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QUESTIONING QUESTIONS: A GROUNDED THEORY INVESTIGATION  
OF TEACHER QUESTIONING IN SEMINARY FOR  
THE CHURCH OF JESUS CHRIST

by

Zachary R. Horton

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Education

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Logan, Utah

2019

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## ABSTRACT

Questioning Questions: A Grounded Theory Investigation of Teacher Questioning in  
Seminary for the Church of Jesus Christ

by

Zachary R. Horton, Doctor of Philosophy

Utah State University, 2019

Major Professor: Max L. Longhurst, Ph.D.  
Department: Education

This grounded theory study investigated teacher questioning practices and rationales in released-time seminary classes for The Church of Jesus Christ of Latter-day Saints (the Church of Jesus Christ or the Church). Seminary teachers focus their questions on helping students learn course principles, value those principles, and apply them to their lives by discussing potential actions that can be taken by students outside of class. Thus, the seminary classroom provides a unique venue to study the cognitive, affective, and social/behavioral influences of teacher questioning. Relevant literature has examined at length the cognitive implications of different types of teacher questioning practices but has been comparatively quiet on how those various practices impact what students feel or how they act. No study to date has examined questioning that aims at cognitive, affective, and social/behavioral outcomes. This study followed a grounded theory methodology with a sample of six seminary teachers from the Salt Lake Valley.

Teachers were observed during instruction to gather data on the types of questions and questioning sequences used in class. Following the observations, teachers were interviewed relative to the rationale they felt guided their questioning practices. These various data points were coded and analyzed following a systematic approach to grounded theory methodology. The resultant findings indicate the specific questioning principles and practices participants used to target cognitive, affective, and social/behavioral outcomes. Further, the analysis of the data yielded a descriptive model of multidimensional questioning that both describes and depicts teacher questioning in seminary and informs future instructional practice, training, and research of teacher questioning.

(207 pages)

## PUBLIC ABSTRACT

Questioning Questions: A Grounded Theory Investigation of Teacher Questioning in  
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Zachary R. Horton

This study investigated teacher questioning practices and rationales in released-time seminary classes for The Church of Jesus Christ of Latter-day Saints (the Church of Jesus Christ or the Church). Seminary teachers focus their questions on helping students learn course principles, value those principles, and apply them to their lives by discussing potential actions that can be taken by students outside of class. The purpose of this study was to observe and interview teachers relative to their questions and questioning practices in class and the reasoning and rationale they explain underlying those practices. The resultant findings indicate the specific questioning principles and practices participants used to target cognitive, affective, and social/behavioral outcomes. Further, the analysis of the data yielded a descriptive model of multidimensional questioning that both describes and depicts teacher questioning in seminary and informs future instructional practice, training, and research of teacher questioning.

## ACKNOWLEDGMENTS

At the commencement ceremonies for my undergraduate degree, the university awarded the speaker an honorary doctorate, and I was naively surprised that such an honor could be so easily granted. Since then, I have learned that those degrees are offered in recognition of work and accomplishment that is commensurate, if not surpassing, of doctoral work. In the past years of study and research, I have come to appreciate how much time and effort goes into the formal earning of a doctoral degree; however, my appreciation is markedly greater for the commensurate and surpassing work of my wife and children in supporting me in my endeavors. With the authority of a loving and grateful husband, I award my wife an honorary doctorate for her incredible and tireless mothering of a young and adventurous family, her commitment to squeezing so many acts of service and community contribution into the spare minutes of her day, and her constant and optimistic supporting of a weary husband. To my children—Finnley, Rowan, Isla, and Eloise—I award honorary doctorates for their forgiveness at my absences, their unhindered love when I came home, and their ability to ease stress with just a few moments spent playing soccer, building Legos, or reading and laughing at *The Princess Bride*. I did this, as with everything else, for my family.

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when I felt drained, challenging when I felt lazy, brilliant when I felt stupid, and always encouraging. If this dissertation should find utility in the wider world, I credit him for his mentoring and friendship.

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Finally, and primarily, I am grateful to a God who never got tired of my repeated prayers about “could you please squeeze 8 hours of rest into the next 4 hours of sleep,” or “can you help my brain not hurt so much,” or “please make sure I survive this semester.” I am not naturally gifted at focusing for long stretches of undistracted time, a deficiency only God could have helped me overcome to complete this dissertation.

Zachary R. Horton

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## **CHAPTER 1**

### **INTRODUCTION**

The story has been told of an ambitious young man who once approached Socrates and petitioned to be the great teacher's disciple. In response to the petition, Socrates led the young man through the town and to the sea into which both men waded until they were chest deep. Socrates turned to the young man and asked the important question, "What do you want?" to which the young man, smiling, responded that he desired wisdom. Without warning, Socrates grabbed the young man and pushed him under the water. The young man splashed and struggled against the soldier-turned-teacher but to no avail. When at last Socrates released the young man, he asked again, "What do you want?" to which, this time, amidst gasps for breath, the young man responded that he wanted air. Socrates considered the young man's response and then taught, "When you want knowledge as you have just wanted air, then you will have knowledge" (Littleton, 1989, p. 29).

Whether this story is historical or apocryphal, it underscores poignant feelings in the hearts of many educators. In a traditional view of teaching and learning, teachers seek to acquire and dispense knowledge to their students. However, many teachers desire not to simply deposit knowledge, passions, or skills in the minds and hearts of their students but, rather, they desire that their students quest for and attain the fruits of their own pursuits. In other words, teachers want students not just to know something but to want to know something and be curious about how to know something. It is with this motivation that teachers often ask questions and seek to foster discussions in their classes. With the

use of questions teachers can assess existing student knowledge, draw students' attention to gaps in that knowledge, and guide them towards greater knowledge. In this sense teachers have been described as "professional question-askers" (Aschner, 1961, p. 44).

The use of questioning to guide student thinking was first introduced by Socrates himself over 2,000 years ago (Gross, 2002). Socrates, and later Plato and Aristotle, engaged learners in a process that is now commonly referred to as the Socratic method of questioning or, simply, Socratic questioning. Socrates would instigate a line of thinking by posing a question to his student. Upon hearing the response to that question Socrates would then pose another question that either required the student to deepen his consideration of his own answer or else entice him further down the path of inquiry and discovery. Of primary concern to Socrates was that the student retains a natural skepticism of traditional answers to issues and a connected curiosity about alternate lines of thought. Years later this strategic, questioning approach to instruction has been lauded by seminal educational theorists and researchers as one of the most effective ways to both instruct students and construct within them creativity and resilience to intellectual challenge (Bloom, 1956; Chin, 2007; Marzano & Kendall, 2007).

### **Questioning in Seminaries for the Church of Jesus Christ**

The Church of Jesus Christ of Latter-day Saints (the Church of Jesus Christ or the Church) emphasizes both secular and religious education to its members and especially to its youth and young adults. In Utah during the 19<sup>th</sup> century members of the Church of Jesus Christ attended state schools where they gained both secular and religious

education. In the early 20<sup>th</sup> century the Church began contracting and operating religious seminaries, most adjacent to local high schools, where enrolled teenage students could focus specifically on religious education by studying scripture and other Church teachings. Similarly, institutes of religion were constructed adjacent to colleges and universities for young adult students. These high school and college level educational programs constituted what became known as Seminaries and Institutes (S&I) for the Church of Jesus Christ. As Church membership grew throughout the U.S. and internationally, S&I students began meeting for classes in other Church buildings or in homes of other congregation members (*By study and also by faith*, 2015). Currently there are over 45,000 volunteer and almost 3,000 employed S&I teachers and who teach nearly 800,000 students worldwide (*By study and also by faith*, 2015; Gong, 2017).

Today, S&I classes are held around the world for teenage and young adult members of the Church. For seminaries in particular, outside of the Mountain West region (Arizona, Colorado, Idaho, New Mexico, Nevada, Utah, Wyoming), classes are held in Church buildings or member homes usually before school. Teachers in these “early morning seminary” programs are most often volunteers from local congregations. Due to the density of Church members, inside the Mountain West region most seminary students attend classes at dedicated seminary buildings during one “released-time” period of their school schedule and are instructed by employed seminary teachers. These teachers generally have studied scripture and other Church teachings in depth and have received formalized training in instructional methodology.

In seminary classes teachers instruct students using scripture and other teachings

from Church leaders. The goal of this instruction is to, as the current Church commissioner of education stated recently, “grow in gospel knowledge and understanding...build on that knowledge to develop capacity for effective, righteous action, [and] grow in Christlike attributes and character to become more and more like Heavenly Father and His Son, Jesus Christ” (Clark, 2018, para. 2). This statement encapsulates, in a sense, the epistemological view held by many seminary teachers who believe that the purpose of seminary is not just to help students come to know something but also to help them feel motivated to act on that knowledge to improve their behavior and become better people. In short, seminary teachers believe that the goal of education is positive change of character. To this end, seminary teachers structure lessons and class discussions in a way that allows students to discuss what they’re learning alongside how they feel about what they’re learning and what they plan to do to apply that learning in their personal lives.

To enable these kinds of discussions, seminary teachers avail themselves of a broad range of questions. Indeed, teacher questioning has become a well-worn tool used by seminary teachers. Seminary teachers read in training materials that asking “effective questions is one of the most important skills a teacher can develop” (Church of Jesus Christ of Latter-day Saints, 2012, p. 58). In addition to aiming at cognitive student outcomes which are often the primary focus in many content areas (Bloom, 1956; Gall 1970; Irvine, 2017) seminary instructors are directed to “stimulate...[student] feeling” and help students “see how they can apply...principles in their current situations and consider how they can apply them in the future” (Church of Jesus Christ of Latter-day Saints,

2012, pp. 58, 62). Indeed, in seminary training materials, no mention is made of questioning to evaluate student thinking, aid recall of information, or prepare students for assessment, all features that are common to current questioning practices in other content areas (Good & Lavigne, 2017).

In other words, seminary teachers are directed to focus, not just on what students think, but on what students feel and how they will act in and after class. To do this, seminary teachers utilize a multifaceted belt of questions that aim less at assessing what students know and more at instigating thoughts, facilitating understanding, examining emotional responses, fostering discussion, and inviting action. As examples of these kinds of discussions, Chapter 4 of this dissertation provides vignettes of seminary classes observed for this study. These vignettes further help in the understanding of what seminary instruction looks like, specifically what teachers wanted students to learn and how they saw students applying that learning.

The environment and instructional climate in seminary classrooms offer a unique space to examine the kinds of questions, questioning sequences, and questioning strategies and rationales that teachers use when focused on a combination of higher-cognitive, affective, and social/behavioral outcomes. However, despite the uniqueness of this environment there exists only informal and often instructional (rather than investigative) research on questioning practices in LDS seminary teaching (see Linford, 2011; Maynes, 2004, 2005). In the broader realm of religious education, the only research literature available focuses on higher education (Kuh & Gonyea, 2006; Mahaffey & Smith, 2009). To date, there exists no refereed research on teacher questioning in LDS

religious education.

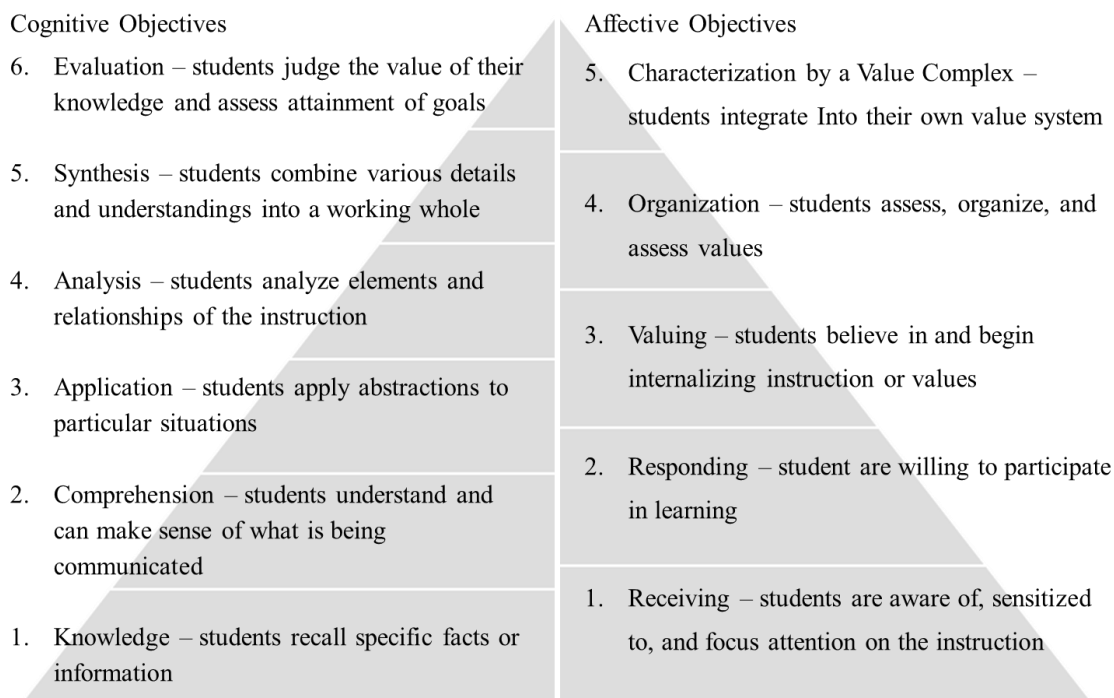
A pilot study preceding this current study aimed at addressing this lack of attention to seminary teacher questioning. This preliminary study sought to develop an awareness of the questioning used in seminary classes, test interview questions that would generate relevant commentary from teachers, and refine data collection tools and practices. From this pilot study it was observable that the prioritization of affective and social outcomes of questioning in training materials is not only reflected in seminary teachers' questions but explicitly stated in their justifications of those question. These preliminary findings underscored the focus on non-cognitive questions in seminary and provided a foundation for the current study.

### **Theoretical Framework**

Because there exists no current framework for understanding teacher questioning in seminary instruction nor a framework to understand questioning that aims at cognitive, affective, and social outcomes, this study will follow a grounded theory approach that effectively reverses the traditional sequence of research activities. Rather than examining an already-existing theory, grounded theory research provides data and discussion to propose a framework for understanding a given phenomenon (Creswell & Poth, 2017; Glaser & Strauss, 1967). In this case, research, analysis, and reporting will provide evidence to suggest a framework for understanding seminary teacher questioning.

Despite this focus in grounded theory research on generating theories or frameworks this study benefits greatly from a review and understanding of guiding

theories and frameworks historically presented in the literature. Primary among these are the taxonomies of educational objectives proposed by Bloom (1956) and by Krathwohl, Bloom, and Masia (1964). These taxonomies propose, respectively, six cognitive outcomes and five affective outcomes which the authors propose should govern teachers' actions as they instruct students. Bloom's cognitive taxonomy has been an all but ubiquitous framework in the field of teacher questioning since its proposal; the affective taxonomy, conversely, has been almost completely ignored. These taxonomies and the antecedent analyses will be discussed later in this dissertation. Figure 1.1 provides a comparative summary of both lists of educational objectives.



*Figure 1.1.* Cognitive and affective educational objectives. Adapted from Bloom (1956), Krathwohl et al. (1964).

While the lack of research into questioning in seminary may be mildly surprising given its unique position in the educational sphere and the hundreds of thousands of students that participate, the lack of a framework for questioning that merges cognitive, affective, and social outcomes is less so. In the current educational climate that prioritizes assessable, cognitive outcomes, and the concurrent “textbookizing” of knowledge (Doll, 2008, p. 191), affective and social outcomes have very little space in the discussion. Hall (1904) mourned this “standardized, overpeptonized mental diet” (Hall, 1904, p. 509) when he commented at the turn of the last century, “There is no more wild, free, vigorous growth of the forest, but everything is in pots or rows like a rococo garden” (Hall, 1904, p. 509). This focus has thus driven researchers to examine, primarily, the cognitive impact of teacher questioning.

Interestingly, research has indicated that teachers themselves actually do care about their students’ emotions and interconnectedness but are stymied in their attempts to act on those cares by the cognitive-dominated research, instructional, and development materials, literature, and consequent standards presented to them (Eshach, Dor-Ziderman, & Yefroimsky, 2014). This passion for students’ feelings and social action is equally present with seminary instructors who seek to help students “feel [about a specific principle] truth and importance...and sense some degree of urgency to incorporate the principle in their lives” (Church of Jesus Christ of Latter-day Saints, 2012, p. 29) and, further, work to “cultivate a learning environment of love, respect, and purpose” (Church of Jesus Christ of Latter-day Saints, 2012, p. 13). However, unlike many teachers in secular education, seminary instructors are not pressed by a culture of assessment and

testing. The absence of such pressure allows seminary teachers comparatively more autonomy to seek those affective and social outcomes.

Thus, the present investigation examines teacher questioning in seminary classrooms. It is anticipated that this work will add to the current literature available on teacher questioning by describing higher-cognitive questions in more detail, discussing the operationalization of socially-motivated and affect-motivated questions, and provide a framework for understanding the interplay between these different target outcomes.

### **Purpose and Questions**

This investigation examines the questions seminary teachers ask in class, queries the rationale those teachers provide for their actions, and proposes a framework that describes those questions through the lens of those rationales. As is common in research into teacher questioning this examination is built on the underlying framework of Bloom's (1957) well-known cognitive hierarchy of educational objectives as well as the lesser known affective hierarchy (Krathwohl et al., 1964). These theories combine to explain the range of cognitive and affective student outcomes for which teachers strive as they instruct students. Teacher questioning is often studied as a tool that teachers use to reach these target outcomes. This study focuses specifically on the questions teachers ask to engender student thinking, feeling, and participation and subsequently seeks to describe the rationale teachers use in planning and verbalizing those questions.

Research for this examination follows the grounded theory methodological framework (Creswell & Poth, 2017). As is traditional in qualitative studies, especially

grounded theory studies, the following are the central and subquestions of the study and that drive data gathering in observation (subquestions 1 and 2) and interviewing (subquestions 3 and 4).

*Central question:* What questioning practices and rationales do seminary instructors for the Church of Jesus Christ employ to reach learning outcomes?

Subquestions:

1. What types of questions do instructors ask in seminary classes?
2. How do instructors sequence their questions during classroom instruction?
3. What do instructors view as the role of teacher questioning in the seminary environment?
4. What outcomes do instructors target with their individual questions and questioning sequences?

This study provides data to propose a framework of teacher questioning that fuses the cognitive, affective, and social domains of educational objectives. The resultant understanding can benefit the professional field of teachers by providing a taxonomy of questions upon which teachers can draw to target specific outcomes. Further, this study will benefit the academic field by postulating a theory of teacher questioning in an environment of relative emphasis on affective and social outcomes. Upon these resultant theories and descriptions, future research can examine the relationship between these questions and student experiences in class, study the impact of various kinds of questions on the breadth and depth of student participation, and examine the influence of different questions or discussion cultures within a class on measurable student outcomes.

## **CHAPTER 2**

### **REVIEW OF THE LITERATURE**

Broadly, teacher questioning has a long pedigree of literature; the reviews of literature alone support the connection between questioning and student thinking and learning (Davoudi & Sadeghi, 2015; Ellis, 1993; Gall, 1984; Redfield & Rousseau, 1981), guide effective questioning behaviors (Cotton, 2001; Shahrill, 2013; Wilen, 1991) and illuminate different questioning categories (Carlsen, 1991; Ellis, 1993; Shahrill, 2013). This review synthesizes research and theory literature on teacher questioning relative to its influence on student learning and participation, effective behaviors, various categories and categorization taxonomies and applications within specific content areas. Further, this review shows that the predominant focus of research has been in contexts of cognitive or academic student outcomes (Carlsen, 1991). Because seminary classes for the Church of Jesus Christ primarily aim at affective and social outcomes, this review further illuminates the need for the current study on teacher questioning in seminary instruction.

To collect relevant literature 13 literature reviews were first examined and mined for key citations. A further search of Education Source, ERIC, Professional Development Collection, and PsychINFO using combinations of the search terms “teacher question\*” or “classroom question\*”, category\* or classif\* or taxonom\* yielded other more recent or less cited works. A similar search of GoogleScholar provided additional articles. Articles were included in the initial list of references if, upon reading abstracts, the article dealt explicitly with teacher questioning practices. Articles were excluded if they only tertiarily

mentioned teacher questioning or discussed teacher questioning in formats other than face-to-face teaching (e.g., online). Almost 80 articles resulted from this initial search.

This review focuses on questions researchers have asked about teacher questioning that are foundational to a broad and full understanding of the field and which also inform the current study. Following a brief examination of early research on the volume of teacher questions in classrooms, this review will discuss the various taxonomies used to classify teacher questions with special attention to the historical development of current questioning taxonomies. This backdrop will allow for a detailed discussion of low- and high-cognitive questioning followed by a review of the limited research into questioning that targets affective and social outcomes. Concluding this review is a brief summary and examination of the gaps in the literature which the proposed study aims to fill.

### **Which Questions Do Teachers Ask?**

Perhaps the most asked question about questioning is which questions teachers ask in their classes. To ascertain what questions teachers have asked or are asking in class has provided a foundational understanding upon which later research has built. Stevens (1912) remarked over 100 years ago that teacher questioning consumed nearly 4/5 of class time. In the intervening years researchers would conclude that teachers ask, often, hundreds (Boyd, 2015; Gall, 1970; Hiebert & Wearne, 1993; Iksan & Daniel, 2015) or even thousands (Levin & Long, 1981) of questions in a given day and tens of thousands of questions in a year (Purdum-Cassidy, Nesmith, Meyer, & Cooper, 2015; Tienken,

Goldberg, & Dirocco, 2009; Watson & Young, 1986). Indeed, questioning may be the most widely used form of verbal instruction used by teachers (Ellis, 1993) and, according to some, the most important teaching act (Taba, Levine, & Elzey, 1964). Despite the prevalence of teacher questioning, Stevens (1912) noted that teacher questioning had been overlooked in training and all but ignored in research.

Now, 100 years after Stevens original lament, questioning has been studied and discussed thoroughly. Historical and contemporary examinations have shown that, despite both research literature and practitioner instruction aimed at improving teachers' questioning practices, few teachers exhibit proficiency at asking effective questions (Payne, 1951; Robitaille & Maldonado, 2015). As one writer put it, teachers and administrators often discuss teaching "like some church-goers, we appear to worship the great truths only one day a week and to ignore them on working days" (Payne, 1951, p. 3). This trend is concerning to researchers who see that teacher's questioning behavior is a reflection of his/her overall behavior about education in general (McCarthy, Sithole, McCarthy, Cho, & Gyan, 2016).

### **Questioning Taxonomies**

A major trend of research into teacher questioning has been to identify what questions teachers ask in classroom instruction. Hill (2016) noted that until the 1950s academics and researchers had paid very little attention to questioning practices and effects. However, Bloom's (1956) Taxonomy of Educational Objectives and its subsequent operationalizations (Sanders, 1966), iterations (Anderson et al., 2001; Heer, 2012; Marzano & Kendall, 2007) and additions (Gallagher & Aschner, 1963) have thrust

teacher questioning into the spotlight and fostered a whole stream of literature focused on the coding, classification, and description of teacher questions.

Bloom's (1956) original taxonomy proposed a hierarchy of domains of educational objectives that, from bottom to top, included knowledge, comprehension, application, analysis, synthesis and evaluation (see Figure 1.1). Within these domains are specific objectives that Bloom proposed should guide educational thinking, from the acquisition and comprehension of specific pieces of knowledge, through the analysis and application of that knowledge, to the formulation and examination of the knowledge in synthesis with personal ideologies and paradigms. Anderson et al. (2001) later amended Bloom's taxonomy to clarify lower-level cognitive functions, combine middle-cognitive functions of synthesis and evaluation, and add a new highest-level outcome of creation. Marzano and Kendall (2007) examined both the original and revised taxonomies and reclassified the higher-cognitive domains as those pertaining to metacognitive systems and self-systems, respectively. Some have attempted to harmonize the multiple taxonomies (Irvine, 2017).

