire to treat others kindly</td>
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<tr>
<td>I felt joy</td>
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<tr>
<td>I felt a desire to repent of my mistakes</td>
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<tr>
<td>I felt confidence to speak to others about the gospel</td>
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<td>I sang a song out loud</td>
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<td>I discussed what we were learning in partners/groups</td>
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<tr>
<td>I prayed out loud</td>
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<td>I explained something about the gospel to others</td>
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<td>.81</td>
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<tr>
<td>I testified to others by expressing my belief in something</td>
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<td>.77</td>
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<td>I answered a question out loud</td>
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<td>.72</td>
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<td>I stood up front and taught the class</td>
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<td>.70</td>
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<tr>
<td>I read/recited something out loud</td>
<td></td>
<td>.65</td>
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<tr>
<td>I shared an experience from my life with others</td>
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<td>.62</td>
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<tr>
<td>I asked my teacher a question</td>
<td></td>
<td>.36</td>
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Note. Two-factor analysis with items loading above .30 represented.
Factor 1 = Spiritual experience items.
Factor 2 = Student oral participation items.
N = 160.
CURRICULUM VITAE

ANTHONY R. SWEAT

1. Academic Degrees

Ph.D., Utah State University, 2011, Curriculum and Instruction—Educational Leadership

M.Ed., Utah State University, 2005, Secondary Education

B.F.A., University of Utah, 1999

2. Professional Experience

2007-present Principal, West High LDS Seminary

2005-2007 Principal, Evergreen Jr. High LDS Seminary

2000-2005 Instructor, West Jordan High LDS Seminary

2004-present Instructor, Brigham Young University Department of Continuing Education

3. Related Experience

2010-present Committee Member, S&I Scripture Mastery Committee

2010 Presenter, Brigham Young University Campus Education Week, Provo, UT. Help Me Teach With Inspiration and HOW? Essential Skills for Living the Gospel

2009 Presenter, Brigham Young University Campus Education Week, Provo, UT. I’m Not Perfect. Can I Still go to Heaven? and WHY? Principles Behind the Practices

2008 Presenter, Brigham Young University Campus Education Week, Provo, UT. Teaching Youth to Understand and WHY? Principles Behind the Practices (youth)

2007-present Member, S&I Salt Lake Valley East Area Administrative Council

2007-2008 Committee Member, S&I Doctrinal Understanding Exam Committee
2005-2007 Committee Member, S&I Salt Lake Valley East Area Training Council

2005 Presenter, CES Salt Lake Valley Tri-Area Summer In-service. *Principles with Promises: Raising our Sights in CES*

4. Publications