Although Bloom did not exclusively discuss questioning as a manifestation of the various taxonomies, others building on his original framework did. Sanders (1966) operationalized Bloom's original taxonomy with specific questions that, respectively, invite students to remember facts and details, translate details into personal symbols or language, interpret relationships, apply to lifelike problems, analyze reasoning and solutions, synthesize with original thinking, and finally evaluate values and judgments. Anderson et al. (2001) grouped low-cognitive and high-cognitive domains together,

respectively, and labeled low-cognitive questions (recall, comprehension, application) as reproductive questions and high-cognitive questions (analysis, synthesis, evaluation) as productive questions. For the purposes of the present discussion, the terms reproductive, lower-order, and low-cognitive will be used interchangeably as will the terms productive, higher-order, and high-cognitive. Table 2.1 compares Bloom's original taxonomy with those of Anderson et al. and Marzano and provides example questions.

Table 2.1

*Comparison of Taxonomies and Example Questions*

Bloom (1956)	Anderson & Krathwohl (2001)	Marzano & Kendall (2007)	Example questions (adapted from Sanders, 1966)
Knowledge	Remember (reproductive)	Cognitive: retrieval	Do you know/remember what the term "gerrymandering" means?
Comprehension	Understand (reproductive)	Cognitive: comprehension	Can you describe what you understand about the electoral process?
Application	Apply (reproductive)		Based on your understanding, does the current district map appear appropriate to you?
Analysis		Cognitive: analysis	Why do you think the current district map is unfair?
Synthesis		Cognitive: knowledge utilization	If you feel the current districts are inadequate, what would you do to fix them?
Evaluation	Evaluate (productive)	Metacognitive	Would you favor having your own political party engage in gerrymandering if it had the opportunity?
	Create (productive)	Self-system	How would you design a system that regulated voting and elections?

Gallagher and Aschner (1963), departing from Bloom's taxonomy, discussed questioning in terms of its convergence and divergence, terms that would be later

commonly referred to as either closed-ended or open-ended questioning (Enokson, 1973; Feston, 2016; Larson & Parker, 1996; Tienken et al., 2009). Convergence, or closed-ended questions, require students to converge on a specific answer or idea often extant in the curriculum. These questions often have only one right answer and require the student simply to search for an answer or else recall previously learned material (Tienken et al., 2009). Divergent questions, as the name implies, challenge students to diverge from a stated fact or idea into applications to other contexts, contents or else life applications (Larson & Parker, 1996; Ornstein, 1987). As with the terms for questioning productiveness, the terms convergent and closed-ended will be used synonymously as will the terms divergent and open-ended. Table 2.2 includes a list of definitions and synonyms useful for understanding the language used by researchers of teacher questioning.

Table 2.2

*Questioning Term, Definitions, and Synonyms*

Dominant terms	Synonym(s)	Definition
reproductive questions	lower-level or lower-order questions, low cognitive questions,	Questions that direct students reproduce existing information; that is, to identify or recall specific details. Answers are often stated in texts or other materials and are often related to specific facts or knowledges.
productive	higher-level or higher-order questions, high cognitive questions,	Questions that direct students to produce new information; that is to analyze information or synthesize facts across topics. Answers are often not stated by come rather from students' thinking and reasoning.
convergent questions	closed-ended questions	Questions to which students are expected to give a right answer already known to the teacher. Answers are often single words or short sentences.
divergent questions	open-ended questions	Questions with no apparent right answer to which students are invited to respond. Answers are often longer and potentially broad in their scope.

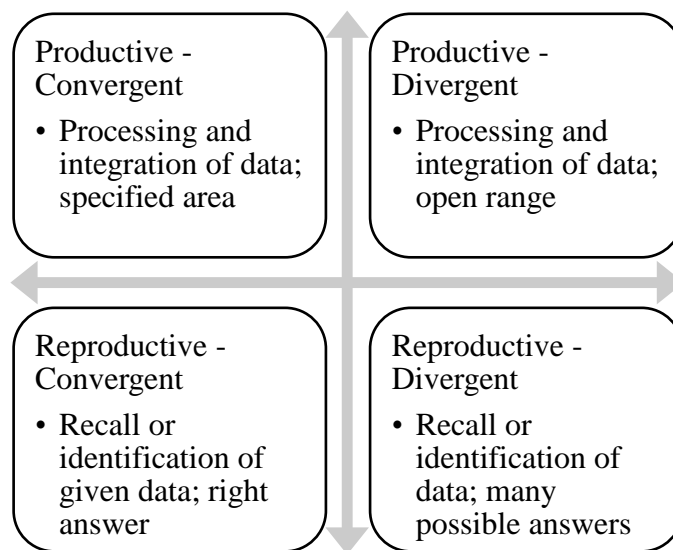
## **Critiques of Question Taxonomies**

These taxonomies are, however, not without their critiques. Some have pointed to the difficulty in observing cognitive outcomes (Andre, 1979; Cazden, 2001; Gall, 1970). Because questions are targeted towards student outcomes, classifying a question based on a particular student outcome requires inferential leaps. Bloom, anticipating this particular critique, acknowledged the limitation that it may not always be possible to discern whether a student responded to a question using a high-level cognitive process or a low-level process. Other writers have pointed to the inherent flaws with researchers in their assignment of classifications to specific questions (Farrar, 1986; Rosenshine, 1971). Different researchers or theorists may, and often do, classify questions differently depending on their own reference point. Indeed, a foundational component of many revised taxonomies was the observation that cognitive outcomes are rarely hierarchical, as Bloom had suggested, and thus often cooccurring (Anderson et al., 2001).

Further, taxonomies of questioning based on Bloom's taxonomy or its progeny are observed to be almost entirely cognitively focused (Farrar, 1986; Gall, 1970), that is they describe only those questions which teachers ask to engage students' intellect. Researchers have argued that to focus solely on the cognitive is to ignore the many social implications of questioning (Farrar, 1986; Gall, 1970) as well as the affective outcomes, intended or unintended, that result from teacher questioning (Cunningham, 1987; Irvine, 2017; Wilen & Clegg, 1986). Despite critiques, the classifying of questions has been a thematic element to almost all research into questioning. Indeed, the classification of questioning has become all but ubiquitous in the research (Davoudi & Sadeghi, 2015).

### **Simplifications, Combinations and Dimensions**

Interestingly, and despite Bloom's original assertion that differentiating the domains was essential for understanding cognitive outcomes, most subsequent researchers have simplified cognitive taxonomies to low-cognitive or reproductive questions and high-cognitive or productive questions (Davoudi & Sadeghi, 2015; Farrar, 1986). Likewise, although questioning divergence is perhaps most properly viewed as a spectrum rather than a delineation, modern literature has simplified the classification into either convergent or divergent questions (Cotton, 2001; Hill, 2016; Shahrill, 2013). Indeed, from these two main threads—questioning productiveness and questioning divergence—have sprung multiple taxonomies. Gall (1970) identified 11 classification systems, by 1976 there were 21 (Riegler, 1976), and by 2016 over 40 have been proposed (Feston, 2016). Although these classification systems range in their focus and vary slightly in their perspectives, they all carry the same centrality of either cognitive outcomes or questioning divergence or convergence and often both. In a sense, Bloom's prototype taxonomy (Cazden, 2001) and Gallagher and Aschner's (1963) convergent/divergent questioning have come to serve as a longitude and latitude of almost all questioning taxonomies and resultant discussions (see Figure 2.1). Indeed, many researchers have overlaid on the dichotomy of lower- or higher-order questions the likewise simplified taxonomy of convergent or divergent questions proposed by Gallagher and Aschner. These combinations have effectively formed a matrix of questioning with reproductive and productive questions on one axis and convergent or divergent questions on the other (Cunningham, 1987; Enokson, 1973; Wilen, 1991).



*Figure 2.1.* Questioning productiveness and divergence. Adapted and modified from Cunningham (1987) and Enoksen (1973).

This matrix identifies questions ranging from reproductive-convergent to productive-divergent. Reproductive-convergent questions direct students to find answers explicit in the curriculum. Productive-convergent questions encourage reasoning within specific and predefined areas. Reproductive-divergent questions ask students for simple responses but allow for an array of answers. Productive-divergent questions challenge students' thinking in multiple and expansive ways (Cunningham, 1987; Ornstein, 1987). Some recent research has simplified questioning taxonomies even more and identifies only lower-level questions, which are described as reproductive or convergent or both, and higher-level questions, which are productive or divergent or both (Davoudi & Sadeghi, 2015).

Some researchers have referred to different classifications of questions as “dimensions” instead of taxonomies (Farrar, 1986, p. 103). Ho (2005), for example, divided up the simple closed/open dichotomy into three levels ranging from level one

questions that prompt students to recite information the teacher already knows, to level two questions that prompt students to examine issues not directly found in the course content and which allows the teacher to assess thinking proficiency, to level three questions which are purely exploratory. In explaining the three levels, however, Ho points out that any classification system falls short of efficient description of questioning because so many questions bridge two or three categories or else defy the categories altogether. Thus, researchers seeking to describe questioning must remain open to overlap and multiple categorizations. Similarly, Smart and Marshall (2013) discussed “dimensions” (p. 259) of questioning including a question’s difficulty (ranging from lower-order to higher-order), complexity (focus on correct answers to focus on reasoning), and ecology (teacher explains to student explains). These combinations have allowed researchers and theorists to place multiple categorization systems on top of each other (Anderson & Krathwohl, 2001; Boyd, 2015; Smart & Marshall, 2013). As mentioned, researchers have commonly combined the dimensions of cognitive levels and convergence or divergence. Researchers have hinted at the need for high affective levels when asking questions from combined high cognitive and high divergent dimensions (Larson & Parker, 1996) as well as briefly mentioned that questions from those combination positively affect students’ social interactions with each other (Webb, 2009).

### **What Questions Should Teachers Ask?**

A foundational understanding of the questioning practices utilized by teachers has allowed for researchers to examine the effect of those questions on student learning

outcomes, specifically cognitive outcomes. Gall (1970) observed that the literature since Bloom's original taxonomy had been primarily focused on examining what questions teachers asked in classes and not on what questions teachers should ask in classes. As mentioned, by the 1970s Bloom's taxonomy had been reduced to a simple dichotomy of low-cognitive and high-cognitive questions. This simplification, although unintended by Bloom, generated a new wave of research into the effect of asking higher-level questions. A driving query was whether or not higher-level questions actually helped students reach learning objectives (Gall, 1984; Wilen & Clegg, 1986). Although previous research had linked higher-cognitive questioning to better realization of desired cognitive outcomes (Hunkins, 1969), some researchers cited the difficulty in examining teacher actions and pointed to the inaccuracies or inconsistencies in previous research as problematic (Andre, 1979; Rosenshine, 1971).

Winne and Winne (1979) specifically questioned the claimed "truism" (Gall, 1970) that effective questioning influenced student outcomes and examined 18 previous research studies. They concluded that the link between teacher questioning and student achievement was not supported by any study findings. Indeed, some found that reproductive, convergent questions had actually best predicted desirable student outcomes (Rosenhine, 1976). Recently, some have posited that lower-level questions often positively influence success in high-stakes assessment environments (Doll, 2008). Research subsequent to Winne and Winne found that the cognitive level of the question was no better at predicting the cognitive level of the student response than chance (Dillon, 1985; Mills, Rice, Berliner, & Rosseau, 1980). These contradictions to the

assumed supremacy of higher-level questioning opened the door for critical examinations of low-cognitive or convergent questioning.

### **Low-Cognitive/Convergent Questioning**

The conclusion that teachers overwhelmingly ask low-cognitive questions to their students has become so oft stated that it is nearly questioning doctrine (Barnes, 1975; Feston, 2016; Hill, 2016; Lemke, 1990; Wilen, 1991) and has been substantiated in numerous research studies (Bickmore & Parker, 2014; Chin, 2006, 2007; Heritage & Heritage, 2013; Purdum-Cassidy et al., 2015). Indeed, low-cognitive questioning seems to be so pervasive that even teachers engaged in professional development specifically targeting high-cognitive, more divergent, more democratic classroom discussion cultures still revert to low-cognitive questions (Bickmore & Parker, 2014; Purdum-Cassidy et al., 2015; Robitaille & Maldonado, 2015).

Despite critiques of lower-level questioning for its narrowness, terseness, and inability to foster deeper student thinking (Barnes, 1975; Lemke 1990) research has shown benefits of lower-level questioning. That low-cognitive questions have value was the guiding theory Mehan (1979) proposed in his seminal work on asking known-information questions. Coining the subsequently popular Initiation-Reply-Evaluation (IRE) format of questioning, Mehan asserted that teachers serve two primary functions: as educators and as evaluators. It was in the role of evaluators that teachers needed to initiate student thinking on a known fact, listen to the students reply, and the evaluate the reply for accuracy. This format has since been examined at length; research has extolled it for its ability to facilitate retention of basic information and foster mastery of

fundamental skills among younger students (Gall, 1984; Wilen & Clegg, 1986), students with limited educational background (Brophy & Good, 1986; Dull & Murrow, 2008), and also condemned it for its narrowness and limitations to higher-order thinking (Cazden, 2001).

Some researchers have supported Mehan's original valuation of low-cognitive questioning. Moyer and Milewicz (2002), for example, examined 48 preservice teachers' as they interacted with math students in one-on-one instructional interviews. Of the various lower-level questions teachers asked to their students the authors found that teachers generally ask three types of questions: checklist questions where the teacher moves from topic to topic without regard to student input, leading questions, and follow-up/probing questions. All of these questions served low-cognitive ends such as recall and comprehension but were effective in helping students understand course material. Similarly, McCarthy et al. (2016) purposely selected 12 middle school teachers whose lessons were videotaped over a 6-month data collection period. The researchers found a likewise heavy reliance on low-cognitive questioning strategies such as checklisting, probing/follow-up, scaffolding/leading, and student-specific questions. These questions were found to help students correct misunderstanding, grasp correct principles, and engage in class discussions.

Similarly, Ho (2005) examined three secondary school English teachers through multiple observations to assess to what degree teachers conformed to common assumptions presented historically in the literature. Results showed that teacher questions defied simple dichotomies of closed or open questions, often evaded classical

categorizations based solely on their form and not their intent, and fluctuated throughout lessons. Ho concluded with others (Nunn, 1999; Seedhouse, 1996) that traditionally categorized closed questions were not purposeless but rather were adequate means to facilitate specific types of learning interactions. Similarly, Yang, Newby, and Bill (2005) found in online, distance education students that a closed-ended and leading model based on Socratic questioning promotes critical thinking skills in secondary education students.

### **High-Cognitive/Divergent Questioning**

Despite some research in praise of lower-level questioning, the balance of researchers have found severe limitations with low-cognitive and/or convergent questioning. Chief among the critiques is the observation that lower-level questioning results in lower-level student participation. When students are asked simple, convergent questions they provide, not surprisingly, simple, convergent answers. This level of student participation is criticized in the research for its inability to help students fully comprehend course content, visualize its application outside of the class period, and develop their own capacities to reason and question on their own.

Webb, Nemer, and Ing (2006) studied six junior high math classes that were practicing a newly-implemented cooperative learning program. Teachers' questions were observed, recorded, and coded, and the resultant findings indicated that teachers overwhelmingly asked low-cognitive questions fostering a low-demand or "low-pressure" (Webb, 2009) classroom environment which subsequently resulted in lower-level student questions and comments compared to observed high-cognitive questions. Further, student-to-student communication mirrored teacher communication in that students

primarily shared answers and procedures rather than deeper thinking or problem-solving strategies. Dillon (1985) found similar limitations to the IRE format in science classrooms. After observing a case study of five teachers and their efforts to foster discussion Dillon found that teachers' low-cognitive questions were often met with low or even no response from students. Despite the teachers' expressed desires, their questioning practices dampened the very discussions they were seeking to create.

Tienken et al. (2009) saw in a review of the literature an almost 30% increase in standardized testing scores by students' whose teachers ask productive questions. Despite this they concluded, after gathering questioning data on a convenience sample of 98 teachers observed over six years, that over 75% of teacher questions (and 85% of novice teacher questions) could be classified as reproductive questions. They concluded that despite clear and pressing support in the literature for higher-level questioning teachers largely reiterated the prevailing culture of questioning and lacked a conceptualization and skillset to change. Similarly, Dull and Murrow (2008) found in observing 26 social studies teachers across 14 schools that those few teachers who transcended simple information-gathering questions were able to sustain deeper, interpretive discussions and, for a select few segments, discussion of personal values.

In light of these limitations, research has turned a hopeful and often experimental eye towards higher-level questioning. Redfield and Rousseau (1981), responding to the critique by Winne and Winne (1979) in their literature review, argued for a renewed valuation of higher-level questioning. Using different evaluation tools, Redfield and Rousseau reexamined all articles in the Winne and Winne review and subsequently

concluded that student outcomes were indeed positively influenced by high-cognitive teacher questioning. Additional research reified this conclusion (Andre, 1979). Some researchers have found, often through implementation of a particular training or development program, improvement in teacher questioning and a subsequent and increased cognitive level of student participation. Chin (2006) deliberately sampled two seventh-grade science teachers who exhibited high skill at “constructivist-based” questioning (p. 1318), which incorporates questions that elicit deeper student thinking, elaboration, and construction of conceptual frameworks. Fourteen lessons were observed, recorded, and coded and, via a grounded theory approach, a “question-based discourse” (p. 1322) framework was proposed that explained how these skilled teachers effected high-level learning. In a follow-up study (Chin, 2007), observations illuminated how constructivist questioning differed dramatically from traditional IRE questioning, most notably in the expanded amount of freedom given for student answers and commentary. The “constructivist teacher” (p. 819) expanded beyond simple Socratic questioning and, through the use of jigsaw, tapestry, or framing questions to encourage students to generate original ideas, foster student talk, discuss abstract ideas, motivate multimodal thinking, and help students see relationships between class topics and practical applications.

Similarly, Franke et al. (2009) observed three math teachers who had engaged in professional development targeting high-cognitive teaching methods. In an iterative analysis of the data they found, first, that high-cognitive teacher questions elicited high-level math thinking and, second, that following initial solicitations for student thinking

with specific, probing questions that targeted gaps or opportunities for elaboration in student responses enabled students to self-analyze their responses and identify incorrectness. Smart and Marshall (2013) studied the classrooms of ten middle school science teachers who were actively involved in a professional development program aimed at improving the cognitive level of student activity. After coding, iterative qualitative analysis, and then the mixing of quantitative evaluations of the data they concluded that specific aspects of teachers' questioning significantly correlated with students' higher-cognitive participation. In short, questions that are more difficult (high versus low cognitive), more complex (divergent versus convergent), and more ecological (student talk versus teacher talk) the greater the predicted level of student cognitive activity.

Interestingly, higher-level questioning has been shown to improve not just what students learn but how they learn. Erdogan and Campbell (2008) examined video recordings of 14 preservice teachers with specific focus on teacher's use of constructivist questioning. They found that teachers using constructivist practices asked more questions and more open-ended questions relative to other teachers. Further, the constructivist approach to questioning facilitated more "horizontal interactions" (p. 1910) where teachers worked alongside students to help them construct knowledge. Similarly, Heritage and Heritage (2013) observed a specific teacher using conversation analysis to tease out the nuances in the teacher-student interactions during formative questioning exchanges. The resultant granular analysis of teacher-student interactions yielded important examples of a teacher who viewed students as fellow collaborators in the

production of knowledge. The formative approach to questioning helped the teacher evaluate student knowledge and identify each student's zone of proximal development (Vygotsky, 1978) and thus enabled teacher and student to work together to expand and deepen student knowledge.

### **How Do Questions Make Students Feel and Act?**

Often, a teacher's primary aim as outlined by instructional materials, professional development, and even government directions and mandated assessments is to influence positively the cognitive capacity and ability of her students (Robitaille & Maldonado, 2015). However, despite the primacy of cognitive outcomes teachers likewise value their students affective and social growth as well (Eshach et al., 2014). Krathwohl et al. (1964) observed that, often at the onset of a particular course, curriculum writers and teachers often emphasized affective outcomes as much as they did cognitive outcomes. Early in a particular course they observed teachers making small efforts to attain these affective outcomes. However, over time the course experienced an "erosion of affective outcomes" (p. 16) due, as the authors point out, to school grading practices, relatively slow attainment of affective outcomes, and a similarly relative lack of training on teaching towards affective outcomes. Hence the authors proposed, parallel to the taxonomy of cognitive outcomes, a taxonomy of affective outcomes at which teachers should strive.

### **Affective Questioning**

Although Bloom's (1956) taxonomy of cognitive outcomes has been widely used and almost universally adopted, the follow-up taxonomy of affective outcomes

(Krathwohl et al., 1964) has received comparatively little attention in research and discussion (Irvine, 2017). Similar to the six domains of cognitive learning outcomes, the affective taxonomy contains five domains: receiving, responding, valuing, organization, and characterization (see Table 2.3). The goals within these domains are to, respectively, sensitize students to a particular topic or idea, motivate students' attention, encourage internalization of values or ideas, foster change in internal behavior, and sustain behavioral change which leads to character change.

Table 2.3

*Affective Taxonomy and Example Questions*

Krathwohl et al. (1964)	Cunningham (1987)	Example questions (adapted from Price, 1968)
Receiving	Perceiving and initiating action	May I have your attention, please?
Responding		John, will you answer my question?
Valuing	Valuing	Based on your understanding, does the current district map appear appropriate to you?
Organization	Actualizing	Why do you think the current district map is unfair?
Characterization		If you feel the current districts are inadequate, what would you do to fix them?

As with the cognitive outcomes in subsequent treatments the affective domain has been simplified to, often, two or three main categories. Often researchers examine the affective outcomes of initiation, valuation, and actualization (Cunningham, 1987). Through these outcomes, teachers help students work through the realization, conceptualization, and integration with values or ideas. Questioning, thus, guides students

to these goals (Ellis, 1993). Initiation questions either evaluate or else instigate (Cunningham, 1987) students' initial feelings towards an idea or concept. In short, they grab the students' attention often at the beginning of a questioning sequence. To help students value those ideas teachers ask questions that help students choose, prize, or assign worth (Raths, Harmin, & Simon, 1978). To foster integration the teacher asks questions that challenge students to organize values, evaluate them, consider and plan application, and internalize those values and actions into their own personal philosophies (Hunkins, 1972). Table 2.3 depicts these questioning outcomes and example questions.

Interestingly, affective outcomes may actually be the dominant focus of teachers' questioning practices. Eshach et al. (2014) observed nine teachers in class and queried those teachers' beliefs about questioning after class in an attempt to see, not just what teachers did, but why they did what they did. The resulting data identified five participant-identified categories describing the role of teacher questioning in the classroom. Of these outcomes, two were affective, two cognitive, and one social. Further, the only unanimously named role of questioning targeted an affective outcome: to stimulate or increase student interest and curiosity. However, despite this conclusion the authors note that near-absence of research into affective questioning, summarizing tersely, "education researchers emphasize the cognitive roles of teachers' question asking, while teachers lay more importance on the affective role of their questions" (p. 78). This is most likely due to the difficulty in measuring student emotion compared to the relative availability of assessments of student cognitive outcomes such as recall or understanding.

Despite the relative lack of research, some authors examining teachers' use of various cognitive levels of questioning have remarked on the interplay between questioning divergence or convergence and, as far as possible, observed student emotion. Convergent questioning, for example, has been observed to make students feel afraid of responding to teacher questions, hesitant to join conversations, and often inferior due to the teacher's supposed superiority (Heritage & Heritage, 2013). Ironically, questions that are simpler to answer create more fear in a student than questions that are more difficult.

Conversely, challenging, high-cognitive, divergent questions have been shown to influence student affect and positive influence student motivation. Jurik, Gröschner, and Seidel (2014) studied video of teacher questioning practices in 79 junior high science classes and subsequent self-reported student data from over 1300 students. Students reported their perceived cognitive level during classroom interactions and their intrinsic motivation for specific tasks. The comparison of teacher questioning and student perception of cognitive level and motivation provided evidence to support the hypothesis that high-cognitive questioning not only heightened the cognitive participation of students but also heightened their emotional desire to participate. In short, the results of this study indicate that more divergent questioning motivates broader and deeper student participation.

Similarly, Boyd (2015) micro analyzed six ESL lessons focusing on the interplay between teacher questioning and authentic forms of student talk. While acknowledging that most teacher questions do not stand alone but rather are contingent on student talk Boyd did find that teacher questions signal student emotion. For example, closed-ended

questions often signal to students that the lesson material under study is often informational and, thus, less relevant to students and less motivating to discuss. Authentic or open-ended questions convey that the teacher is interested and curious about student thoughts which engenders greater motivation and excitement in students. A teacher who navigates this “sea of classroom talk” (p. 395) must be attentive to the natural crests and troughs of emotion and respond appropriately with her questions.

### **Social Questioning**

Many authors have acknowledged that the classification of questions purely by cognitive outcomes to the eschewing of other domains is to paint only a limited picture (Farrar, 1986; Gall, 1970). Indeed, a harmony between the cognitive and affective domains has been explored and extolled for the ability of the one to affect the other (Cunningham, 1987; Lennon, 2017). Bloom (1964) himself acknowledged that the taxonomies of the cognitive and the affective were developed in conjunction and should be considered as connected.

Further discussions have examined how the cognitive and affective domains can also connect to social outcomes. This line of research often examines the effect teacher questioning has on a student’s immediate social interactions or behavior in class or else on that student’s awareness and engagement in wider social spheres and issues. Generally, this research provided evidence to support the connection between higher-level questioning and both broader and deeper class participation (Brophy & Good, 1986; Chin, 2006; Good & Lavigne, 2017; Reynolds, 1992) as well as greater understanding of their social environment and greater empathy for others (Duke & Martin, 2011; Godfrey

& Grayman, 2014; Lennon, 2017).

*That* teacher questioning influences students' social participation in class is a universal conclusion (Boyd, 2015; Cazden, 2001; Degener & Berne, 2017; Gillies, 2011; Good & Lavigne, 2017; Webb, 2009; Wilen, 2001). *Which* types of questions influence which kinds of student participation has been less studied (Webb, 2009). Generally, researchers have found that lower-order questioning where teachers ask frequent, simple-answer questions in quick succession dampens student participation (Graesser & Person, 1994; Nystrand & Gamoran, 1991). Conversely, higher-order, divergent questions facilitate greater student excitement and valuing of class discussions and thus more and higher quality student participation (Good & Lavigne, 2017; Webb, 2009). Although there may still be few students volunteering participation (Chin, 2006) the quality of that participation is often higher.

Important to this line of research is an understanding of the recent socio-linguistic perspective. Earliest research into teacher questioning followed the process-product paradigm (Brophy & Good, 1986; Wilen, 1991) which examined inputs into a classroom or discussion (in this instance, teacher questions) and their impact on the outputs, be it student learning outcomes, student questioning, or student participation. Gall's (1970) influential literature review is an example of this process-product perspective: teacher questions were expressly "a means to an end—producing desired changes in student behavior" (p. 718). This perspective dominated the field for twenty years and continued influencing it for another twenty. Many well-noted researchers and theorists used this paradigm to suggest principles of effective questioning that could maximize desirable

student outcomes. The following list, compiled from salient research and literature reviews in this time period, presents these effective teaching practices (compiled from Carm & Davies, 2005; Cotton, 2001; Ellis, 1993; Gall, 1970; Wilen, 1991; Wilen & Clegg, 1986).

- Teachers should phrase questions concisely to mitigate student confusion that may arise from “run-on question” (Wilen & Clegg, 1986, p. 154).
- Teachers should tailor their questioning to the skill level and preparation of students; low cognitive level or convergent questions help teachers convey basic facts to elementary students and assess prior knowledge; high cognitive level questions stimulate student thinking and creativity or else foster student reflection in more competent or advanced students.
- Teachers should strategize and scaffold questions in order to structure student learning; lower-level questions allow teachers to assess student learning whereas higher-level questions allow for deeper understanding of course content.
- Teachers should allow wait time between the question and the student response (often referred to as wait time 1) and again allow wait time between the student response and further teacher commentary to allow for other student responses.
- Teachers should utilize redirection or probing strategies to ensure class discussions stay on topic and reach desired depth.
- Teachers may need to call on specific students in order to solicit student responses.
- Teachers should encourage student questions on class topics.
- Teachers should avoid questions that imply contradiction (“yes, but...”), force intellectual compliance (“isn’t it...”), or cause anxiety (Ellis, 1993, p. 14).
- Teachers should avoid trick questions or questions intended to deliberately stifle student thinking and creativity.

It is important to note that many of these principles focused on reaching learning outcomes with students as individuals. Only rarely do process-product authors consider

impacting the wider classroom environment, discussion, or social interactions (see, for example, Ellis, 1993; Wilen, 1991).

More recent research has shifted from this process-product paradigm to a social or even a sociolinguistic perspective (Carlsen, 1991), which examines questioning from the perspective of social interactions and language. This perspective considers the student as situated in a social context and, thus, questioning must be both informed by and applicable to that sphere. A full examination of the linguistic side of questioning is beyond the scope of this review; however, as the social contexts and outcomes of questioning is germane to the proposed study, a brief review of the associated literature is necessary.

Social analyses of teacher questioning consider the social context in which a question is asked, the context of the student, and the targeted social outcome (Carlsen, 1991). These contexts and outcomes are constructed and altered by the teacher and student (Cazden, 2001). As Carlsen observed, “Teachers do not just ask questions; they ask questions about something” (p. 164). Thus, sociolinguistic perspectives have analyzed not just the type of question asked but the content of the question itself. This analysis is considered within the frame of the entire discourse (Cazden, 2001; Farrar, 1988) and connected to antecedent ideas and descendant applications. Such an analysis has allowed researchers to move past question tallying and simple classifications to a more nuanced understanding of the question-and-answer chess game teachers and students play in class (Carlsen, 1991).

The dominant social outcome targeted by teachers as they ask students questions

is student participation. Thus, there is an emerging body of literature which examines student participation—what fosters it, what sustains it, and what dampens it (Lemke, 1990; Lloyd, Kolodziej, & Brashears, 2016). Many have observed the increasing culture of disengagement among students (Hannel, 2017; Good & Lavigne, 2017) and, in an attempt to motivate student participation, have examined the way teachers often engage in a variety of questioning behaviors, such as forcing involuntary participation or obliging students to justify each answer, that may counter produce the very results at which they aim (Hannel, 2017). Rather, teacher questioning, in order to engender student participation, should remove cognitive roadblocks by engaging in expert practices (Hannel, 2017).

Much of the literature examining the interplay between questioning and student participation has observed the operationalization of many of the historically-proposed questioning principles and, instead of measuring student-level outcomes, have observed class-level outcomes such as overall student participation or group discussions. For example, McCarthy et al. (2016) observed a sample of 12 middle school teachers as they interacted with individual students and groups via question-and-answer instruction sessions. While teachers asked numerous questions, a few strategies were observed to facilitate student-to-teacher participation as well as student-to-student participation. Teachers successful at fostering participation followed up initial questions with probing questions that displayed their interest in student thinking, scaffolded their questions from easier to harder thus building students' confidence as they progressed intellectually through the content, and asked student-specific questions that drew upon individual

students and brought them into the class discussion.

In a study of three elementary school teachers, Gillies (2011) found that higher-level questions that challenged students' thinking or prompted them to consider alternate explanations elicited greater student responsiveness and group participation. Contrary to previous suppositions (Mehan, 1979), it is often the harder questions, not the easier ones, that foster a more social environment. Further, Smart and Marshall (2013) found that, as per the guiding tenets of social cognitive theory (Bandura, 2001) students who exhibited higher-cognitive thinking and participation can provide example models for their peers and thus can encourage a social environment of higher-cognitive student engagement.

Similarly, Dillon (1985) examined a case study of five high school teachers from various content areas and recorded specific vignettes where the teachers were seeking to foster class discussion. Counterintuitively, teachers' questions, specifically those following a traditional IRE format, actually forestalled or dampened discussions. Students, fearing a negative evaluation for a wrong answer would not volunteer their thoughts. Teachers that were more successful at fostering discussion utilized non-questioning alternatives, such as declarative statements from the teacher that mirrored the students' own perspective, yielding speaking time to another student, or maintaining a deliberate silence until students speak, to coach students towards comfortability in speaking.

Vibrant class discussions are not only resultant from higher-level questions but themselves result in measurable and beneficial outcomes for students. Boyd (2015) examined teacher questioning with ELL (English Language Learners) students. She

found that more authentic questions (questions to which the teacher does not already have an answer mind) and divergent questions a teacher asks the more students engage in dialogue. In response to such questions, students were found to more readily share, not just thoughts, but feelings as well. Further, the interactive nature of authentic questioning was subsequently shown to increase student understanding and retention of course content which confirmed previous studies into the benefits of robust student discussions (García-Rodicio, 2015).

In addition to questioning directly drawing out student participation, researchers have looked at the environment created by low- versus high-level questioning practices. This vein of research examines, not just the reproduction or production of knowledge resultant from questioning levels but seeks to understand the consequent environment shaped by those questions (Webb, 2009). In this sense, teacher questioning creates either reproduces a social climate of low-cognitive thinking and convergent participation or else produces a climate of high-cognitive thinking and divergent discussion. These environments of discussion either impede or foster greater social interaction from other students. For example, in one observation, a teacher's closed-ended, IRE-style questioning wrought the unintended consequences of student hesitancy and hedging of responses and dampened responses from other students (Heritage & Heritage, 2013). Such a question-answer economy in a classroom asserts the "epistemic supremacy" (p. 180) of the teacher to the detriment to creativity and conversation among the students. As Heritage and Heritage observed, "these economies are bought at a considerable price that is paid by the students. For it is the students' 'failures' under questioning that are to be

construed as the cause of the slow and tedious progress of the lesson's content, and it is their interest and commitment to the topic that undergo steady attrition under the continued questioning that ensues" (p. 180).

Webb (2009) reviewed recent literature on teachers' facilitation of small group work and student-to-student discourse and concluded that, despite ample discussion of the impact of teacher questioning on teacher-to-student interactions, few have researched the impact of questioning on student-to-student discussion and collaboration. In short, previous research has shown that teachers can solicit student responses with their questions, but research has been less clear about how teachers can elicit a social environment where students talk to each other. This can largely be attributed to the dominance of low-level teacher questioning in most content areas which, by its nature, encourages only vertical (teacher-student) and not horizontal (student-student) discussion (Webb et al., 2006). The scarce research available on horizontal participation has shown that teachers' questions or prompts for students to explain or elaborate on their volunteered answers foster both deeper commentary from the questioned student as well as broader commentary from other students (Webb, 2009).

In short, although there is a relatively small body of literature examining the affective and social outcomes of teacher questioning, the research that is available provides evidence to support the link between effective questioning and positive emotional and socio-behavioral outcomes in students. Krathwohl's (1964) "erosion" (p. 16) of affective outcomes has indeed played out across the history of questioning literature. However, there is sufficient discussion to support building (or rebuilding) the

connection and, eventually, illustrating questioning practices that effectively target non-cognitive outcomes.

### **Gaps in the Literature**

Despite the breadth and depth of the literature on teacher questioning some gaps remain to be fully examined. First, as has been noted, although Bloom's (1956) original taxonomy delineated six cognitive domains much of the subsequent research reduced this differentiation to simply high- and low-cognitive outcomes. The resultant research has used these two frames to simplify questions into higher-order or lower-order questions. As has been discussed, the prevalence of lower-order questions has generated copious discussions in the literature while the relative dearth of higher-order questioning in classrooms has left this domain largely undiscussed. Further, those discussions that do focus on higher-order questioning often misclassify more questions which are often still convergent and sometimes still low-cognitive as higher-order because the questioning difficulty is greater (Chin, 2006). Thus, a more contoured view of questioning, especially of the higher-order domains, remains to be painted and is thus warranted.

Second, taxonomies, theories, and research alike have largely ignored both affective and social outcomes of questioning. Bloom's (1964) second taxonomy of affective domains, although compelling to some (Cunningham, 1987), has been overwhelmed by the sustained attention to the cognitive domains. It is, of course, an expressed desire that students are initiated into a discussion, motivated, guided to valuation, and helped towards actualization (Cunningham, 1987; Hunkins, 1972),

examples of questions to reach those ends are almost nonexistent in the literature.

Likewise, the narrow focus on cognitive outcomes has limited the discussion of social outcomes of questioning (Gall, 1970), specifically on the formulation of class community or social atmosphere (Riegle, 1976) through motivated discourse (Cazden, 2001).

Although a lack of student engagement is often mourned (Good & Lavigne, 2017; Hannel, 2017) a robust description of how to facilitate such participation through questioning remains to be provided.

Finally, examinations of questioning have proposed a description and analysis of questioning in specific content areas (Ellis, 1993). This proposal aligns with numerous conclusions from observational researchers that reliance on general tools or paradigms of observation are ignorant of specific nuances germane to those areas (Blazar, Braslow, Charalambous, & Hill, 2017). Such research has called for a focus on specific subgroups of the general student population and a connected examination of questioning practices within the internal contexts (Cohen & Grossman, 2016; Ellis, 1993). Such examinations have been conducted for math (Boyd, 2015; McCarthy et al., 2016; Purdum-Cassidy et al., 2015), science (Chin, 2006, 2007; Eshach et al., 2014; Smart & Marshall, 2013), English literature (Lillydahl, 2015; Price, 1968; Robitaille & Maldonado, 2015), U.S. history (Dillon, 1985; Larson & Parker, 1996); English as a second language (Boyd, 2015; Toni & Parse, 2013), and even music (Haston, 2013). As such an examination has yet to be undertaken for released-time seminary, the proposed study is again warranted and beneficial as it will address the gaps of differentiating higher-order questioning as well as describing affective and social questioning practices. Indeed, despite the utility of

previous taxonomies and examinations, a different kind of classification system may be helpful in describing a more multifaced, multidimensional perspective of questioning (Riegle, 1976).

## **CHAPTER 3**

### **METHODOLOGY**

In the previous chapter the research and theoretical literature was discussed. Specifically, the review identified a gap in that research regarding both teacher questioning in seminary as well as teacher questioning targeting affective and social or behavioral outcomes. Chapter 1 introduced the relevance of and need for the study and outlined the central and sub research questions as follows:

*Central question:* What questioning practices and rationales do seminary instructors for the Church of Jesus Christ employ to reach learning outcomes?

Subquestions:

1. What types of questions do instructors ask in seminary classes?
2. How do instructors sequence their questions during classroom instruction?
3. What do instructors view as the role of teacher questioning in the seminary environment?
4. What outcomes do instructors target with their individual questions and questioning sequences?

This chapter details the research methodology that was used for this study beginning with a brief description of the grounded theory framework and a justification of its utility in this study. Data collection and data analysis procedures will be discussed in detail in preparation for the discussion of the results in the following chapter.

#### **Framework**

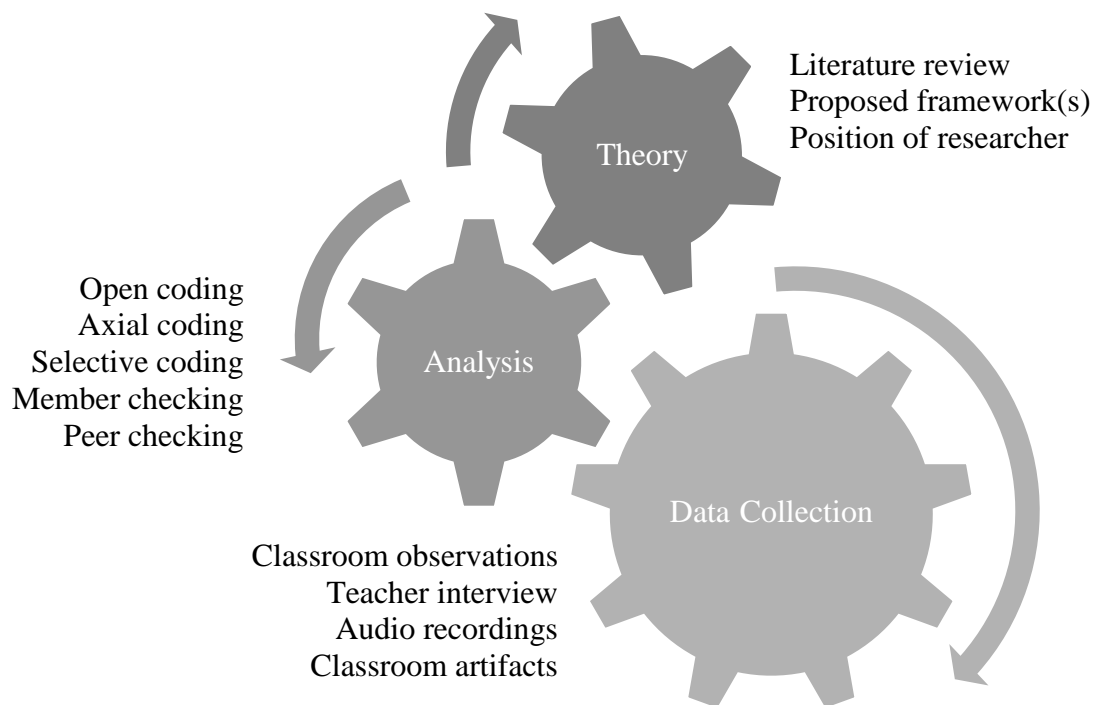
Because the primary goals of this research are to discover the process of

questioning and develop a theory to explain that process which will be grounded in the data, a grounded theory framework is appropriate and applicable (Creswell & Poth, 2017). Specifically, this study uses a systematic approach to grounded theory as explained by Corbin and Strauss (2015). This approach consists of an iterative sequence to data collection, analysis, and theory formation. Data were gathered and analyzed simultaneously. The analysis informed the researcher as he formulated a model, theory, or framework to describe the data. This emergent framework provided focus for successive data collection and analysis, which in turn, informed edits and alterations to the framework. For the current study, data was collected using in-class observations and interviews with teacher participants and analyzed using selective coding described later. These efforts combined to formulate a framework describing teacher questioning in seminary. Figure 3.1 illustrates the approach that was used in this study and the rest of this chapter details the individual components of the research.

## **Data Collection**

### **Participants and Sampling**

There are nearly 50,000 S&I teachers for the Church of Jesus Christ. Most of those teachers are volunteers who teach classes early in the morning before their students attend school. Because of the density of Church members in the Mountain West and surrounding regions, about 2,000 of those teachers are employed by the Church to teach classes during the school day at seminaries usually adjacent to public schools. The target population for this study was those teachers currently assigned to seminaries within the



*Figure 3.1.* Grounded theory iterative research methodology.

Salt Lake Valley. This population contains predominantly male and some female teachers ranging in age from early 20s to mid-60s and span a breadth of experience from newly-hired teachers to former system administrators and/or college-level instructors. This population extends geographically from teachers in the Southwest corner of the valley (Herriman and Riverton) to the Northeast corner (East and Highland). Further, these teachers come from a breadth of professional backgrounds: many have been hired directly after graduation from college and after successful completion of a Church preservice program while others have been recruited from other professional fields and trained on-the-job as student teachers in specific seminary assignments.

Because the aim of this study was to observe and interview teachers who are skilled at teacher questioning, a purposeful sample of six teachers was selected from the

Salt Lake Valley. To draw this sample, the four seminary area directors from the Salt Lake Valley were contacted and invited to propose a list of 10 teachers that meet a list of proposal criteria (see Appendix A) which includes teachers who display skill at teacher questioning, who facilitate student participation, and who would feel comfortable being observed. These area directors administrate, on average, over 50-70 teachers and observe each teacher at least annually and are, thus, the most qualified to speak to both the skill of individual teachers and the evaluation of those teachers in comparison to each other. The following is the step-by-step procedure that was followed in this study to formulate the research sample.

1. The four area directors in the Salt Lake Valley were contacted via e-mail and requested to provide a list of 10 teachers they feel possess either admirable skill at questioning or observable experience in fostering student participation, or both. Area directors were advised to consider teachers of differing levels of experience, both male and female teachers, teachers from various training programs, and teachers from various professional backgrounds (see Appendix A for letter to area directors).
2. All teachers proposed by their area directors were contacted via e-mail and provided a link to a Qualtrics survey that allowed teachers the chance to provide informed consent for their potential participation in the study. Once consent was provided, teachers were invited in the survey to provide demographic and professional details about themselves to aid in selection of the sample (see Appendix A for letter to teacher participants and Appendix B for informed consent documents).
3. From the list of potential teacher participants who provided informed consent a research sample of ten teachers was selected in an effort to approximate the demographics and experience of the population. Specifically, the sample included one female teacher, five male teachers, one teacher with less than five years of experience, two teachers with more than twenty years of experience, teachers from at least two different training programs, and at least one teacher with a non-teaching experience (administrating, coordinating, curriculum, etc.) in their professional history.
4. The resultant list of ten teachers were contacted via a phone call to review the purpose, procedures, risks, and benefits of the study. Teachers were assured of

the confidentiality of their participation and resultant data as well as informed that their participation is voluntary and may be revoked at any time.

5. In the phone call teachers were instructed to provide their students and students' parents with a letter of information outlining the purpose, procedures, risks, and benefits of the study. This letter of information was sent home with students at least three days before the observation. This letter further informed students and parents of their ability to withdraw the student from participation without negative consequence (see Appendix C for letter of information).

Additionally, the following proposal criteria was given to area directors:

- No teachers on probation
- Observable skill at asking effective questions
- High amount of student participation

After teachers had been proposed, the following selection criteria was used to select a sample of teachers for the study:

- At least one female and one male teacher
- Various experience levels
- Different training and professional backgrounds

### **Setting and Materials**

This study was conducted in released-time seminary classrooms in the Salt Lake Valley. Approval for this research was obtained from the Seminaries and Institutes Research Committee (Appendix E). Observations took place in the instructor's classrooms and the subsequent interviews occurred in either the classroom or the instructor's office according to his/her preference. Because analysis is iterative in grounded theory studies, analysis began during observations and interviews and continued into the researcher's work office and/or home.

The researcher used an observation form organized specifically to focus on

questions asked by the teacher. This form was filled out digitally on the observer's laptop. Likewise, notes from the post-class interview were typed on a laptop (see Appendix D for observation field notes template and interview protocol). Interviews with teachers were recorded on a handheld voice recorder.

## Procedures

Normally, grounded theory research data is gathered primarily through interviewing and, secondarily, through observation, memoing, and other methods (Creswell & Poth, 2017). However, for this particular study the dynamic nature of the classroom experience necessitated that classroom observations were the primary source of data. Each teacher participating in the study was observed teaching a class. The researcher also audio recorded the observed class. During the observation the researcher took field notes on a structured form which allowed for both transcription of the questions teachers asked (aided by the audio recording) as well as initial open coding of the questions. Memoing was used to comment on the findings, processes, and potential theories as well as to describe the emerging theories and frameworks. Teachers were also asked to participate in a semistructured interview after the class which was likewise audio recorded. Figure 3.2 briefly outlines the procedural steps that were followed.

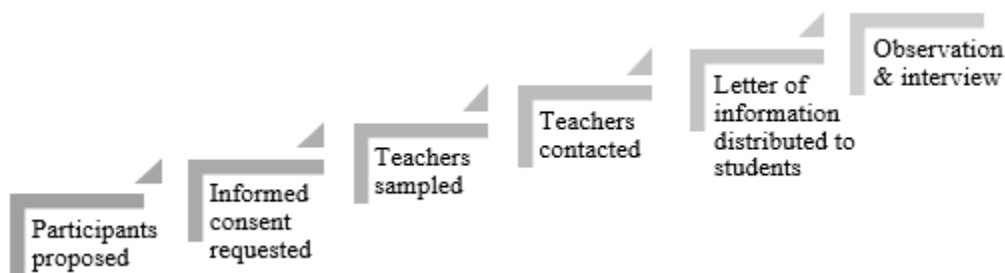


Figure 3.2. Research procedure steps.

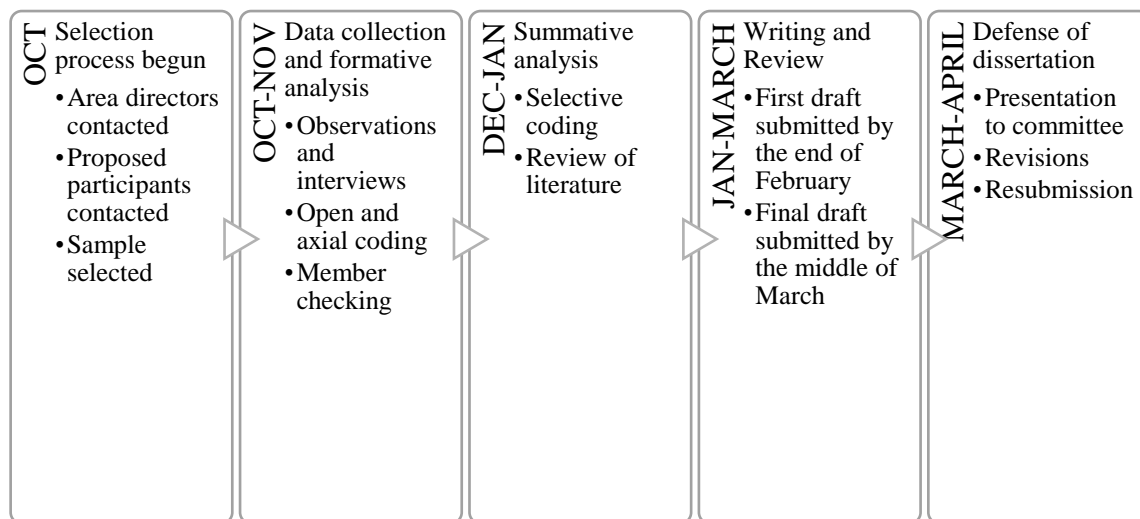
During observation subquestions 1 and 2 drove data collection. That is, as the researcher was observing he focused specifically on recording and coding the questions instructors asked students and in what sequence or order. Questions were transcribed as well as possible in the field notes and later validated by using the audio recording of the class. Special care was taken to record questions in their original sequence and to delineate the beginning and end of discussion or questioning threads. The emergent thinking of the researcher was journaled in memos during and after the observation. These questions and question sequences were compared to each other and against the resultant student participation and coded based on similarities and emergent groupings.

During interviewing subquestions 3 and 4 drove data collection. That is, the researcher asked the teacher participant questions about his/her rationale behind specific questions and question sequences as well as his/her thinking about the purpose of questioning generally in the observed class. Following the constant comparative method in grounded theory (Cresswell & Poth, 2017) and, as allowed by semistructured interviewing, the interviewer was allowed flexibility to amend prewritten questions to better reflect the data gathered during observations. As with the observations, teacher comments were transcribed in the field notes and later validated via the audio recording. The emergent discussion and invariable alterations, amendments, or additions to the interview questions were journaled in memos following the interview.

Additionally, as explained below, the teacher participant was invited to member check the field notes and any resultant codes or groupings and be allowed to comment on the accuracy of the researchers' description and analysis of the observed class. This

member checking helped triangulate the data. Member checking took place primarily during the interview after the observation. In some cases, further communication was deemed necessary by the researcher and the notes of that communication (or the text of any e-mail in that communication) was added and date stamped at the bottom of the interview notes.

Teacher participants were involved in the study for the duration of one class (usually 60 to 90 minutes) and an approximately 30-minute interview. Some teachers were contacted later for follow-up discussions. The study took approximately two months for all observations and interviews to be completed. Figure 3.3 briefly outlines the schedule followed for this study.



*Figure 3.3. Research timeline.*

### **Validity and Reliability**

Validity, accuracy, and reliability are admittedly difficult for qualitative research. Indeed, Berliner (2002) remarked somewhat tongue-in-cheek that due to its ever-shifting nature and the complexity of its contexts, education research might be classified as “the

hardest science of all” (p. 20). Labaree, Researcher, May, and Labaree (2007) observed, however, that even for quantitative research, “the quantitative researcher’s press for clarity can come at the expense of accuracy” (p. 12). Qualitative research, in some respects, may actually be easier to validate than quantitative research because the goal, especially in this particular study, is subjective and descriptive rather than objective and definitive.

To increase validity in this study the researcher engaged in member checking with the teachers. This technique, which Guba and Lincoln (1994) comment is essential for establishing both validity and reliability, allowed the teachers to play a role in not just the data gathering but the data analysis as well (Stake, 1995). Thus, in the interview following the observation, teachers were asked to comment on the researcher’s observations and critique the emerging theory. Further, as Stake advised, participants were later asked to review drafts of the emerging model.

To increase reliability the researcher sought to discuss the research data (e.g., teacher questionings, questioning sequences, excerpts from teacher interviews) with two peer researchers selected from the researcher’s doctoral cohort. One peer was selected who was familiar with religious education for the Church and who helped provide an insider’s perspective. Another peer was selected who was unfamiliar with seminary instruction and who thus provided an outsider’s perspective. Only the peer who was familiar with seminary teaching was able to respond. That peer examined some of the raw data (transcribed teacher questions, interview transcripts), listened to the researcher’s analysis, and viewed an earlier version of the emerging descriptive model (see Figure 4.1

in Chapter 4) and then provided feedback, challenges, and differing analyses. This peer provided such feedback at three different points in the research process: once after the initial pilot study, once in the middle of data collection, and once during the writing of this report. During these discussions the researcher and the reviewer came to consensus on the axial and selective codes as well as the portrayal of the data in the descriptive model.

### **Vulnerability, Confidentiality, Risks, and Benefits**

All teacher participants were invited to provide consent as a prerequisite to their participation in the study. Potential teacher participants were e-mailed informing them of their nomination for the study and had the option to follow a Qualtrics link in the e-mail to provide their informed consent (Appendix B). Student participants were informed of their potential participation via a letter of information read in a preceding class and sent home to parents. Parents and/or students were permitted to withdraw themselves from the study before or on the day of observation.

No participants from vulnerable populations were included in this study. There was a low possibility of participants feeling coerced to participate in the study because of the relative frequency of observations in LDS seminary classrooms. High school students, most of whom are under the age of 18, participated in classes as well and because the observation is in a classroom setting there was a possibility of students feeling coerced to participate in the observed class. To mitigate the possibility of coercion, students were informed via a letter of information that they could withdraw

their participation at any time without reprisal. Further, all audio recordings were kept on the USU Box drive, student names de-identified in the transcripts, and no student data was used in the report of this study.

It was expected that participants would experience only minimal risk during the study, that is, the magnitude of harm or discomfort would not be greater than participants encounter in their ordinary daily life. Teachers assumed minimal risks and discomfort including minor disruption to classroom instruction, stress from being observed, loss of preparation time due to interviewing or inadvertent loss of confidentiality. For students the foreseeable risks or discomforts included stress or discomfort from having an observer in class or inadvertent loss of confidentiality. In order to minimize those risks and discomforts, the researcher was at the back of the classroom and refrained from any interruption to classroom instruction not necessary for the observation. Interviews were planned to last no more than 30 minutes. No teacher nor student participants reported any discomfort during or after data collection. The transcript of the recording replaced all names with pseudonyms so neither teachers' and students' names were used in reporting. Because it was anticipated that risks and discomfort would be minimal, teachers were allowed to withdraw from the study only if they requested to be removed. Students were permitted to withdraw from the study if either they or their parents requested their withdrawal. No teachers or students withdrew from participation.

Unexpected harms were planned to be promptly detected through self-reporting by participants and observation by student investigator and appropriately reported. It was also planned that if the researcher learned that teachers intended to harm or actually harm

another, state law required that the researchers report this intention or behavior to the authorities. If the researcher learned that students were or had been abused, neglected, or were going to engage in self-harm/intend to harm others, state law required that the researcher report this behavior to the authorities. No harms were reported by teachers or students.

Participation in this study directly benefited teachers by making them more aware of their own questioning practices. Participation in this study directly benefited students by making them more aware of their participation in class. More broadly, this study helped the researchers learn more about questioning and will help future seminary teachers by providing a taxonomy of questions upon which teachers can draw as well as help researchers by postulating a theory of teacher questioning in seminary. It is expected that this study will provide a foundation for further investigation of student responsive participation to teacher questioning.

### **Privacy and Confidentiality**

The researcher made every effort to ensure participant information provided as part of this study remained confidential. Both teacher and student identities will not be revealed in any publications, presentations, or reports resulting from this research study. As this study focused on teacher questioning and not student participation, although student responses were recorded as part of the class observation, no student responses were used in reporting.

Data was collected through typed notes, audio recordings, and interviews, and e-mails. Data was securely stored in a restricted-access folder on Box.com, an encrypted,

cloud-based storage system and in a locked drawer in a restricted-access office. Personal identifiers, such as names, were removed from any transcribed data. The identifiers will be kept for three years after the study is complete and then will be destroyed. All other documents, including informed consent forms, will be kept for three years after the study is complete, and then destroyed. Participants were permitted to decline participation at any point without repercussion.

Teacher anonymity and confidentiality were further maintained by allowing teachers to choose a secure and private location for the interview. Interviews with teachers were conducted in a private location, such as an office, and at a time of the teacher's choosing. Teachers were permitted to withdraw their participation at any time during the study without repercussion. Likewise, students or students' parents were permitted to opt-out or withdraw participation at any time without repercussion.

Prospective participants were informed of all privacy interest rules and procedures before agreeing to participate in the study. All e-mail communication between prospective teacher participants and researchers will be kept on a password-secured e-mail server and will be deleted after 3 years. Principals and/or area directors (supervisors) were not made aware of which of their suggested teachers participated in the study. Only those teachers who were approached about participation knew of their referral by their supervisor.

### **Data Analysis**

In grounded theory, data gathering and analysis are an iterative process and, thus,

happen consecutively (Corbin & Strauss, 2015). Thus, during observation the researcher briefly noted the teacher's questions as well as described in writing the researcher's own conception of how those questions were best grouped and categorized. The coding process followed the traditional model of open coding which looks for initial categories until saturation, axial coding which connects those initial categories, and selective coding which builds the "story" (Creswell & Poth, 2017, p. 2013; see also Corbin & Strauss, 2015). The audio recordings allowed for full transcription of the questions and were examined after the observation and interview to both verify the data as well as continue the process of coding. The resultant codes and themes were added to and expanded with subsequent observations until saturation. From these themes the theory of multidimensional questioning was proposed and will be elucidated in proceeding chapters.

Specifically, data from observations was used to address the first two research sub-questions regarding the kinds of questions and the questioning sequences teachers utilize in class to effect student outcomes. Data from the interviews were analyzed to address the third and fourth subquestions regarding teachers' rationale for questioning. Drawing upon the literature, these analyses sought to expand the understanding of the affective and social outcomes of questioning. The questions posed to teacher participants during the interview allowed them to explain the reasoning behind their questioning practices in class. Due to the prioritization of affective and social outcomes in seminary and from interview data collected in the pilot study, it was anticipated that teachers would describe their questioning in terms of cognitive as well as these non-cognitive goals.

These discussions helped the researcher link the questions asked in class with the student outcomes that the teacher targeted with those questions.

It was a foreseen possibility that teachers might offer additional artifacts that could be used to triangulate the data. These artifacts could include lesson plans, lesson handouts, instructional guides, and other support materials that pertain to a teacher's instruction. The researcher did not request such artifacts; however, it was planned that if the teacher offered them these additional sources of data would be analyzed together with the observation notes, interview notes, audio recordings, and research memos to help fully articulate the findings relative to the research questions. No artifacts were offered by teachers.

### **Reporting**

The results of this study are herein reported in this written dissertation that has been presented to the dissertation committee, read and revised, and then orally defended. Upon defense, the dissertation will be published in the university's electronic database and a few copies printed for the researcher. Subsequent publications of various chapters and/or findings will be pursued in academic journals upon completion of the dissertation.

## CHAPTER 4

### RESULTS

This chapter presents research findings relevant to the central and sub research questions guiding this study and discusses the data and analysis used to arrive at these findings. Drawing on Chapter 3, as is common in grounded theory research (Creswell & Poth, 2017), this chapter will also concurrently describe the researcher's own emergent thinking as it was applied to the data. Tables 4.1- 4.4 display the research questions as well as a brief summary of the major data sources and the salient findings.

In brief, teacher questioning was found to vary across three main dimensions. First, teachers asked questions that ranged in divergence, from closed questions that required “right” answers, to questions that guided students along a specific thought path, to questions that allowed students autonomy to share various thoughts or feelings.

Table 4.1

*Research Subquestion 1, Primary Data Source, and Findings*

Subquestion	Primary data source	Findings
What types of questions do instructors ask in seminary classes?	Classroom observations	<p>Teachers asked a variety of questions that ranged in their form and in their intended purpose.</p> <p>Open coding during observations and interviews revealed over 25 different types of questions. Iterative analysis of the observation and interview data combined those open codes into nine axial codes. Selective coding placed these nine axial codes along three main dimensions describing a question's divergence, relevance, and significance.</p> <p>These three dimensions, each with a respective three categories drawn from the axial codes, have been combined into a multidimensional questioning model to explain the breadth of teacher questions observed (see Figure 4.1)</p>

Table 4.2

*Research Subquestion 2, Primary Data Source, and Findings*

Subquestion	Primary data source	Findings
How do instructors sequence their questions during classroom instruction?	Classroom observations	<p>Teachers often clustered questions together. These clusters often contained either a series of similar questions, such as multiple closed questions, or else a sequence of questions, such as questions that begin closed and progressed to more open questions.</p> <p>Within the three main questioning dimensions—divergence, relevance, and significance—teachers often began with questions they deemed to be simpler or easier for students to respond to, such as a question prompting students to look for something in a text. These questions almost invariably led to questions that teachers sensed were more meaningful, albeit difficult, such as questions that prompted students to apply an identified principle to his or her life.</p>

Table 4.3

*Research Subquestion 3, Primary Data Source, and Findings*

Subquestion	Primary data source	Findings
What do instructors view as the role of teacher questioning in the seminary environment?	Teacher interviews	<p>Teachers saw questioning as a dynamic process that encourages students to move intellectually, emotionally, or behaviorally from a starting place to a designated outcome.</p> <p>Although teachers saw the utility in questioning that assesses student knowledge or comprehension, teachers heavily favored questioning as a method to provoke deep and analytical thinking about a topic, evoke personal feelings and beliefs, prompt participation, and guide practical and applicable self-directed learning.</p>

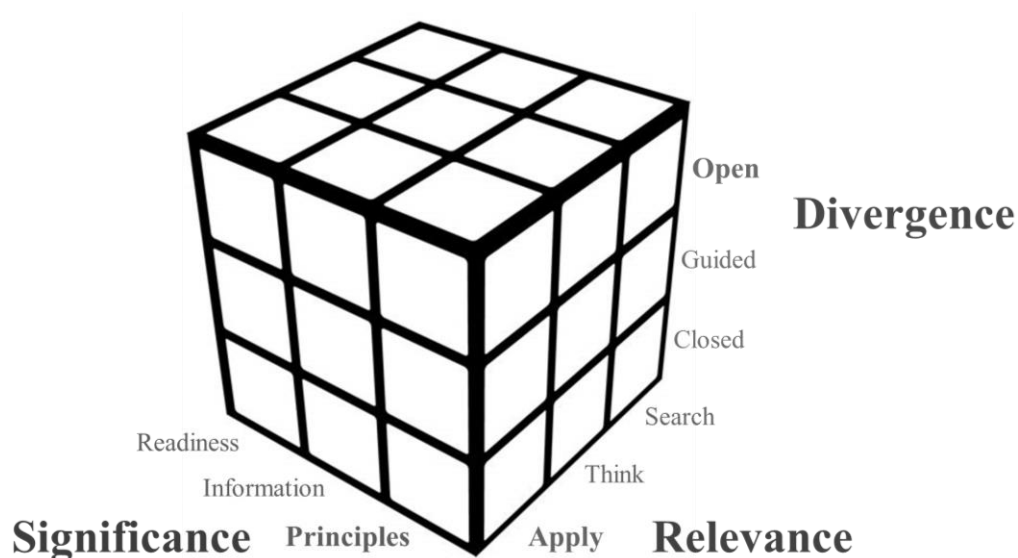
Table 4.4

*Research Subquestion 4, Primary Data Source, and Findings*

Subquestion	Primary data source	Findings
What outcomes do instructors target with their individual questions and questioning sequences?	Teacher interviews	<p>Teachers used questions to target cognitive outcomes, such as assessing students' current knowledge or comprehension of topics, stimulating analytical thinking about a topic, and guiding application of class principles to students' personal lives.</p> <p>Teachers additionally utilized questions to target affective outcomes such as initiating interest in a topic, prompting emotional valuing of identified lessons or principles, and arousing a sense of urgency and desire to act.</p> <p>Teachers also questioned students pursuant of social or behavioral goals, such as widespread participation in class, engagement in class activities, and application of principles and practices outside of class.</p>

Second, questions varied in their relevance, from questions that obliged students to search for answers, to questions that challenged students to think about and discuss their own analysis of ideas or topics, to questions that invited students to share personal applications related to the study. Third, questions varied in significance, from questions about topics that prepared or readied a student for study of the scriptures, to questions about contextual information in scriptures or in other sources related to the scriptures, to questions about principles derived from the scriptures. These dimensions can be combined to explain the breadth of teacher questioning observed in this study. To illustrate the combination of these dimensions the following multidimensional questioning model was constructed (Figure 4.1).

A three-dimensional cube design was selected for the model for its ability to depict the three separate questioning dimensions and their potential combinations. As will



*Figure 4.1.* Multidimensional model of questioning.

be explained hereafter, teachers in this study were observed to ask numerous types of questions. Each individual cube in the model represents a specific type of question identified in the study. The three dimensions combine to describe those questions.

This chapter begins with a brief description of the sample of teachers selected for this study including a description of each participant's professional background as well as a summary of the observations performed and interviews conducted for this research. Additionally, vignettes of each teacher's class are provided to give both examples of what instruction looks and sounds like in seminary classes as well as a backdrop to the forthcoming analyses of each teacher's questions and the subsequent analysis of questioning across all classes. Following these vignettes, the results of the research coupled with a description of the iterative process of analysis used to obtain them will be presented.

### Sample

Six seminary teachers were selected for participation in this study. To be considered for participation in the study teachers were invited to share basic information regarding their professional backgrounds and work experience. The six participants in this study are all teachers in the Salt Lake Valley who are currently assigned to seminaries adjacent to a high school. Student participants included those students in each teacher's respective class on the day of observation. To protect the anonymity and confidentiality of the teachers and students in this report names have been replaced with pseudonyms. Further, teachers' experience levels are presented as falling inside of a range. All observations happened on days when the teachers had planned a traditional seminary lesson, that is study of a block of scripture (usually a chapter or two). Table 4.5

Table 4.5

*Participant Teachers' Pseudonyms and Descriptions*

Teacher (pseudonym)	Years of experience	Current seminary assignment	Previous seminary assignments
Bill Simmons	10-15 years	High school principal	High school instructor Junior high instructor Mentor to apprentice teachers Seminary council advisor
Dave Thompson	10-15 years	High school instructor	Junior high instructor
Greg Lyman	20-25 years	High school principal	High school instructor Junior high instructor
Peter Ferris	20-25 years	High school principal	High school instructor Junior high principal Junior high instructor Institute (college) director S&I coordinator
Steven Lewison	5-10 years	High school instructor	None
Wendy Smith	1-5 years	High school instructor	None

contains a summary of the pseudonyms used in reference to the teachers, their years of experience, and their current and previous assignments. The lessons and lesson topics and themes will be explained in more detail in the vignettes following the table.

### **Vignettes**

When one of the participants was informed of the focus of and questions guiding the current research study, he responded half in jest and half in critique that such a study could not be done. “A question is so much more than words; it’s the inflection and the environment and the teacher and the students and the mood and so much else.” Indeed, the exercise of seeking to isolate questions from their context is, at the same time, necessary to some degree for focused analysis as well as potentially frustrating to the true understanding of the dynamic nature of teacher questioning. Thus, the following descriptions of each participant’s observed class provide necessary context and humanness to the teachers and the teaching environment.

It is important to comment that seminary teachers are provided curriculum materials for their consideration as they prepare to and teach lessons. These curricula provide contextual or historical information on the specified scripture blocks, suggested scriptures to read in class, ideas for classroom activities, and a short list of proposed questions to generate discussions. Teachers are granted a high degree of autonomy regarding their classroom instruction; some teachers choose to follow the curriculum closely and others choose to diverge based on their own preferences and assessment of classroom needs. For example, in the vignettes presented below, Wendy followed the curriculum suggestions closely, whereas Dave’s lesson diverged sharply from what is

provided in the manual.

It may be obvious but should be noted that the lesson and subsequent discussion in these classes focus on religious teachings and principles relevant to members of The Church of Jesus Christ and their understanding of scripture. The book of study for the year in seminary classes worldwide, including in the classes observed for this study, is the Doctrine and Covenants (D&C) which is a collection of writings or dictations on Church teachings or practices (often referred to as “revelations” by members of the faith) predominantly given by Joseph Smith the first president (most often referred to as a “prophet”) of the Church in the 1830s. As such, some of the data presented in the form of quotes or questions may be difficult to understand for those not familiar with the Church. In the following vignettes each class will be described in a way that both reflects, as accurately as possible, the teacher’s perspective of class teachings (thus scriptures will be described as coming from God directly to students, prophets will be presented as chosen by God and as speaking for Him, etc.) as well as familiarizes the reader with the content and attendant vocabulary necessary for more complete understanding of the context. It should finally be noted that any quoted or paraphrased teachings are the sole opinion of the teachers themselves and should not be viewed as definitive declarations of Church teachings or positions nor are they necessarily the representation of the author’s personal beliefs.

**Bill Simmons.** Bill has been employed with S&I for 10-15 years. He has previously taught at both junior high school and high school seminaries and is currently assigned as a seminary principal. As a principal he mentors, trains, and supervises the

other teachers on his faculty in addition to teaching a class of his own.

Bill began the first part of his lesson by asking his students to open their personal copies of the scriptures to the text for the day's lesson in D&C 45. He asked them to search for, as he called it, the "word of the day" in the first few verses and, once the word "hearken" was identified, led them through a discussion of what the word means ("to listen and obey") and why early Church members and, by extension, modern members are commanded to listen and obey Jesus Christ. A large portion of the discussion focused on descriptions of Jesus inherent in the text as well as drawn from students' own analysis and familiarity with Church teachings that justified that commanded obedience. Bill led the students through an analysis of many of the emergent descriptions of Jesus, for example, the description of Jesus as an "advocate" for his disciples with Heavenly Father or the description of him in the text as a "light" that pushes away darkness before prompting them to consider specific ways in which they should better "hearken" to Jesus and his teachings.

This first section of the lesson occupied approximately 45 minutes of class time. For the second part of his lesson, which took around 15 minutes, Bill divided up his class by age and asked each age group to search the next section of the text for "signs" prophesied to signal and accompany the Second Coming of Christ. After the initial search students were prompted to share what they found and asked which of the signs they observed occurring in the world today. Bill pointed out that this experience might have likely caused anxiety and worry in students that the end of the world is near; however, he directed students to specific verses in D&C 45 that express direction to disciples of Christ

that they need not worry if they are obedient to Jesus' teachings.

**Dave Thompson.** Dave has been teaching seminary for 10-15 years and has taught at multiple locations. He is currently assigned to a high school seminary.

Dave started class by asking his students if they felt God cares more about an individual's past, present, or future. After a spirited discussion with students he asked them to search for words or phrases in D&C 40:8, written about James Covel, and early member of the Church, that indicated how God views the past, present, and future. The study of this verse and a few subsequent ones led to a discussion about how God views students' past, present, and future. Dave motivated the discussion periodically by analytical or personal questions that prompted students to think about a specific aspect or else discuss its application to their personal lives.

To conclude the lesson Dave displayed a list of questions on a projector screen that prompted students to consider a "personal challenge" previously self-identified by the students and to which the current discussion was brought to bear. These questions directed students to consider how their past actions had contributed to current difficulties, what changes they felt they needed to make in the present, and what vision they had for their future should they succeed in overcoming their personal challenges. Students were asked to write their responses to the questions in a class notebook.

**Greg Lyman.** Greg has been employed with S&I for 20-25 years and has taught in multiple locations and assignments. He currently works as a principal at a high school seminary where he teaches one class in addition to his administrative responsibilities.

On the day of Greg's observation, his students were late to class due to an

assembly at the high school. Seeing that he had about half the usual time he spends on lesson Greg explained that he wanted to quickly get students to the “meat” of the lesson. Thus, he began by asking students to quickly search a selection of verses from D&C 46 for ways in which modern disciples of Christ can avoid being deceived. Once students identified the principle stated in the text that God gives spiritual gifts to enable His children to avoid deception, Greg engaged the students in a discussion about their feelings about receiving gifts in general before asking them to once again search the text for spiritual gifts God gives. He asked students to compare their study in D&C 46 with the story about Jesus being anointed by the unnamed woman during a feast at a Pharisee’s house recorded in Luke 7. In this story, Greg explained, Jesus was using some of his spiritual gifts to teach and bless. Greg led students through the story by asking them pointed questions to direct their attention to certain details in the text and to prompt them to consider certain implications of the story. Greg ended the lesson by asking students to think back on examples from their own lives when they felt Jesus had exemplified a spiritual gift on their or their family’s behalf.

**Peter Ferris.** Peter has been employed with S&I for 5-10 years and has spent his career, up to this point, assigned to the same high school seminary.

Peter began his lesson by asking students to share memories from their past that they felt they would never forget. After students shared a few past experiences, such as vacations or birthday parties, he asked them to consider whether or not those memories had been written down and, consequently, what journaling or not journaling a memory says about its importance in an individual’s life. He then led students through a series of

simple questions to identify some contextual details stated in D&C 47 regarding John Whitmer, an early historian for the Church assigned in the section to keep a regular record of the events of the Church. After students volunteered the results of their study Peter asked them to comment on what importance they saw in keeping a history of the Church and, subsequently, a history of their own personal experiences with the Church and with God. Students were further invited to share their experiences either keeping a personal journal or else reading or otherwise benefiting from journals or diaries their ancestors had kept.

Peter then shifted the class discussion by asking students if they had heard of the wildfires that had recently occurred in California. He posed to them the hypothetical situation and asked how they would respond if their stake president (ecclesiastical leaders) asked them to open their homes to and temporarily house individuals or families who had to leave California because of the fires. After a few responses he invited them to search the next section, D&C 48, for the injunction written to early Church members in Ohio to open their homes to refugee Church members from New York. He asked students to read a few verses and write a principle they learned from what they read. After students reported their written principles, he opened up a discussion on how students could, figuratively if not literally, open up their homes and hearts to others who may be struggling. To students who responded with answers he asked follow-up questions to help them specify actions they would take in the immediate future.

**Steven Lewison.** Steven has worked in various positions and assignments for S&I for 15-20 years including as a seminary teacher, a seminary principal, a college-level

institute director, and a coordinator who oversaw and trained volunteer seminary teachers outside of the Mountain west. He is currently assigned as a principal of a high school seminary.

On the day of Steven's observation, he had scheduled the beginning portion of his lesson to focus on a specific doctrinal topic, as is occasionally advised by curriculum, rather than on a section of scripture. The topic of study for the first 40 minutes of class was revelation, meaning God's communications to his individual children and through Church leaders. Steven began by asking students why they felt God wanted to give them revelation. After a few students shared their thoughts, Steven asked if any in the class had received patriarchal blessings, which are specific blessings given to individual Church members by an assigned patriarch from their local unit and transcribed for the individual's later reference. To those students who had received patriarchal blessings he asked them questions regarding their experience during the blessing and, later, as they have revisited the transcription.

Steven then asked students to transition their focus from personal revelation to priesthood revelations or directions that from God through past and present Church leaders. He asked students to search through a list of scriptures and match them to statements about priesthood revelation he had written on the board. To illustrate the need for direction from trusted leaders Steven asked a volunteer student to blindfold himself and try to navigate to the front of class while two of his peers sought to give him conflicting directions which made it difficult for him to find his way. After both the participants and the class responded to his questions regarding the demonstration Steven

directed students to identify in D&C 43 what instructions God gave regarding prophets and, specifically, how revelation received through a specified prophet diminishes confusion from the multiple competing voices vying for attention and obedience. Steven showed a video clip to students from the current Church president where he gives specific instructions to the youth of the Church. He then asked students discuss what challenges they heard iterated by the president in the video clip and what experiences they had already had as they had previously sought to obey or what actions they planned based on his instructions.

The final 15 minutes of class focused on the latter part of D&C 43. Steven asked students to share their feelings and experiences with alarm clocks before leading them through a process of identifying in the scriptures the text indicating that the Lord would use a trumpet, just like an alarm to wake people up from sin and prepare them for the Second Coming of Christ. Steven led students briefly through a study of a few verses that introduced and expounded on the injunction to Church members to help prepare the world for the Second Coming and discussed potential associated student actions.

**Wendy Smith.** Wendy has been teaching seminary for less than 5 years. She is currently assigned to teach at a high school seminary.

After a few introductory, administrative items Wendy began her lesson by asking students how their lives were different because of the lightbulb. After a few quick responses she asked the same question about the automobile, then smart phones, then Chick-fil-A. Lastly, she asked students how their lives were different because of the Sacred Grove, the place where Joseph Smith experienced his First Vision of God and

Jesus Christ. For Church members the events in the Sacred Grove signify the calling of Joseph Smith as a prophet and, thus, the beginning of the Restored Church. Wendy guided a discussion about the importance, both in terms of Church history and doctrines as well as in terms of their personal relationship with God, of the First Vision and subsequent organization of the Church. She invited a few students to share their personal feelings about their relationship with God and their personal belief in the First Vision.

Wendy transitioned by asking students where they would choose to live if they could live anywhere in the world. She reminded students of a previous lesson regarding the Church's pursuit of the scripturally promised Zion, a prophesied city of God on Earth. Wendy had prepared a PowerPoint presentation with scriptures and questions that guided students through a study of D&C 57 and other related scriptures that describe the location of Zion and the principles governing its establishment. Students were provided a "travel brochure" that they were invited to fill out with the results of their study. After giving students time to study a block of scripture, Wendy asked for their findings and then followed up on student comments with additional questions that challenged students to use their findings in scripture to guide them in establishing a figurative Zion in their own lives and families. At the conclusion of class, Wendy asked students how they had or how they planned to use talents they felt they had to "build Zion."

### **Data and Analysis**

The questions teachers asked in this study were nearly as varied as the students to which they asked them. Dave expressed that he felt about half of his questions were

planned and fit within specific categories and the other half spontaneous and often “uncategorizeable”. However, when he was informed that he had asked almost 100 questions in his class he responded, “Oh, I guess a lot more are ‘uncategorizeable’ than I thought!” A few teachers stated that few of their questions were planned or fit a specific description because almost all came spontaneously as they interacted with students. Indeed, many teachers expressed that they felt there was a certain, as Peter put it, “organic nature to questioning.”

Steven expressed the following about the nuance and subtlety of questioning which aptly captures similar feelings from other participants:

This is the metaphor I use for questioning—it’s jazz. The jazz musician isn’t just winging it; the jazz musician understands his craft and music theory and mood so that he’s able to improvise in response to the audience, in response to the mood of the day, in response to the moment, because of the skills that he’s practiced or that she’s practiced to create, on the spot. In contrast to that you have the classical piece. A sonata is a sonata because of its structure.... In both instances, mastery matters a great deal. But because of the classroom being a human endeavor—I’m dealing with kids that are different than yesterday; I’m different than yesterday—teaching and learning is jazz. I think sometimes we struggle in the classroom because we make it too classical and we’re not ready to improvise.

In this study, the questions from teachers to students were observed to be exactly this kind of organic, often-improvised process of teaching and learning. Thus, categorizing questioning proved to be a difficult task. Contributing to the difficulty was the fact that the questions observed in class could have been categorized using many different schemes.

To navigate this nuance, and following the grounded theory methodological framework discussed in the previous chapter, data collection, analysis, and coding happened consecutively and iteratively in this study. During observations notes were

taken on the questions the participant teacher asked as well as potential open codes that could be used to describe those questions. During the interview specific attention was paid to how each teacher viewed his or her own questions. The semistructured nature of the interviews allowed the researcher to ask follow-up questions relative to that specific teacher's observation. Thus, while each teacher was asked "What kinds of questions do you like to ask?", Bill was asked to expound on what he referred to as "shallow thinking" and "deep thinking" questions; whereas, Greg was asked to explain the differences between, and the different purposes behind, closed and open questions.

This concurrent, somewhat organic, and certainly evolving process of data collection, data analysis, and open coding yielded the following list (Table 4.6) of open codes that depicts, in examination of research subquestion 1, what types of questions these six teachers asked in their classes. These questions will be discussed in greater detail hereafter.

With each subsequent observation and interview similarities were seen between the individual classes and the emerging codes used to describe teachers' questions. Axial coding was used to explain groups of similar open codes. The following nine axial codes emerged to further describe the data:

- Closed Questions
- Guided Questions
- Open Questions
- Search Question
- Think Questions
- Apply Questions
- Readiness Questions
- Information Questions
- Principle Questions

Table 4.6

*Initial Open Codes from Observations*

Teacher	Question codes			
Bill Simmons	<ul style="list-style-type: none"> <li>• Search</li> <li>• Think</li> <li>• Feeling</li> <li>• Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Readiness</li> <li>• Act</li> <li>• Impersonal</li> <li>• Personal</li> </ul>	<ul style="list-style-type: none"> <li>• Rhetorical</li> <li>• Closed Leading</li> <li>• Guided</li> <li>• Procedure</li> </ul>	<ul style="list-style-type: none"> <li>• Text</li> <li>• Shallow</li> <li>• Deep</li> </ul>
Dave Thompson	<ul style="list-style-type: none"> <li>• Open</li> <li>• Closed</li> <li>• High-auton.</li> <li>• Low-auton.</li> <li>• Lesson</li> <li>• Not lesson</li> </ul>	<ul style="list-style-type: none"> <li>• Ready for lesson</li> <li>• Personal</li> <li>• Impersonal</li> <li>• Look for context</li> <li>• Look for info</li> </ul>	<ul style="list-style-type: none"> <li>• Look principle</li> <li>• Think context</li> <li>• Think info</li> <li>• Think principles</li> </ul>	<ul style="list-style-type: none"> <li>• Experience (self)</li> <li>• Experience (others)</li> <li>• Belief</li> <li>• Feeling</li> </ul>
Greg Lyman	<ul style="list-style-type: none"> <li>• Look for (eyes)</li> <li>• Report back</li> <li>• Look at self</li> <li>• Testify</li> <li>• Look at world</li> </ul>	<ul style="list-style-type: none"> <li>• Share</li> <li>• Experience (heart)</li> <li>• Closed</li> <li>• Guided</li> </ul>	<ul style="list-style-type: none"> <li>• What</li> <li>• Why</li> <li>• How</li> <li>• When</li> <li>• Think about text</li> </ul>	<ul style="list-style-type: none"> <li>• Think about world</li> <li>• Think about self</li> <li>• Feel/experience</li> <li>• Summary</li> </ul>
Peter Ferris	<ul style="list-style-type: none"> <li>• Connect world</li> <li>• Connection text</li> <li>• Connection life</li> </ul>	<ul style="list-style-type: none"> <li>• Search info</li> <li>• Search principle</li> <li>• Think info</li> </ul>	<ul style="list-style-type: none"> <li>• Think principle</li> <li>• Think inside</li> <li>• Think outside</li> <li>• Closed</li> <li>• Guided</li> </ul>	<ul style="list-style-type: none"> <li>• Open</li> <li>• Past experience</li> <li>• Current apply</li> <li>• Future apply</li> </ul>
Steven Lewison	<ul style="list-style-type: none"> <li>• Readiness</li> <li>• Informational</li> <li>• Principle</li> <li>• Analytical</li> <li>• Applicable</li> <li>• Eyes</li> <li>• Mind</li> </ul>	<ul style="list-style-type: none"> <li>• Heart</li> <li>• Hands</li> <li>• Anticipated answers</li> <li>• Unanticipated answers</li> <li>• Rhetorical</li> </ul>	<ul style="list-style-type: none"> <li>• Search for information</li> <li>• Report back information</li> <li>• Search for principles</li> <li>• Report back principles</li> </ul>	<ul style="list-style-type: none"> <li>• Think about information</li> <li>• Think about principles</li> <li>• Readiness</li> <li>• Experience with information</li> <li>• Apply principles</li> </ul>
Wendy Smith	<ul style="list-style-type: none"> <li>• Closed</li> <li>• Leading/guided</li> <li>• Open</li> <li>• Readiness</li> <li>• Information</li> <li>• Principles</li> </ul>	<ul style="list-style-type: none"> <li>• Look at readiness</li> <li>• Search for information</li> <li>• Search for principles</li> </ul>	<ul style="list-style-type: none"> <li>• Think about readiness</li> <li>• Think about information</li> <li>• Think about principles</li> </ul>	<ul style="list-style-type: none"> <li>• Experience with readiness</li> <li>• Experience with information</li> <li>• Experience with principles</li> <li>• Apply readiness</li> <li>• Apply principles</li> </ul>

terminology could be harmonized with the nine axial codes listed above. Figure 4.2 illustrates how the open codes were axially coded and, subsequently, selectively coded. Because many of the initial open codes were eventually described by a combination of axial codes primary relationships are connected with black lines and secondary relationships are connected with a gray line.

Selective coding combined these nine axial codes into three dimensions. Early in data collection it was observable that a question could be categorized in multiple ways. For example, consider the following question from Wendy to a student: “Why do you think it’s important that we know that truth?” This question was initially coded as a think question because it invites the student to share a personal thought. However, upon further analysis it was observed that this question was also a question about a principle; it asked the student about a truth drawn from the text. Further, this question could be classified as a guided question because of the question allowed the student some degree of autonomy in her answer but limited that autonomy to the proposition that the truths is, in fact, important to know. Similarly, Peter’s question, “What are some ways that we can give to others in their time of need?” was classified, originally as an apply question because it asked students to consider how they could apply or act on the conclusion of the preceding discussion. However, because the question was also about a principle and allowed students a high degree of autonomy it was later also classified as a principle question and an open question.

The observation that codes were not mutually exclusive but could be overlapped to describe the numerous teacher questions was a pivotal moment in formulating the

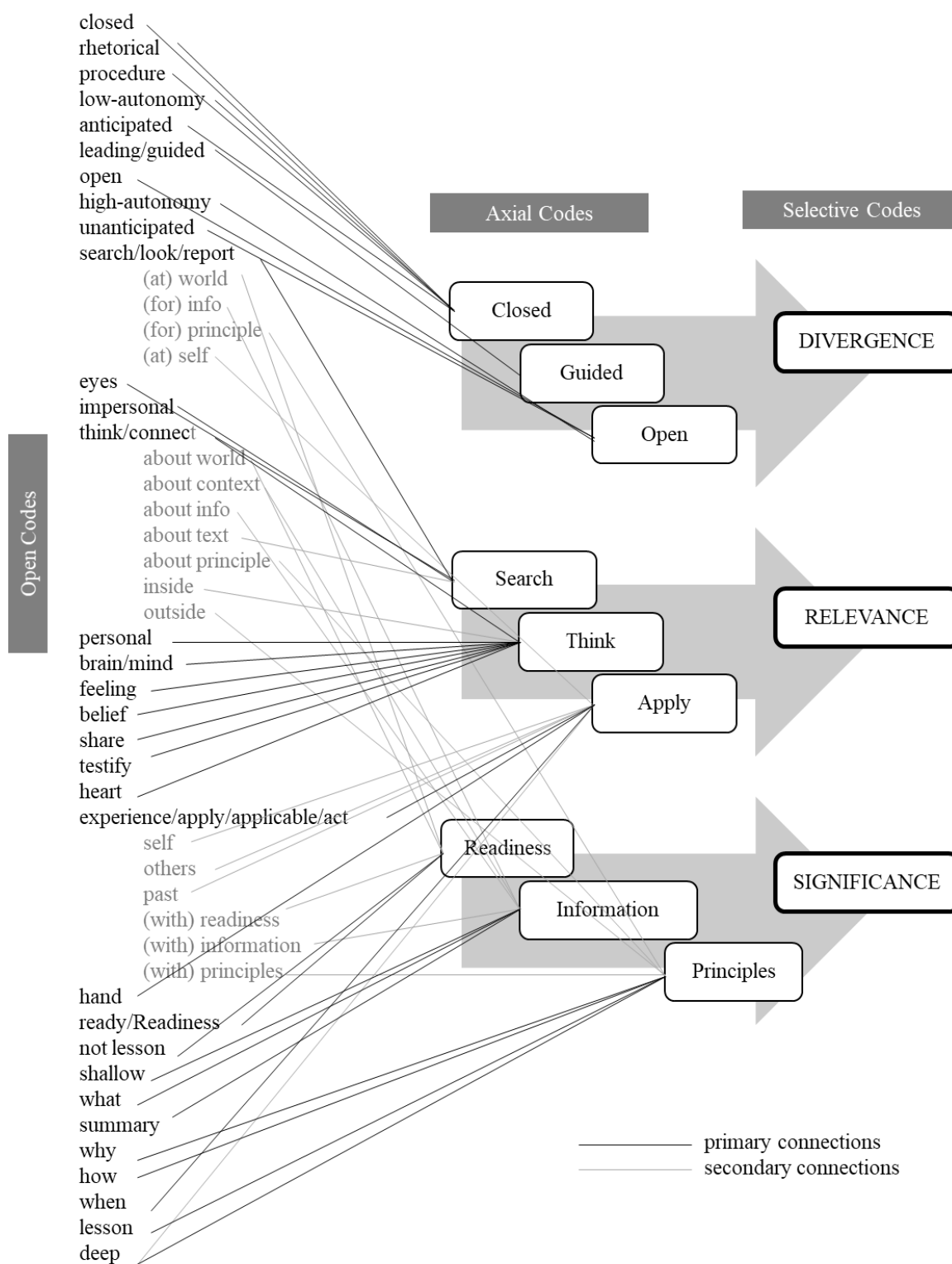


Figure 4.2. Open, axial, and selective coding of teacher questions.

selective codes used to link the various axial codes together and make meaning of the data. Three selective codes emerged from this observation and subsequent analyses:

- A question's divergence
- A question's relevance
- A question's significance

These selective codes—referred to hereafter as questioning dimensions—encapsulate the nine axial codes and, when combined, allow for a more contoured description of the data (see Figure 4.1).

As was discussed in Chapter 3, member checking and peer review were used to triangulate these data analyses. The primary venue for member checking was the interviews with the teacher participants following the observations. In these interviews, teachers were asked to comment on the coding the researcher had used to classify their questions, amend or add to those codes, and describe their rationale behind using those specific questions. As the multidimensional model started to emerge, participants were shown and explained the model and asked if it represented their perspective of questioning in their classrooms and invited to, again, propose amendments or additions. These changes are reflected in this chapter and its description of the results.

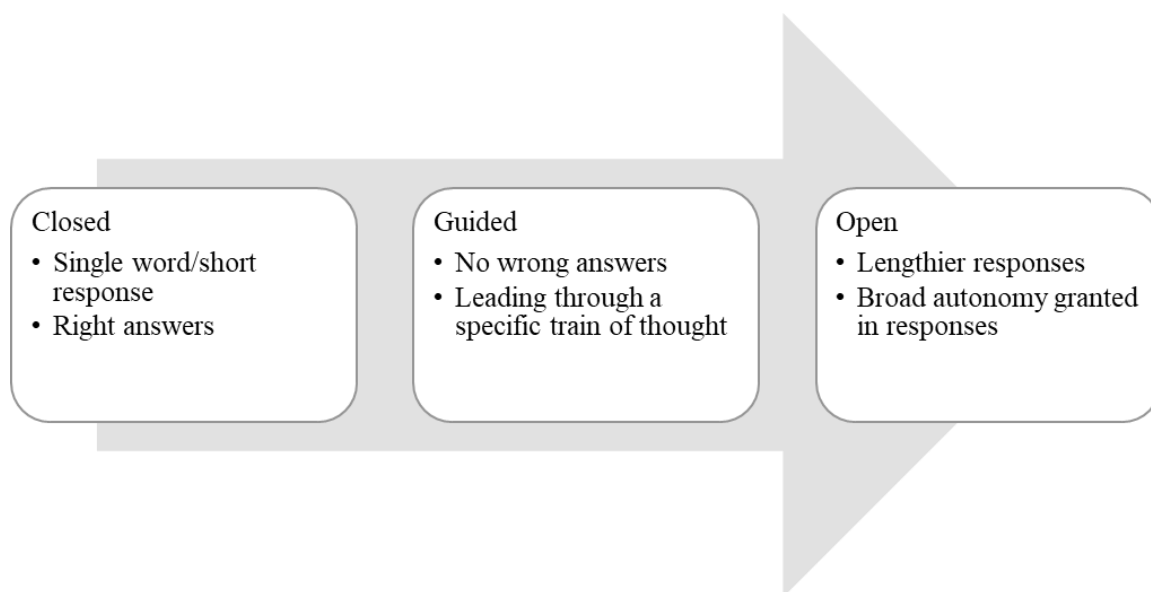
After observations and interviews had been completed, participants were e-mailed a summary of the findings and a version of the model that had been updated based on received feedback and invited to respond again with input. Only one participant responded to the e-mail and conveyed his affirmation that he felt the model “had arrived” at something he felt was both descriptive of his perspective and practice of questioning as well as prescriptive for better questioning.

To facilitate peer review, the researcher sought to discuss data, findings, and analyses with two peers. Only one peer was available to review the research. With that peer the researcher shared vignettes from the data, the coding and analyses of those vignettes, the emerging axial and selective codes, and the proposed multidimensional questioning model. The peer was invited to comment on his own analysis of the data as well as evaluate the analysis conducted by the researcher. These discussions tended more towards evaluating the formatting of the model and ensuring that the data, specifically the different questions teachers asked, were reflected in the data. In some cases, axial code labels were altered—for example from “look” to “search” and from “into” to “readiness”—to both more accurately reflect the data and to ensure that axial and selective codes encapsulated the various open codes. These reviews and proposed changes are reflected in this chapter’s description of the results.

In the following sections, the three questioning dimensions and the nine respective questioning categories are discussed in more detail. The data—presented as quotes from observations and interviews—are provided to substantiate the findings as well as provide examples of the categories and dimensions. Each section begins with a figure depicting the specific dimension discussed. These figures help address the first and second research subquestions by identifying the questioning categories within each dimension that teachers used in class as well as the sequence of those categories. It should be noted that although most sequences followed these progressions, not all did. However, teachers explained in interviews their intentions to follow these progressions.

## Divergence

The first and perhaps most obvious dimension of teacher questioning observed was the divergence of teachers' individual questions, that is, the degree of autonomy the teacher allowed students in their responses. This dimension is illustrated in Figure 4.3. As the first observation began and the researcher began coding questions, the easiest line of demarcation between questions was the resultant response that question elicited from students. It was quickly seen that some questions prompted short answers often from just a single student. For example, after Bill's invitation to his students to identify the "word of the day" in their scriptures he asked a single student, "Did you find it?" That student's affirmative response was enough for Bill to progress to the next question. Other questions, however, evoked lengthier responses from multiple students, such as when Bill asked, later in his lesson, "In verse three, what do you think the word 'advocate' means?" To this question multiple students responded with varying answers. Bill even prompted



*Figure 4.3.* The divergence dimension of teacher questioning.

additional responses by asking, a few times, “Anyone else?” or “Any other thoughts?” When coding these questions, it was interesting that although both focused on a single word in the scriptures, the phrasing of each question and the time given for students to respond conveyed a very different interest in the depth and amount of student responses.

As data collection progressed it became apparent that a dichotomous coding of questions as either closed or open was too restrictive and did not adequately describe the emerging data. Often, teachers asked questions that were neither closed for fully open but rather seemed to be guiding students along a certain line of thinking but with some freedom granted them to express ideas and thoughts. For example, after the open question mentioned above, Bill asked, “Guys, how does the word ‘advocate’ really describe the Savior?” Bill was clearly guiding students to see the word “advocate” as a specific description of Jesus, but it was also clear that he was allowing students some freedom in how they expressed their understanding of that description.

Further, closed questions often implied a right answer and only required a short response, which in essence, directed students to converge on a point of understanding already known to the teacher. Open questions stated or implied a breadth of possible responses and often required lengthier responses which allowed students to diverge from the discussion or the intended lesson or understanding. Guiding questions conveyed an intended direction but allowed students more options for response than closed questions. These three categories are discussed here in greater detail.

**Closed.** Closed questions were readily observable in all classes. Most often these questions seemed intended to draw out simple, right answers from students. For example,

Bill began a section of his lesson by asking students, “How many verses are in this section?” to which, after glancing at their scriptures, a student responded with the correct number. In the middle of a discussion in Peter’s class he asked students, “Is the invitation to record your [personal] history meant just for you?” The right answer, provided quickly by students, was “no.” Similarly, Wendy, after giving students time to study a scripture block describing instructions given to Church members on how they could create a Zion-like community, asked students to reference a specific verse in that block and answer her question, “So, how to become Zion, what’s one way?” These few examples represent many more. Open coding of these and similar questions produced codes that were labeled as closed, closed-ended, convergent, low-autonomy, procedural, or rhetorical. Grouping these open codes under the same axial code of closed questions was relatively straightforward.

Despite the relative simplicity of categorizing questions as closed, the various codes used to initially describe these questions illuminated some subtle variety. Some closed questions seemed to be merely procedural in nature, such as when Bill asked his students, “Are you guys ready to dive into today?” Many of these procedural, closed questions seemed almost rhetorical and the students’ responses seemed, at the same time, expected and inconsequential to the lesson. However, other closed questions, though still leading students to a specific answer, were more significant to the lesson. Only a few minutes after Bill’s question about students’ readiness he asked them a series of closed questions directing them to identify specific pieces of information in the text: “What do you see in verse four? What else do you see in verse six? Anything in verse eleven?”

Thirteen?” Students’ responses to these questions were required to converge onto right answers but the answering of those questions was necessary for the lesson to progress. Indeed, Bill waited for at least one response to each question before progressing to the next.

Pertinent to the second research subquestion of how teachers sequenced their questions in class, it was observed that closed questions often came in clusters. Many of these clusters seemed to aim at helping students progress through a portion of the lesson and arrive at a point at which more autonomy would be granted. The following excerpt from Steven’s class, in which he asked 24 questions in approximately 3 minutes with most of them being closed questions, illustrates just such a closed questioning cluster. It should be noted that, because no student data is reported in this study all student responses in this and all following vignettes have been omitted and any student names mentioned by the teacher replaced with pseudonyms. Previous to this excerpt, Steven had put a list of scriptures on one side of the whiteboard and a list of doctrinal statements on the other side and directed students to work with partners in matching up the scriptures with the doctrines. He then said,

Steven: Let’s match these up; what did you guys have?

Student: ...

Steven: John, what did you have Doctrine and Covenants 28:2, 6-7 matching up with?

Student: ...

Steven: Francis, where did you put that one?

Student: ...

Steven: Paul and Jeremy, what did you have for chapter 28 verse 8?

Student: ...

Steven: Does anyone have a calling right now?

Student: ...

Steven: Francis, what are you?  
Student: ...  
Steven: Jeremy, what have you got?  
Student: ...  
Steven: Any quorum presidents in here?  
Student: ...  
Steven: Class presidents?  
Student: ...  
Steven: Or counselors in presidencies?  
Student: ...  
Steven: How many of you are ministering brothers and sisters?  
Student: ...  
Steven: Can you, as a minister, receive revelation for the bishop?  
Student: ...  
Steven: \*Why not?  
Student: ...  
Steven: \*Why would that not be an appropriate action?  
Student: ...  
Steven: Lynda and Thomas, what did you come up with for 28:12-13?  
Student: ...  
Steven: Now, some of you also saw that 28:12-13 also goes with what?  
Student: ...  
Steven: Alright, Shelly, 28:2-4, what did you guys come up with?  
Student: ...  
Steven: 43:5-7, Paul, what did you guys come up with?  
Student: ...  
Steven: Anything from 54:3, did you get to that one?  
Student: ...  
Steven: Did anybody get to these ones?  
Student: ...  
Steven: Okay, what did you come up with Bree?  
Student: ...  
Steven: Hannah, what did you guys come up with?  
Student: ...  
Steven: Did you get to 55:5?

Student: ...

*Note.* \* these questions are not closed questions)

After almost every question, Steven paused for a response from a student and, in some cases, followed that response with a comment or instruction of his own.

When teachers were asked questions relevant to the fourth research subquestion regarding their rationale behind certain questions it became quickly apparent that teachers had mixed views about the utility of and wisdom in utilizing closed questions. Almost every teacher, when asked about the kinds of questions they try not to use, mentioned they seek to either outright avoid or else progress quickly from using closed questions in their instruction. Wendy stated, “I always try to avoid yes/no questions” because, she explained, she felt they tended to stop momentum in conversations and dampen student participation. Steven expressed, similarly, “I try to avoid ‘yes/no’ questions, obviously, questions that have short responses, or if they do give short responses using a follow-up question” to invite them to explain or justify their answer. Bill confided, “One of my weaknesses is asking the ‘Guess what Bro. Simmons is thinking’ type questions; the ‘I want this answer and you’re going to give it to me, and if you don’t, I’ll keep asking until you give me the [right answer]’ type of question.” When asked why he tried to avoid those “guess-what’s-in-my-head” questions he explained, “I think for me, the reason I don’t want to ask those is because that’s not what they’re finding in the scriptures—what I want isn’t what they’re finding.”

Peter explained what he saw as the social impact of asking closed questions. Good questions, in his view, engage students and lead to “snowballing participation”; bad

questions, however, “can shut down a class.” In his experience, Peter stated he had seen closed questions limit discussion because students sense the teacher already knows the answer and they have to play the “guessing game” with the teacher. Perpetuation of this style of questioning, Peter concluded, would “break a class,” by which he meant the elimination of participation and motivation among students for class study. When asked what questions he avoids Greg immediately responded, “What I hate is, and I had four of them today, is ‘yes/no’ questions. I try to keep track of them because I hate them....I think they kill classes.”

Even though all teachers expressed similar feelings about closed questions to some degree or another, many teachers explained that they also saw either necessity if not utility in asking some closed questions. Despite Greg’s passionate response about hating yes/no questions he explained in the same breath, “There is a place for them.” He explained about the observed lesson, “My questions were geared to try and get them to [an] end.” Later in the interview he explained the specific end he desired for his students when using more closed questions: “[I want to] find out where my students are...because, to me, that’s where I have to start.” He explained, “I think one mistake teachers make a lot is that we don’t need to reteach what our students teach. Like, if our students cover the principle in their answer, why do we have to keep going? We don’t! We can move on.” Asking closed questions with designated right answers allow him as a teacher to assess whether or not students know a certain principle and, consequently, whether or not that principle demands more attention or can be moved on from. Peter similarly agreed that asking specific, sometimes closed questions can “help...a teacher see that they’ve

understood it.” He explained, “It’s almost like casting our line out to see if they’ll bite:

‘Do you understand what we’re talking about?’”

Wendy recognized that, in some cases, a few introductory, quick, closed questions help students identify important information in a text and/or pinpoint details upon which she wants the class to focus. Similarly, Peter explained that he often begins a line of questioning with a more closed question that directs students to identify information in the text before progressing to more a more open line of questioning. Dave expressed passionately that, even though he relies heavily on more open-ended questions to facilitate discussion, the idea that teachers should avoid closed questions limited teachers too drastically. Part of the utility in closed questions, he explained, comes from their ability to require students to “make concrete decisions, in the moment, about what they think and also feel, in the moment, whether or not that [teaching] is true.”

**Open.** Open questions were not as commonly asked as were closed questions; most teachers only asked a few open questions in the entire lesson. However, the relatively small quantity of open questions led to a relatively large quantity and, according to teacher explanations during interviews, a greater quality of student responses. Open questions, unlike closed questions, allowed students almost complete autonomy in their responses. Open questions invited students to diverge from a point of information or understanding to express the broader scope of their personal thoughts, feelings, or experiences. Greg used the example of fishing to delineate between closed and open questions: “A lot of times I have a principle I want to teach, but other times I want to let them go where they want to go.” He explained that in his personal study and

study of the curriculum he identified important principles he felt students needed to know and understand and to which he guided them with questions. “And then there are some other times where I think it’s important...to just let them fish.” Whereas closed questions gave students fish, “open questions let students fish for their own answers to what they know, what they feel, and what they want to do.”

Some observed examples of open questions were obvious, such as when Dave began his class with the question, “Any questions you guys have today about anything?” to which students were allowed to share anything. Dave stated afterwards during his interview that he often begins classes with open questions like this so that students feel free to “own the class” and have some say in the direction of the study. Similarly, Bill asked at the beginning of his class, “How is everyone today?” to which students responded with a wide variety of comments. However, most open questions were not so clearly separated from the flow of the class, often imbedded in discussions alongside closed questions. Coding of these questions was more difficult than coding closed questions because open questions tended to vary widely in their topic and form. For example, Steven’s question, “Why did you get a patriarchal blessing?” was directed at an individual student and focused on that student’s past experience. His question later on in the lesson, “Why do you guys think that [statement in the scriptures] is true?” was directed at the entire class and dealt with something they had identified in the scriptures. Thus, multiple open codes emerged to describe these various questions including high-autonomy, unanticipated, and open-ended. However, despite the variety in these questions it was reasoned that they were all similar in the amount of freedom they

granted students to express themselves. Initial coding of open questions labeled these questions as high autonomy, unanticipated answers, and open questions.

Interviews with teachers elucidated the purpose behind these open questions which spoke to the second research question. Interestingly, whereas closed questions aimed at cognitive outcomes—specific information or details that teachers felt students needed to know—open questions were aimed more at social outcomes. For example, Steven explained that he asked open questions to “open up students” to participating in class “because students want to talk when they get more to talk about” as well as “open up the class” so that more students wanted to participate. Thus, Steven began his lesson by asking students a series of open questions. He first asked, “How do you think a life full of integrity will help you become more like the Savior?” After a few students had the chance to respond Steven then asked, “Why do you think it matters to the Lord to give you personal revelation? What’s His motive?” After the first two students shared Steven asked, “Anyone want to add to Johnny’s and Clara’s comments?” thus soliciting even more comments from students. At some points throughout his lesson, Steven even directed students to “expand” their answer beyond their initial response, for example, he asked, “Expand it more; how else might it be different?”, or later asked students, “Add to Thomas’s answer, expand it; what else makes this principle true?” Often these “expanding” questions were directed at individual students who had just commented; for example, he asked a student who had just participated in an object lesson, “From your vantage point, what was your experience?” Noticing another student nodding as the first student answered, he asked, “Sammy, you’re nodding, share?”

Greg began and ended a particular section of his lesson with a similar string of open questions. To begin the discussion, he simply asked students what they thought about gifts and gift-giving to which students shared a wide variety of thoughts and experiences. After directing students to their scriptures and guiding them through their study with numerous closed and guided questions Greg allowed students three minutes at the end of a class to respond to the journal prompt, “When have you seen Jesus exemplify this principle in your life or on your behalf?” Likewise, Wendy began her class with a series of open questions aimed at, as she explained, “getting students thinking and talking.” She projected on her screen the text, “How is your life different because of \_\_\_\_” and then, on successive slides, filled in the blank with words like “the automobile,” “the lightbulb,” and “Chick-fil-A” and asked students to respond. Once again, the answers were broad in their scope. She then projected the question, “How is your life different because of what happened in the Sacred Grove?” (where Joseph Smith received his First Vision of God). She asked students not to respond verbally but rather to record their responses in their class journals. A subsequent succession of guided and open questions prompted students to share some of their written response and to explain their experience in thinking about and writing their answers.

It is noticeable in the examples above, which are representative of the data, that teachers often used open questions at the beginning of lessons to generate verbal participation among many students or else used open questions to oblige a single student to express in greater detail his or her thoughts. In a sense, these two uses represent, respectively, an attempt to broaden participation or else deepen engagement and address

both the third and fourth research questions regarding the purpose of specific question and the purpose of questioning in general. For example, when Peter, after asking students an open question about their favorite vacations, asked, “Anyone else have one?” he was attempting to broaden the participation among his students. He explained, “When kids can think about their own experiences, because, you know, when someone shares, they think, ‘Well I’ve got a similar experience to that that I want to share.’” After students made an initial comment Peter asked the responding student a follow-up question, like, “What was so memorable to you about your cruise to Mexico?” or “Why did that one stick out to you?” which were questions aimed at deepening students’ responses by asking them to provide more detail or more feeling. Peter explained that these deepening questions “helps, obviously, feel the Spirit in class” because their response is often more personal and personally meaningful to them and their peers.

It’s also noteworthy that not all open questions were phrased alike. Indeed, multiple teachers expressed that the wording of the questions wasn’t as important as the intent behind the question. Dave expressed,

You know, you hear the phrase that teachers shouldn’t ask yes or no questions; that’s ridiculous! Here we have Maddy up here, talking about her dad [and that] Heavenly Father loves us; a question like, “Do you believe that?” can give a student a chance to feel it in the moment. I think good questions have a power to help them search their hearts and develop testimony, develop what they know, and decide what choices they want to make.

As an example of this thought, Dave began his lesson by writing on the board the three words past, present, and future and then asking students, “Which one of these does God care most about?” Although students responded with single-word answers Dave’s insistence that they explain their answer effecting an open rather than a closed discussion.

Dave explained that, with that particular question, the fact that he had no right answer in mind but was intent on learning his students' opinions made it an open rather than a closed question.

**Guided.** As mentioned before, early in the analysis of the data it became apparent that the dichotomous view of questions as either closed or open did not adequately explain the data. Teachers often asked questions that neither required a specific or right answer nor which allowed students full autonomy. Open coding of these in-between questions originally labeled them as “leading question” or “cautious open” questions. However, as teachers were asked about their view of the purpose of questioning in general (research question 3) and their use of these in-between question (research question 4) many expressed a common belief that questions can, and often should, as Steven explained, “guide students along a path of study that is similar to what [the teacher] did in [his] own study but, at the same time, allowing them to find their own answers and insights.”

Greg explained similarly that, while some of his questions he asks to ascertain his students existing knowledge, most of his questions are focused on guiding students to new knowledge and understanding of the scriptures. “You’ve got to get them to a principle. You have to do that. You direct them, sometimes to think, to see, to find. You’ve got to have a purpose in the questions, be guiding them somewhere all the time.” Likewise, Bill explained that he often uses guided questions as a means to help students along a specific “thought path” towards a specific understanding, feeling, or action. To facilitate this Bill stated he likes asking questions that don’t force students to arrive at a

pre-designated idea but rather guide them through their own study and thoughts:

I'm trying to get away from me identifying a principle and me asking questions that lead them to that principle; I want to ask questions that lead them to finding their own questions in the scriptures. We're having just a mini scripture study session for sixty minutes; you're identifying things and I'm just guiding you. I'm just there to guide you.

Thus, these questions began to be coded as guided questions.

To illustrate his explanation, Bill pointed to a few moments in his class where he felt he had effectively guided students to explore ideas on their own using questioning. These guided questions, although focused on a specific idea or concept and limiting, to some degree, student responses to that idea, did not have a certain right answer, which students were obliged to find. For example, after identifying the word "hearken" in the scriptures at the beginning of his lesson, Bill asked, "What do you guys think the word hearken means?" As students responded Bill asked more guided questions to allow the student to expand their initial response. To the student who commented that hearkening was more than listening Bill responded, "I like that; what is the difference between listening and hearing?" To another student who explained the different ways a person could internalize a message Bill asked, "So, you're saying that hearken is taking it in, paying attention to it, making it yours?" Later in the lesson, after students had studied a block of scripture under directions to find a principle and Bill had asked one student to share, he followed her comment with a string of guided questions that, he explained later, were intended to help her explain her answer, feel the truth of what she had studied, and plan action based on that understanding and feeling:

Bill: How do you know that's true?

Student: ...

Bill: Can you think of one thing the Savior asks you to do so you can have this truth and hearken better?

Student: ...

Bill: What joy have you found in the scriptures in the past three months since we've been in seminary?

Student: ...

Bill: What have you learned about the Savior as you've studied the scriptures?

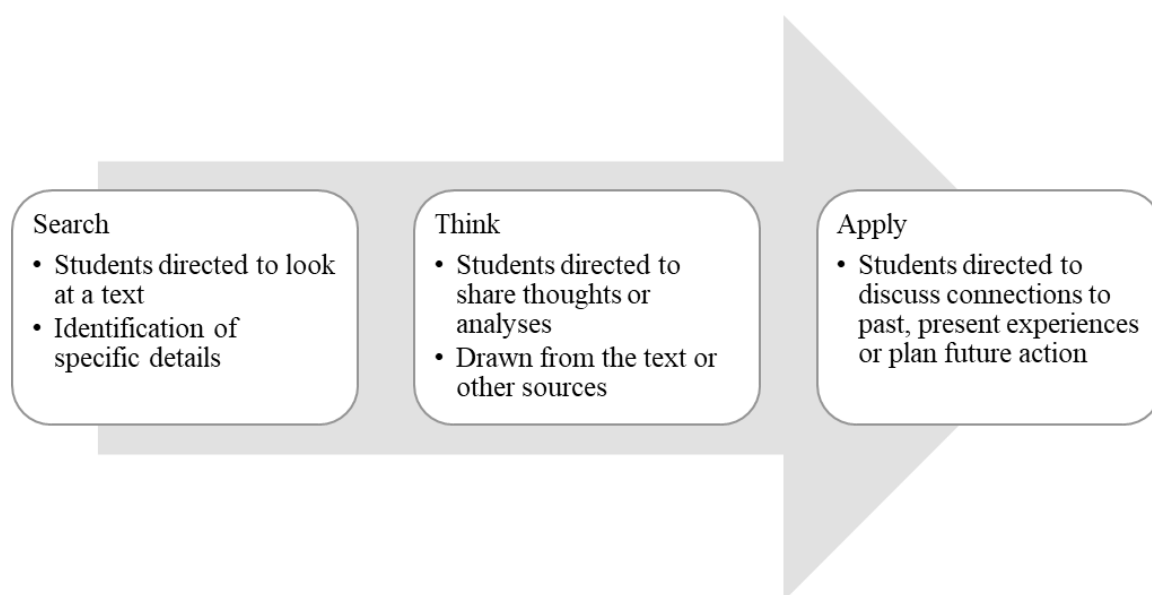
Peter asked a similar series of guided questions in his lesson after asking the closed question stated in the previous section: "Is the invitation to record your history just for you?" Once students had provided the appropriate "no" answer Peter asked the guided question, "Why is writing your own personal history important?" When students began raising their hands Peter called on them to respond. He then directed students to read a particular block of scripture. After asking them a few closed questions (e.g., "Will you look for, in verse four, who the Lord sends to John Whitmer?") he asked students to respond to a writing prompt in their class journals: "Will you finish this principle in your scriptures: 'If we are faithful in our efforts to keep a personal history...' After students had time to write he asked a few if they'd be willing to share "how they've been blessed because of keeping a personal journal." Peter explained in his interview these questions were focused on connecting students to an identified principle and then guiding them to better understanding of and personal connection to that principle. In his experience, these guiding questions led to a great social payoff with more students responding as they sensed more freedom in their answers.

## **Relevance**

A common feeling expressed by teachers in their interviews was that the best questions were those that related to students and their experiences. Dave said, "I like to

ask questions that get them thinking—thinking about Heavenly Father and about themselves.” He explained that, although there are many purposes served by asking students questions, “Ultimately, if we’re talking about the end I want a question to do, [is to] search their hearts and their feelings, not just for experiences, which is part of it, but also asking those questions of themselves so they can develop their own testimony and their own strength.” The best questions, he concluded, are those that are “real” to students and relevant for their time. Bill explained, “what we mean by ‘depth’, you know, how deep a question is, isn’t how much more it’s about the scriptures but how much more it’s about students!”

These comments helped to illuminate the relevance dimension in the multidimensional questioning model depicted in Figure 4.4. Although student data was not recorded for this study it became apparent that some questions energized students more than others. For example, Peter’s question, “From what you read, what does a



*Figure 4.4.* The relevance dimension of teacher questioning.

[Church] recorder or historian do?” was met initially with a pause and then a few responses conveyed without much enthusiasm. However, his question only a few minutes later, “Can anyone share experiences when your life was impacted by your ancestors’, maybe even your parents’, histories or stories?” was met with many, enthusiastic responses. To teachers, this enthusiasm mattered. When asked about the purpose of questioning (research question 3) many teachers mentioned, as Wendy did, “my primary desire with questions is to get them intellectually and emotionally involved. I want them thinking and, maybe even more, I want them feeling—feeling excited, feeling touched, feeling motivated.”

To reach these ends teachers asked questions with varying levels of relevance. A question’s relevance, as defined in this study, is the measure of how personal that question is to students. In interviews with participants the teachers explained, quite directly, that they deliberately asked different questions in this dimension. Dave, referencing the seminary training manual, explained, “In our training materials we have really good training about types of questions and the outcomes we’re hoping for them, questions that promote searching, questions that promote analyzing, questions that promote application, questions that promote feeling, questions that promote specific, revelatory experiences. I tried to, in my questioning, hit those areas throughout.” Pointing to his lesson plan for the observed lesson Dave showed how, written on his lesson plan, are his planned questions under the headings “search,” “analyze,” “feel,” and “apply.” Similarly, Wendy explained, “My lesson outline is all questions. They’re pretty textbook—search, analyze, apply.”

Using interview data as an additional lens through which to view the observation data it became apparent that teachers did, indeed, ask students search, analyze or, as Dave termed it, “thinking questions,” and apply questions. Search questions required students to search for information, most often in a scripture text, and convey that information to the teacher. These questions directed students to pay attention to something external to their natural interests. In many cases, these questions did not engender excited conversations; answers were given, as Bill quipped, “like getting a report on the weather.” However, students often stayed focused on the lesson because, as Bill again explained, “they can tell something better is coming.” Often, teachers would follow search questions with think question in which they asked students their analyses of what they had found or else their thoughts on the topic or principle generally. When teachers asked apply questions they queried students’ personal feelings or experiences related to the topic or the principles being studied. Think questions and, to an even greater degree, apply questions fostered more excitement among students as measured by their expressiveness as well as an increased number of students who volunteered, either by raising their hand or else by simply speaking, their thoughts or experiences. The following sections provide more detailed descriptions and analyses of this dimension.

**Search.** The first and most observable category of questions on the relevance dimension were search questions which required students to search a text, usually a scripture passage, for an answer. Questions in this category were initially coded as search, look, or external questions. Although they were easy to identify because each question directed students to a text, there was great variety observed in what students

were asked to search for. Again, the view of overlapping questioning dimensions enabled a better explanation of these questions.

As an example of search questions, Bill began his lesson, as mentioned above, by asking students to search a group of scriptures and to “look for the word of the day”, meaning, the word repeated multiple times in the block. This search question directed students’ attention at something that was both unknown to them and, at least at the beginning of the lesson, unconnected from their personal interests, thoughts, and experiences. Bill began a segment of class by revealing scripture verses he had written on the board and then instructing students, “I want you to look for, in each one of these verses, what is the Lord asking us to hearken to or listen for? Every time you see the word hearken...what is the Lord asking us to hearken for or listen to?” Later in the lesson he asked students, “What I want you to do is read [verses] 8, 9, and 10, guys and look for what the Savior is telling us the light is in the context of [section] 45.” Ten minutes later, the next segment of class began with the prompt, “Look at this, guys: the disciples in Christ’s time have a question; I want you to look for that question as we read these together.”

Other teacher participants observed utilized similar search questions often in their lessons. Greg vehemently explained, when asked about the purpose of questioning, “We’ve got to get them to think—or to think slash see! Everything we teach is right there in front of us somewhere we just have look to where it is. I want to help them to see, both in the scriptures and in the world around them.” In his class, Greg directed his students, “With your partners I need to mark all of them, the things God tells us we can do to not

be deceived.” Later in the lesson he invited students to “read verses 14 through 26, will you guys just mark, number all of the spiritual gifts.”

Similarly, Wendy displayed a quote for her students to read and then, underneath the quote had written the prompt, “List at least 5 bullet points from Elder Christofferson’s quote for why this Zion didn’t prosper.” After students had had time to read and write she asked, “From what you saw in that quote, what stopped Zion?” Likewise, Steven led his students through a series of look questions after asking them to open up to section of scripture:

- Steven: Look at what the Lord teaches our responsibility in this in verse eight.  
 Student: ...  
 Steven: How does the Lord give laws and commandments to the Church? Through?  
 Student: ...  
 Steven: From the very last part of verse nine, what command is the Lord giving us in relationship to the revelations he’s given the prophets?

Towards the end of the lesson, Steven asked the following look questions after asking a student to read a section of scripture and providing the class with a worksheet:

- Steven: What object is he going to use?  
 Student: ...  
 Steven: What else is he going to use?  
 Student: ...  
 Steven: Will you take a look at this paper I’ve just passed out?  
 Student: ...  
 Steven: In verse 17, what does he want us to be prepared for?  
 Student: ...  
 Steven: Look at verse 18: there will be some that hit the spiritual snooze alarm, and they’ll hit it so many times, that what will the Lord say to them?  
 Student: ...  
 Steven: What’s the message, over on the right-hand side, what’s the message of the man? What’s he telling people to do in verse 21?  
 Student: ...

Steven: In verse 9, in section 45, will you write down there the three things the everlasting covenant is to be?

Student: ...

Steven: What's the first thing it's to be?

Student: ...

Steven: What's the second thing it's going to be?

Student: ...

Steven: And then third?

In response to the second research question regarding questioning sequences teachers were observed to begin what Wendy called “the heart” of the lesson—the part of the lesson where students begin studying scriptures—with search questions. These questions often provided a well from which teachers continually dipped throughout the subsequent discussion. For example, Greg directed students to read the story of Jesus eating with Simon the Pharisee from the New Testament and “look for a time when Christ used these gifts to bless someone.” This scripture passage and students’ findings provided the foundation for the following 15 minutes of class.

**Think.** Whereas search questions obliged students to draw their answers from something outside of themselves, such as a scripture passage or a quote displayed on a PowerPoint, think questions challenged students to draw answers from inside themselves. These questions were, thus, more difficult to identify. Initial codes of these questions included personal, internal, analyze, feeling, mind. Just as search questions varied in what students were asked to search for, think questions varied in what students were asked to think about. This variety, as with search questions, is explained with the overlapping of dimensions. However, outside of those variations, think questions ranged from asking students to recall information they assumedly already knew to analyzing what they were

studying in class and proffering new thoughts or ideas. Pursuant to research question 2, these questions often followed search questions and sometimes took a considerably longer amount of time to answer or discuss. Think questions often prompted and accompanied prolonged discussions. Steven explained that, while asking students what they see allows a teacher to confirm or adjust their perspective, he likes to ask students what they think. He stated, “Often times students will respond with, ‘I don’t know’ and I’ll respond with, ‘It’s okay not to know, but what do you think, because it’s not okay to not think.’ Hopefully the environment is one where what’s inside your heart and mind matters.”

To address research question 4, the outcomes of these questions were explained as both cognitive and affective. Steven explained that his purpose in asking think questions is to “open the heart and mind” to more learning. He explained that think questions are often related to student analyses of scriptures or ideas but can also be related to students’ emotions about those scriptures or ideas. Although some teachers expressed the pursuit of feelings as separate from the pursuit of thinking most explained these two goals simultaneously as things they wanted students to think about. In other words, think questions queried what students thought and what thoughts they had about their feelings. “We often call these feel questions,” Steven explained, “but they’re really the same thing—I want to know what’s going on inside of you not just what’s going on on the page.”

Examples of think questions came from all classes. After asking his students to look for the word “hearken” in a scripture passage Bill then asked them a series of think

questions, the answers to which were not found in the passage. For example, he asked, “What’s another word that might describe the word hearken? We don’t use the word hearken very much today; what’s another word we might say?” After a few responses and a few more look questions he asked three questions in succession that seemed to guide the discussion for the next 15 minutes, “Why does God ask us to hearken if it’s a hard thing? What does that tell us about Him? How do you know that God loves you when he tells you to hearken?” In the proceeding discussion Bill continued to either prod students to explain in greater detail their thoughts or else to encourage other students to share their thoughts. For example, to one student Bill asked the follow-up question, “Why do you want to hearken to and listen to Heavenly Father and Jesus Christ?” After that student’s response he asked the class, “What gives our Heavenly Father and Jesus Christ the authority to ask us to listen?” The initial questions and their follow-up questions fueled a discussion that lasted for twenty minutes before a new topic was introduced.

As previously discussed, Dave began his class by asking students whether they felt God cared more for an individual’s past, present, or future. After posing the initial question he directed students to “take a second [and] think about.” He stressed to them, “There’s no right or wrong answer to this I’m just wondering your thoughts.” After allowing them a few minutes to think and share their initial thoughts with classmates seated next to them he asked for them to report back on their thoughts. The following string of think questions followed:

Dave: Who said past?

Student: ...

Dave: Who said present?

Student: ...

Dave: Who said future?  
Student: ...  
Dave: Thomas, you said all three, tell me why you said that?  
Student: ...  
Dave: Jeff, you said present, why, why do you think God cares most about your present?  
Student: ...  
Dave: So, you're saying because we're in the present, and that's going to determine the future, that's what more important?  
Student: ...  
Dave: Sure, or yeah?  
Student: ...  
Dave: What do you mean?  
Student: ...  
Dave: Other thoughts? Who else says present?  
Student: ...  
Dave: So, you're saying there's different possibilities here which determine this?  
Student: ...  
Dave: Shelly?  
Student: ...  
Dave: Okay, who said future? Calvin? Okay, go!  
Student: ...  
Dave: Lilly, tell us about that then.  
Student: ...  
Dave: Anybody else?  
Student: ...  
Dave: Michael, I interrupted you, what were you saying?  
Student: ...  
Dave: Is it true that we can't change this?  
Student: ...  
Dave: Doesn't this [pointing at "present" on the board] totally affect this [pointing at "future"]?  
Student: ...  
Dave: Is anyone going to stand up for the past here?  
Student: ...  
Dave: Brad, what are you thinking?  
Student: ...

Dave: So, you're saying, because I can't really change this, it doesn't matter?

Later in the lesson, after students had been given time to search a scripture block looking for "evidence...that Heavenly Father is concerned about the past, the present, and the future", Dave asked a student, "Tell me this: why does it matter that we look to our past?" That one think question began a discussion prodded along by Dave's ongoing questioning:

Dave: Tell me this: why does it matter that we look to our past as we're making decisions about the future?

Student: ...

Dave: What else?

Student: ...

Dave: Why does it matter that our past matters?

Student: ...

Dave: So, Chloe, what do we learn about the Savior from this experience?

Student: ...

Dave: So, you're saying Jesus wants us to remember the past?

Student: ...

Dave: And you said, why?

Student: ...

Dave: Why did you add that word in there, "so we could want to change"?

Student: ...

Dave: Can someone give me a specific example where thinking about your past has changed how you live in the present?

Student: ...

Dave: So, you're saying, as long as we allow it?

Student: ...

Dave: Because what happens if we continually reject him?

Student: ...

Dave: Why do you think the Lord focuses in on James Covell's past here?

Student: ...

Dave: Is he trying to make him feel guilty?

Student: ...

Dave: What is the danger of that [basing testimonies on past experiences]?

In contrast to Dave's strings of think questions, Steven peppered think questions throughout his lesson. He explained when asked about think questions, "I want to know what's in their heart and mind [more than] just what they read on the page." As an example, after asking students questions about their personal experiences with revelation he asked the class, "In your own best words, someone describe the difference between personal revelation and priesthood line revelation. What might you say to explain priesthood line revelation?" After calling on a few students who volunteered to comment, he progressed to more personally applicable questions. Later on, in the middle of a discussion on a scripture block describing Jesus, Steven asked, "So how does he being alpha and omega affect the message he sends?" After a few comments, he asked, "How does that influence our willingness to listen to him?"

It is important to note that, whereas search questions often began a study of the scriptures, none of the discussions observed for this study spent much time, if any time at all, merely reporting the results of their search. Teachers often asked students a search question before they were invited to read a block of scripture then, after they had read, students were asked to either report what they found and then were asked think questions as follow up questions to their report, or else they were simply asked a think question. For example, at the end of one scripture study Wendy asked, simply, "What did you guys find?" After the first student responded, however, she followed up her initial question with, "Tell me why you like that." At the end of a scripture study in Dave's class he asked students a think question: "I want to know what you found, but I only want to know what you found that mattered to you. So, tell me what verses or phrases you found

that you think really show that God cares about our past, present, and future.” Indeed, if search questions provided the foundation for discussions then think questions constituted the building itself.

**Apply.** Many teachers expressed, when asked what the overall purpose of questioning was in their classes (research question 3), that their overarching goal was to help students apply truths they had learned from their study to their own lives. Bill stated about his questions, “They’re a means to an end; the end of them acting, and questions get them there to figure out what they need to do to act.” Dave explained that those questions had to be “real” in that they connect what students are studying with their immediate and individual lives. “That’s great, we’ve got the words here,” he said, “but what does that actually mean in real life?” Bill, continuing his thought mentioned above about helping students “think slash see” stated, “If students can see what we’ve read in the scriptures I’ve got to help them see it in their own lives, because if they don’t, they’ll just end up thinking, ‘I’ll be good someday but why bother today?’”

The axial code of apply questions contained the most open codes. Questions labeled experience, apply, connection to life, personal experience, act, do, hand, past experience, present experience, future experience were seen as linked by the common thread that they all invited students to consider how their study connected to their lives and could potentially inform their current and future actions. Simply put, apply questions observed in this study connected what students saw or thought with what they had experienced and planned to do about it.

To help students forge that connection, Dave invited his students at the beginning

of the academic term to select a personal challenge that they were to focus on overcoming in their lives. There could be, for example, a student desiring more peace and harmony in his home and with his family members, or another student wanting to reduce the stress and anxiety she feels related to her schoolwork. Each day in class, Dave explained, he creates significant amount of space for students to draw upon the principles studied and discussed in class and apply them to their own personal challenges. In the class observed for this study, for the last seven minutes Dave invited students to think about the principle that God cares about our past, present, and future and will help us in our personal struggles and to write their responses to the following list of questions:

- Past: In what situations, circumstances, times, etc. have you struggled with your challenge the most?
- Do you notice a pattern about when those feelings are the strongest?
  - What do you learn about yourself or your challenge as you try to see these patterns?
- Present: Knowing your past behavior, what changes do you need to make in what you are currently doing to avoid these situations, circumstances, etc.?
- Knowing your tendencies, how can you respond differently to those challenges or circumstances when they arise?
- Future: As you envision yourself in the future, having conquered this problem, how do you imagine yourself feeling, thinking, or living because you overcame that challenge?

Wendy explained that, for her, to “understand the scriptures means to make them real for our personal lives.” She stated that the goal of connecting scriptures to individual student lives governed almost everything she does as a teacher. As such, much of her class was focused on either asking questions about the scriptures that relate them to students’ lives or else asking questions about students’ lives and then connecting those experiences to the scriptures. She began her class by asking students to report back on a few challenges she had given at the end of the previous class. She first asked how many students read the assigned block for the day and then had them share their experiences in

trying to do something charitable for a stranger in honor of Christmas. Later in the lesson she asked students, “How is your life different because of the First Vision [of Joseph Smith]?” After a first student volunteered a response, she asked for additional students to share. After a study of scriptures detailing the Church temple built in Ohio in the 1830s Wendy guided a discussion connecting those details to application in students’ lives with the following string of questions:

Wendy: How do you and I put the temple at the center of our lives?

Student: ...

Wendy: What does it look like for someone to do that?

Student: ...

Wendy: What else does it look like to put the temple at the center of your life?

Student: ...

Wendy: What things do we do in the temple? So, what are we trying to form and create in the temple?

Student: ...

Wendy: How does the temple help you become like Christ?

In many instances, teachers blended apply questions addressed to the whole class with apply questions directed to individual students. Peter guided his students towards application by first asking them to reflect on where they had seen the principle they’d studied in class applied in their own lives: “Can you think of a time when you have been in need and the Savior gave to you?” After multiple students had been allowed to share personal experiences Peter asked, “What will you do to give to someone in need, this week?” This time, after the first student responded, Peter asked that student a series of follow up apply questions aimed, he later stated, at “helping him connect the identified principle with his own experiences—now and in the future.”

Peter: Simon, that’s great to hear! When are you going to do it?

Student: ...

Peter: Thursday, what time?

Student: ...

Peter: What might prevent you from going Thursday after school?

Student: ...

Peter: So, what are you going to do to overcome those obstacles?

Peter explained that, recently, he has tried to and found merit in asking more specific, apply questions to specific students to help them not just set goals but also make plans for those goals that require them to be practicable. Multiple times in his lesson Peter followed this same pattern: a general apply question to the class and then specific, follow-up apply questions to individual students who responded.

Similarly, Steven included a stretch of apply questions right after showing a clip from Church President Russell Nelson speaking in a worldwide broadcast to Church youth. Steven's initial direction was given to the whole class: "Will you take a moment for yourself and ponder what is President Nelson invited you to do that you need to act on and as thoughts come to mind on action to take write it down." After allowing students time to write down their answers in their class notebooks Steven asked students to begin sharing what they wrote. The following sequence of apply questions were directed at various students who volunteered their written answers:

Steven: What blessings have you already experienced because you've acted on any one of these five things from President Nelson?

Student: ...

Steven: What might we do, what might it look like for us, to pray for that individual blessing?

Student: ...

Steven: What have you already seen by way of blessings?

Student: ...

Steven: Chance, that's great. Is there something you can do to accomplish it?

Student: ...

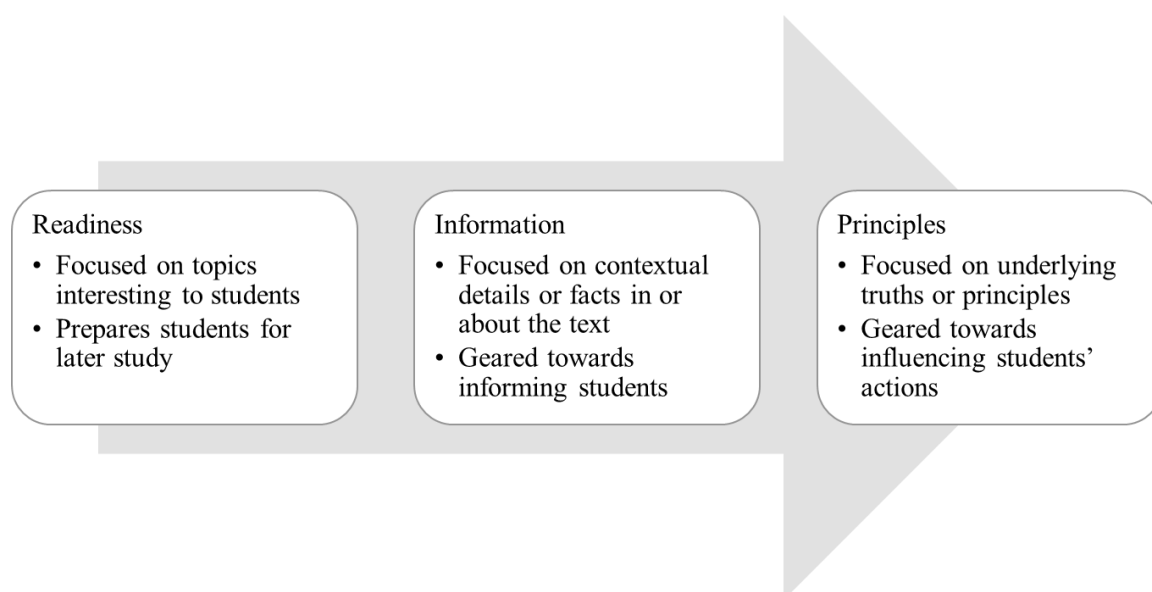
- Steven: Will you take it, will you do it, will you start today?
- Student: ...
- Steven: What might we do to pray daily that that blessing might come true?
- Student: ...
- Steven: After experiencing that, how does that encourage you to help others?
- Student: ...
- Steven: What does that look like, to bring others to the covenant path?

Steven ended this series of questions with two final apply questions directed to the class: “Has President Nelson given us any other invitations since January? Will you ponder: what would the Spirit have you act on? What does it need to be and when will it happen?” As students were writing the last question in their journal, Steven stopped by a specific student’s desk and asked him, “Jared, how’s it going, by the way, [with] your video game fast? Are you seeing any difference?” When asked about this string of questions Steven referenced recent training he had received from seminary administrators to invite more students to take action and explained, “I’m trying to improve more on questions that solicit them to take action. I think in the past I’ve been satisfied with the analysis and general application or...them demonstrating that they understand the principle well...but we’re being pushed, as a system to not be satisfied with that, so, what questions will push to action and how can I foster that?”

### **Significance**

After data collection and the concurrent data analysis, the divergence and the relevance dimensions had been observed extensively and solidified and identified as selective codes. Upon further analysis of the data, however, it was noticed that teachers expressed, both in their interviews and in the questions they asked in class, a third

concern for the significance of their questions, that is, how well their questioning aided students in drawing important information and principles from the scriptures. Figure 4.5 illustrates this significance dimension of teacher questioning. When Steven was asked research question 3 about the overall purpose of questioning, he explained, “Questions are a vital component of, not only teaching, but helping students learn the doctrines and



*Figure 4.5.* The significance dimension of teacher questioning.

principles. You know the statement, ‘It is worth great effort to carefully craft meaningful questions’? Well that’s it—questions help students come to know and understand truth. They have to mean something.” When asked what he meant by “mean something” he explained, “They have to be important. We love a good discussion in class, we love students talking and sharing, but if they’re not talking and sharing about the scriptures then it doesn’t mean anything. Peter, referencing a line from a seminary handbook, explained, “Meaningful, significant questions are at the heart of all gospel learning. They are absolutely critical to helping students know, understand, and feel the truth of what

they're learning." Dave similarly explained that questions had to be "real" and "mean something" to both the teacher and the students.

The idea that questions have to "mean something" points to a feeling among all teachers that a question's divergence or its relevance must be considered in conjunction with a question's significance; that is, what the question helps students come to know or understand. If a question's divergence is how much autonomy the question gives students, and if a question's relevance is how personal a question is to students, then a question's significance is what the question is actually about. Once this important strand of thought had been identified in the interview data the observation data was again examined. In some classes, open coding had led to some differences in questions that, through the lens of significance, were understood to be important. For example, early analysis of Peter's class identified both "search for information" and "search for principle" questions as well as "think about information" and "think about principles" questions. Some of Dave's questions were coded "search for context," "search for information," and "search for principles" with a similar delineation occurring in his think questions. Steven's apply questions were coded "consider readiness," "experience information," and "apply principles." Teacher interview led to the understanding that these questions were actually two different descriptions combined into one code. Dividing these two descriptions proved unhelpful since adherence to one label excluded the other. Eventually it was realized that these two descriptions represented two questioning dimensions that had combined to explain these individual questions.

Thus, two important observations occurred almost simultaneously. First, that the

topic of a question—its significance—was of substantial importance to teachers as they worked towards cognitive, affective, and behavioral outcomes. Bill explained about helping his students identify truths in the scriptures, “If it’s not true, it won’t work. We’re not in this to just have a great experience in class, even though that’s important. We’re here to help students change their lives, and that won’t happen unless we can find these truths.” In interviews teachers often expressed, as Peter did, “We want to help them learn the truth, feel the truth, and apply the truth. So, it’s not just about the scriptures it’s about what’s important in the scriptures.”

The second observation was that these feelings from teachers necessitated a third dimension of questioning that encapsulated teachers’ expressed intent that their students, as Steven explained, “dig through the details [of the scriptures] and get to the principles.” Whereas the divergence dimension described the form of the question and the relevance dimension described the action intended by the question, the significance dimension described the focus of the question. In this study teachers asked readiness, information, and principle questions. The sections below explain these categories in greater detail.

**Readiness.** When asked how she likes to start a particular questioning sequence, Wendy explained, “I love to fish, and there has to be some sort of hook to get them. So, if I, every day, especially at this age level, just go in a dive in, I would lose a lot of students. I would have [some students] that would put the effort in and be okay; a lot of them don’t need it. But the ones I’m trying to work towards—a personality type, and different personality types—to hook them in a create an interest to where...they want to know and learn.” To “hook” students, Wendy explained, she asks what she called “readiness

questions.” These questions aim to invite students to start thinking about something that is often more familiar to them than the details of the scripture passage but which helps them see “connections between what they’re familiar with and what we’re going to study today” and which “creates a sort of energy in the room, some sort of excitement in the room.” Other teachers expressed a similar interest in using questions to, as Bill stated, “capturing [students’] attention.” Initial coding of questions produced the labels “connection to world,” “think outside,” “look at world,” and “look at readiness.”

Thus, as has been mentioned, Wendy began her class by asking students how their lives have been changed by random things like lightbulbs and Chick-fil-A. Later in the lesson she pulled back one of her rolling whiteboards to reveal a map drawn on the back board. She asked students, “if you could live anywhere in the world, where would it be and why?” She invited students to write their answers on sticky notes and then to post them on the map next to the place they would want to live. She then asked the following series of questions:

Wendy: Who picked staying in the US?  
 Student: ...  
 Wendy: Tell me why.  
 Student: ...  
 Wendy: Why else would you stay here in the US?  
 Student: ...  
 Wendy: Who picked Hawaii?  
 Student: ...  
 Wendy: Why?  
 Student: ...  
 Wendy: Anyone pick Canada?  
 Student: ...  
 Wendy: Who picked Europe?

Student: ...

Wendy: Why?

Student: ...

Wendy: Anyone in Africa?

Student: ...

Wendy: Yeah, why in Africa?

Student: ...

Wendy: Sophie, you had Africa too?

Student: ...

Wendy: Who's in the Asia area?

Student: ...

Wendy: It's you Shawn, why?

Student: ...

Wendy: Who's on Australia?

Student: ...

Wendy: Anyone else pick Australia?

Student: ...

Wendy: Ethan, where are you going?

After this final question Wendy directed students' attention to the assigned scripture block for the day which introduced to them the location that early Church members were asked to move to. She explained in her interview about this specific line of questioning, "I wanted them to start seeing a seeing and thinking about locations and the impact they have on us, early on, before we've ever looked for things, analyzed, felt, all of that."

Similarly, Steven asked the following questions in the middle of his class to "get students thinking about something new and get them ready to study something different":

Steven: What's the purpose of an alarm clock?

Student: ...

Steven: Okay, what else?

Student: ...

Steven: How many of you are snooze-hitters?

Student: ...

Steven: Who has the most snooze settings?  
 Student: ...  
 Steven: One snoozer?  
 Student: ...  
 Steven: Two snoozer?  
 Student: ...  
 Steven: Anyone more than three?  
 Student: ...  
 Steven: Why the staggering of so many alarms?  
 Student: ...  
 Steven: Do they just automatically turn off?  
 Student: ...  
 Steven: Who else has a snooze habit?  
 Student: ...  
 Steven: How many of you have done that?  
 Student: ...  
 Steven: What happens after the couple of snoozes?  
 Student: ...  
 Steven: What are the advantages with not waking up and hitting the snooze?  
 Student: ...  
 Steven: What other advantages?  
 Student: ...  
 Steven: How many of you hate feeling rushed?

After the last question Steven asked a student to read verse of scripture that began the next segment of class study regarding the “alarms” that God uses to indicate the Second Coming of Christ.

The outcome of these types of questions was, quite overtly, affective. When asked about how they begin discussions in their classes, teachers expressed the feeling that students often needed something about which they could get excited in confidence that that excitement would carry into scripture study. Wendy expressed that, as she often felt, “you have to talk about nothing before you can talk about something.” Steven explained

that these questions, he felt, helped “prime the pump for students to see the principles” planned for study that day. Interestingly, these readiness questions ranged widely in scope; teachers in this study asked students about everything from favorite vacation places to their journaling habits, from experiences with having guests stay in their home to discussions about being in dark caves. Although the topics changed, teachers explained in almost identical terms that, with these questions, they desired to create in students what Bill called an “excitement,” what Peter called “engagement,” and what Steven referred to as “a spiritual readiness” to participate in the discussion and class.

Further, teachers seemed to have a social or behavior outcome in mind when they asked readiness questions. Steven explained that one of his main goals with readiness questioning at the beginning of his classes is to “foster a spirit of inquiry that is fundamental to...teaching and learning.” These types of questions, he explained, “facilitate a handoff of learning” from teacher to student. He explained that these questions were aimed at getting students involved in the study and in class discussions. As an example of this “handoff”, after concluding the previous discussion Steven changed topics and, as he later explained, “emotional gears” in class by asking for two student volunteers. These two students blindfolded and then instructed that they were to, following the voices of their classmates, find their way to a banana Steven had placed on a desk on the opposite side of the classroom. During the activity Steven asked both the participants questions about what they were, respectively, experiencing or observing:

Steven: Gavin, you haven’t taken a step yet; why not?

Student: ...

Steven: So? What makes that a challenge?

Student: ...

Steven: So, what's the responsibility you have in this?

Student: ...

Steven: How are you going to do that?

Student: ...

Steven: So, you've got a whole bunch of people in this room, what do you do with them?

After the activity, Steven asked the class, "In what ways is this exercise like the plan of salvation?" a question which he later identified as this type of question to create a "handoff" of learning to the students.

Similarly, Greg began a particular study in his class with a readiness strain of questions. He first asked students, "How many of you guys have figured out the true statement that it's better to give than to receive?" After a few students responded he asked further:

Greg: How many of you say, "no way"?

Student: ...

Greg: How many of you guys, when you were little kids, and your mom was like, "It's more important to give gifts," didn't agree?"

Student: ...

Greg: Can two of you just share your stories?

Student: ...

Greg: Someone tell me when you figured out when it's better to give than to receive?

Student: ...

Greg: How many of you have a fun time trying to figure out a person's gift?

Student: ...

Greg: Somebody tell me this, when you had a fun time trying to figure out someone's gift?

Student: ...

Greg: Doesn't it make you feel like a million bucks?

Again, immediately after the last question Greg asked students to open up to a verse of scripture that spoke of God giving gifts. Greg explained, during his interview, that this line of questioning at the beginning of class was "geared towards the end of getting them

into the scriptures and help them, you know, set them up to see the principle.”

**Information.** Almost without exception, after readiness questions, teachers directed students’ attention to a specific scripture or group of scriptures from which students were challenged to find or draw out information. Whereas readiness questions seemed focused on fostering a certain heightened emotional state, information questions seemed focused on capitalizing on that motivation and, as Bill explained, putting them “to work” in finding, thinking, or discussing details in a passage of scripture or else historical or contextual data surrounding the lesson. As has been discussed, although readiness questions often fostered an excitement and high degree of verbal participation in class teachers felt that these emotional outcomes were not justified if they did not translate to a study of the scriptures. Most information questions had been initially coded as “information questions” while a few others had been coded as “detail” or “context” questions.

Information questions, capitalizing on the motivation and willingness to engage in study fostered by readiness questions, often served to, as Peter explained, “get [students] into the scriptures and get them finding helpful pieces of information.” After an introductory discussion about students’ favorite memoirs, Peter asked his students to open their scriptures to D&C 47 while he read some background information printed in the introduction to the section. After his reading he asked students the following questions related to that introduction:

Peter: So, first of all, from what I just read, who’s the addressed to?

Student: ...

Peter: Will you highlight his name in the section heading?

Student: ...

Peter: What was he asked to do?

Student: ...

Peter: Will you also highlight that?

Student: ...

Peter: Initially, how did he feel about this calling?

Student: ...

Peter: Will you guys look in verse 1, 2, and 3 and will you just highlight in your own scriptures what a historian or recorder actually does.

Student: ...

Peter: Okay, what does a historian/recorder agree to do?

Student: ...

Peter: Did you highlight it?

Student: ...

Peter: Anything else you found?

Student: ...

Peter: Assist Joseph in what?

Student engagement throughout this two-minute information-gathering section was high and, when asked why that was in his interview, Peter explained that he felt “[students] can see it connecting to the lesson; they can tell that we’re going somewhere.” This information, he explained, provided a foundation for the proceeding discussion of principles and applications.

Wendy set aside a significant block of time in the middle of her lesson for students to search the scriptures for information related to Zion. She assigned students partners to work with and then gave them a handout that had been folded like a travel brochure where each “panel” had a scripture block, a question, and space for students to record their answers. She began the study by giving them the instructions, “You and your partner are going to work on the first panel together. You’ve got two minutes to find out, ‘Where is Zion?’” On the first panel the question read, “Where does Jesus Christ reveal

Zion is to be located? Draw a rough sketch of the United States. Label Independence, Missouri, Kirtland, Ohio, and Salt Lake City, Utah.” After the two minutes had passed, she asked the class, “Where is Zion at? Tell me, where does the Lord say it’s going to be at?” The other panels contained similar questions, “How does Jesus Christ describe Zion? What does Jesus Christ teach we need to do in order to become Zion? What eventually happened to the Zion these Saints are being asked to build?” After students had been given time to identify the appropriate information Wendy asked them to report their findings before allowing them to progress to the next question. The final panel students were asked to read a quote from Elder Todd Christofferson, a Church leader, and then “list at least five bullet points...for why this Zion didn’t prosper.” All of these questions and all of Wendy’s follow-up questions during this segment regarded information students were expected to either draw from the scriptures or else already know based on past learning.

During his interview, Greg pointed out, in answer to research question 4, two significant purposes of these information questions, “Number one...I’ve got to find out, ‘Do they already know that?’ Back to context and content, I need to see if they already know that. Based on that, that will change the way I approach the principle.” He referenced a point in his class where he asked some information questions to ascertain what his students, “What does it mean to be deceived?” This question, he explained, helped him see if his students knew the definition of the word and how it connected to the lesson which then determined whether or not he asked additional questions to help them better understand the topic or if he could just move on. “Number two,” he said, “is to help

them find important information—you know, context and content—in the scriptures so we can start building that foundation.” To help students see an example of Christ using his spiritual gifts to bless others Greg led students to the New Testament story of the woman anointing him with oil and tears and his subsequent parable of the creditor and debtor. However, he explained, guessing that his students would be fairly unfamiliar with that story and parable, Greg asked them the following information questions after a student read the account in the Bible:

Greg: This pharisee invites who to dinner?

Student: ...

Greg: Thomas, describe how you think she is feeling?

Student: ...

Greg: How would you feel walking into that room?

Student: ...

Greg: Anybody else?

Student: ...

Greg: Tara, how would you feel walking into that room?

Student: ...

Greg: How many of you guys wouldn't go?

Student: ...

Greg: I want you to picture this now: when she walks in does everybody notice her?

Student: ...

Greg: Do you guys all know [about washing feet]?

Student: ...

Greg: What are some of the feelings she's feeling washing the Savior's feet?

Student: ...

Greg: What are the thoughts of the other people in the room?

Student: ...

Greg: “Spake with himself” means what?

Student: ...

Greg: Why would he be having these kinds of thoughts?

Student: ...

- Greg: What would he be thinking?  
 Student: ...  
 Greg: Who would love the creditor most?  
 Student: ...  
 Greg: Is Jesus talking about money here?

Greg explained, about this line of questioning, that he wanted his students to not only be familiar with the “facts” of the story but also the “feelings” of the story as well. In order for them to progress to a study of the principles that could be drawn from the story and planned for discussion in class students needed “the scriptures [to] come alive” for them.

**Principles.** Many of the teacher participants in this study, in answer to research question 3 about the overall purpose of questioning, referenced the mission statement of S&I which says, in part, that seminary teachers are to “help youth and young adults understand and rely on the teachings and Atonement of Jesus Christ” (Church of Jesus Christ of Latter-day Saints, 2012, p. 1). To reach this end Steven explained, “Questions are a vital component of our teaching.” He explained, “There’s a hierarchy of questions...and the ones that I value most are the ones that help them see the Savior and connect the Savior and the principles of the gospel to themselves.” These principle questions, Steven explained, transcend the fact and the details found in the scriptures to truths drawn from those details that can connect students to God and guide their daily living. Questions initially coded as “truth,” “doctrine,” “principle,” “why,” and “lesson,” were axially coded as principle questions because they all aimed at statements, either explicit in the text or else implied from it, that teachers designated as truths undergirding the details in the scriptures and about which they intended students to focus the majority of their mental and emotional energy and effort.

Examples of principle questions were frequent in the observation data. Steven started an early segment of class with the following instructions, “Let’s look at the principles. Yesterday, we went to the scriptures and tried to find the principles; today, I’m giving you the principles and you’ve got to find them. So, in your journal for today, write down these principles.” After students had written the principles down, he instructed them to work with a partner and read through a series of scriptures he’d written on the whiteboard in search of scriptures that elaborated on the principles.

Wendy sought to help students identify and understand a principle early in her lesson as well. After her introductory, readiness series of questions she asked students the following questions, the first of which, she later explained, challenged students to state a principle and the follow-up questions aimed at helping them better understand that truth:

Wendy: What is the step that comes in having a changed life because of this?

Student: ...

Wendy: Faith in what?

Student: ...

Wendy: What do we call that?

Student: ...

Wendy: How do you know it?

Student: ...

Wendy: How have you gained that testimony?

Student: ...

Wendy: What do you mean Sarah?

Student: ...

Wendy: How would you describe it?

Student: ...

Wendy: What does that working hard for a testimony look like?

Student: ...

Wendy: What else have you done to gain a testimony of this?

These questions, unlike readiness questions, were not preparatory nor tangentially connected to the lesson but rather were the lesson. Unlike information questions these principle questions did not focus on historical, contextual, or factual details but on the truths drawn from those details. Later in the lesson, after students had filled out their folded travel brochure worksheets about the location of and details about Zion, Wendy pointed out that, historically, Church temples were placed in the center of cities. She then transitioned from information questions to principle questions she asked, “What truth is the Lord trying to teach us about where temples should be in our lives?” A student hesitantly began to answer, and Wendy asked her, “So, Zion should be, what? The center of our...?” After a series of questions guiding students through the application of that principle (detailed above), Wendy asked students to turn to the back of their pamphlet, the last available panel, and respond to the following question: “What’s one thing you’re going to do to put the temple at the center of your life?”

Interestingly, examining research question two about question sequencing, teachers varied in where principle questions were placed in their respective lessons. Most teachers followed a fairly linear progression from readiness questions to information questions to principle questions. Wendy, as was discussed earlier, began a discussion with readiness questions about where students would most want to live, then asked information questions about contextual details related to the city of Zion written in the scriptures, and finally asked students about the truths they felt the scriptures taught about creating a “Zion-like life.” Similarly, Peter asked his students first to share their favorite memories, then to identify information in the scriptural passage about Church recorders,

and finally about the principle implied from the scriptures that students should record their memories.

Some teachers sought to identify principles earlier in their questioning sequences. Bill explained, “When I prepare my questions, I’ve got to make sure I get to the heart. So, I try to get some really good identify principle questions and then let those questions lead me to the next questions.” Bill explained that he, like Steven, planned questions about principles at the beginning of his class. He explained, “My number one [goal] is to identify; I want you to identify truths taught in the block. After we’ve identified a truth, I want to ask questions about what that means to you personally. After that I want to know what that means to you in your own life.”

This questioning sequence—identifying truth and then connecting it students’ personal lives—was mentioned in interview or exemplified in observations by many teachers. As an example, from the middle of his class, Bill asked students a few quick readiness questions about light and dark—“What do you guys know about darkness? Can light and dark exist at the same time? What happens to the darkness when light comes?”—before asking them the following principle question after asking them to read a verse of scripture: “In this verse, who is the light?” When students identified in the verse that Jesus is designated as the light, he asked the following questions all aimed at helping students understand and see connections to that principle:

Bill: [In this verse] Satan wants to do what to us?  
 Student: ...  
 Bill: Can you think of some darkness we have in 2018?  
 Student: ...  
 Bill: Anyone have a phone that’s dark black?  
 Student: ...

Bill: Can darkness creep in through a cell phone?  
 Student: ...  
 Bill: Can light creep in?  
 Student: ...  
 Bill: Are video games in and of themselves bad?  
 Student: ...  
 Bill: When do they become super darkness?  
 Student: ...  
 Bill: Is it that simple?  
 Student: ...  
 Bill: So, you're suggesting that anything that pushes away light is darkness?  
 Student: ...  
 Bill: Because the best choice leads us to what?  
 Student: ...  
 Bill: In verse 9 it also says that this everlasting covenant is what?  
 Student: ...  
 Bill: Do you understand what we're talking about here?  
 Student: ...  
 Bill: What standards do you guys have that help you push away darkness?

Whereas information questions began with the word “what”—such as when Bill asked, “What did the disciples feel about all this information?”—quite often principle questions often began with the word “why”. Indeed, many of these questions were initially coded as “why questions.” After students identified a few answers to the question above Bill asked students, “Why would Christ want us to know the signs of his Second Coming?” to which students provided the principle that Jesus wants us to be prepared for his Second Coming. Similarly, to help students identify information from a particular block of scripture, Dave asked, “What did you see, in verse 39, that addresses his present? What blessings does the Lord promise him? What else?” Following this series of questions Dave then transitioned to principles by asking the question, “Why in the world did God take so much time...talking about a future he knew [James Covell] would never

have?” to which students identified the principle that God respects agency and loves his children and wants them to have every chance at growth. Dave highlighted moments like this in his class as evidence of his passion for helping students come to understand principles: “That’s really important to me, is getting real with them, and asking real questions, because we don’t very often.” He explained that, in his sense of teaching, teachers all-too-often end class with the highlight being “information, not inspiration.” That inspiration, he explained, comes from helping students understand powerful truths that can guide their lives and help them be happy.

### **Multidimensional Questioning**

The classification of questions in the categories above necessitated a balancing observation without which the data could potentially be misunderstood. As mentioned in introduction to this chapter, the complexity and variety of questions observed in this study required a more robust system of classification than was available from the literature. Specifically, questions were not categorizable into dichotomous, one-or-the-other descriptions. Rather, the questions observed are best described by using dimensions. This important note allows for two remarks to be made about the data that help address the first research subquestion about the kinds of questions teachers ask as well as the second subquestion about the sequencing of those questions.

### **Range**

First, very few of the questions fell squarely into one of the nine descriptions discussed above. That is, although some questions were either strictly closed or guided or

open, strictly look or think or apply, or strictly readiness or information or principle, most were somewhere in between those labels. For example, although some questions were coded closed questions in that they required a single right answer, most questions ranged somewhere between closed and open. Peter asked his students in the middle of reading of a scripture that detailed Christ's promise to send "the Comforter" to his Saints, "What's another name for the Comforter?" The first student to respond answered that another name was the Holy Ghost which Peter identified as a correct answer; however, he then waited for additional answers. A few more students offered other names. The original question was more open than it first appeared. Steven similarly asked his students about their patriarchal blessings, a personalized, written-up blessing given to many Church members in their youth, "How many of you, when you read your patriarchal blessings, feel that comfort?" Almost immediately after asking the question Steven stated, "I really want to know—there's no right answer." While "yes" seemed the right answer Steven's statement, his subsequent waiting for students to respond, and the follow-up questions he then asked to those responding students all combined to indicate he viewed this question as more than a closed question.

In a similar vein with look, think, and apply questions, Greg asked a student to read a verse of scripture and directed the other students to "mark the reasons why God gives us spiritual gifts." Following the reading and marking of the verse Greg asked his students, "Why does God give us spiritual gifts?" This question, at first glance, could be classified as a search question given the verse that was just read. However, after a few students responded with what they had found in the text, Greg continued to encourage

answers and students began sharing thoughts that did not come from the text but rather from their own analyses. In fact, Greg asked a series of search/think questions related to these particular verses: “Tell me who gets a spiritual gift? When Christ gives us a spiritual gift, he expects us to do what? As we read the story look for a time when Christ uses these gifts to bless someone else.” This last direction—pointing students to a block of scriptures and then asking them to search and analyze the text at the same time—appeared often in observations. Dave gave his students instructions to read an entire section of scripture in search of support for the overarching principle that God cares about our past, present, and future. It was clear that students were expected to both search in the text for phrases or verses that supported the principle but also think what they were reading in order to decide what phrases or verses provided that support. As students were invited to share what they had found their answers were both drawn from the text they read but also influenced by and phrased with their own analysis and thinking.

Likewise, the lines between readiness, information, and principle were porous and the questions osmotic. For example, Bill asked one of his students, “What gives your [wrestling] coach the credibility for you to listen to him?” This question, on the surface, may seem to be strictly a readiness questions because it seems tangentially connected to the lesson and was asked in preparation for the discussion that would follow. However, Bill had begun the lesson by asking students to think about why God asks them to do hard things. With this context, Bill’s question to his student can also be seen as a principle question in that it prompted the student to make a statement about his coach that Bill went on to apply to God. Similarly, Peter asked his students to study multiple verses

in an assigned section and asked them to “look for information about what Church historians do that indicates what we need to do in our own journal keeping.” This direction combined both a question about information—what Church historians do—with a question about principles—what students should do in their own journal keeping.

In seeking to classify questions, it was helpful to see questioning ranging across a dimension or a spectrum rather than fitting in any one box. Though simplicity of reporting results necessitates that lines be drawn between questions, it was clear from observations and interviews with participants that they perceived that “organic nature” of questioning as something demanding a nuanced understanding and a flexible application.

### **Combinations**

The second observation congruent with viewing questioning classifications as dimensions and discussed at various points in the sections above is that these dimensions could be combined in describing questions. Indeed, the most accurate view of the data came when questions were viewed as multidimensional rather than single-dimensional. Thus, a question was not strictly a readiness question to the exclusion of all other descriptions but could be classified as, for example, a closed look for readiness question or a guided think about information question. Figure 4.6 depicts these combinations and a simple three-letter code used to identify a question within that combination. For example, closed search for information questions can be labeled CSI while open think about principle questions can be labeled OTP. Tables 4.7- 4.9 then provide examples of each of these combinations with each table representing a different category along the significance dimension.

	Search	Think	Apply	
Closed	CSR	CTR	CAR	Readiness
Guided	GSR	GTR	GAR	
Open	OSR	OTR	OAR	
Closed	CSI	CTI	CAI	Information
Guided	GSI	GTI	GAI	
Open	OSI	OTI	OAI	
Closed	CSP	CTP	CAP	Principle
Guided	GSP	GTP	GAP	
Open	OSP	OTP	OAP	

*Figure 4.6.* Multidimensional questioning combinations and codes.

It should be noted that, while the above table points to two examples for each combination, the various combinations of questions were not found equally in the data. Some combinations were rare, occurring only once or twice in a teacher's class. For example, because information questions so often asked students to draw specific pieces of information from a text, open apply information questions (OAI) were rarer compared to closed or guided search for information questions (CSI and GSI). Similarly, because application questions were, by definition, related to a students' own personal experiences closed or guided application questions were rare compared to a comparatively high number of open application questions.

Some combinations were, however, quite common across teachers and frequent in each teacher's class. For example, closed or guided search for information questions (CSI or CGI) were common. Most often these questions directed students to their scriptures in search of details about the story or topic that the teacher felt must be understood in order

Table 4.7

*Multidimensional Questioning Examples of Readiness*

Code	Example	Code	Example	Code	Example
CSR	<p>“Look at the lights in class; can light and dark exist at the same time?” (Bill)</p> <p>Showing pictures of temples in a slideshow: “What temple is this?” (Wendy)</p>	CTR	<p>“How many of you know what a holy roller church is?” (Greg)</p> <p>“How many of you have heard about the fires in California?” (Peter)</p>	CAR	<p>“How many of you have a patriarchal blessing?” (Steven)</p> <p>“Does your coach ever yell at you? Is it hard to hear with your head gear on?” (Bill)</p>
GSR	<p>“Think of what it says on our buildings; what does what it says on our Church buildings mean about how we welcome other religions?” (Greg)</p> <p>After a few volunteers roleplayed: “What might the blindfold represent?” (Steven)</p>	GTR	<p>“In the cities you’ve been in, where do they usually put temples?” (Wendy)</p> <p>“What’s the purpose of an alarm clock?” (Steven)</p>	GAR	<p>“What do you have to do to hear with your head gear on?” (Bill)</p> <p>“What would change in your life without those things [lightbulbs, cars, smart phones, Chick-fil-A]?” (Wendy)</p>
OSR	<p>“What do you notice about these temples as you look at them?” (Wendy)</p> <p>Showing a picture of the California fires: “What do you think those people are going through?” (Peter)</p>	OTR	<p>“Any questions you have today about anything?” (Dave)</p> <p>“What’s difficult about moving to a new place?” (Wendy)</p>	OAR	<p>“What are some of your favorite memories you’ll never forget?” (Peter)</p> <p>“How do you feel about your brothers?” (Dave)</p>

Table 4.8

*Multidimensional Questioning Examples of Information*

Code	Example	Code	Example	Code	Example
CSI	<p>“How many verses are in this section?” (Bill)</p> <p>“What edition of the scriptures do you have?” (Dave)</p>	CTI	<p>“Is a patriarchal blessing important like that?” (Steven)</p> <p>“Satan wants us to do, what?” (Bill)</p>	CAI	<p>“How many of you want an answer to that question?” (Bill)</p> <p>“How many of you, when you read your patriarchal blessing, feel comfort?” (Steven)</p>
GSI	<p>“What are the differences between the two texts?” (Dave)</p> <p>“What evidence do you see that Heavenly Father is concerned about the past, the present, and the future of James Covell?” (Dave)</p>	GTI	<p>“Why do you think it’s important to keep a record of the history of the Church?” (Peter)</p> <p>“What are the good things that come through a cell phone?” (Bill)</p>	GAI	<p>“What would you be feeling if you were here, in this story, with the Savior?” (Greg)</p> <p>“What things did he command them to do that you think would be hard?” (Peter)</p>
OSI	<p>“What verses in this story do you guys think have important information?” (Greg)</p> <p>“How many verses can you name that connect to this doctrine?” (Steven)</p>	OTI	<p>“Do you think that would have been easy or hard? Why/why not?” (Dave)</p> <p>“What feelings do you think Simon and the lady would have felt?” (Greg)</p>	OAI	<p>“What about this story makes you want to read more?” (Wendy)</p> <p>“Are there any details him in that story that story that make you want to be better?” (Bill)</p>

Table 4.9

*Multidimensional Questioning Examples of Principles*

Code	Example	Code	Example	Code	Example
CSP	“What’s the principle stated right there in verse 11?” (Greg)	CTP	“Who’s the perfect example of all things? (Greg)	CAP	“Raise your hand if you’d like to be the giver of charity rather than the receiver.” (Greg)
	“How is that principle stated in the verse?” (Dave)		“So, because he’s the middle man, he’s standing between us and who?” (Bill)		“Are those memories written down?” (Peter)
GSP	“As we read this will you mark all of the things Jesus does to act on that principle?” (Greg)	GTP	“What does it mean when it says, ‘all might be benefitted?’” (Greg)	GAP	“What will you do to give to someone in need this week?” (Peter)
	“There are some other truths in that one verse; what else do you see?” (Bill)		“Do you see the lesson in those verses about building Zion? What principle do you see?” (Wendy)		“Based on your last answer, why would it be important for you to record your favorite memories?” (Peter)
OSP	“Go find as many of these [spiritual gifts displayed on the screen] as you can in the story.” (Greg)	OTP	“What standards does the Church have for you that will help you push away darkness?” (Bill)	OAP	“How do you imagine yourself feeling, thinking, or acting because you overcame that challenge?” (Dave)
	“As you were listening and maybe even reading along, what impressed you about what President Nelson challenged youth to do?” (Steven)		“Will you write down a principle that answers this question: ‘What can we learn from this commandment?’” (Peter)		“When have you used your talents, skills, and abilities to build Zion? What will you do to build Zion in your own life?” (Wendy)

for the lesson to progress. Quite often these questions would either be combined with or else lead to other search questions that directed students to look for principles to which they were either guided by their teachers or else left open to pursue on their own. As an example, Bill asked the following series of questions that initially focused on information

in the scripture block and then transitioned to principles and, more specifically, students' own feelings about and application of those principles:

Bill (CSI): Let's read verses 16 and 17 together; the disciples in Christ's time have a question and I want you to look for that question as we read.

Student: ...

Bill (CSI): What's the disciples' question?

Student: ...

Bill (GSI): When's the Second Coming?

Student: ...

Bill (OTI): Anyone want to know the answer to that?

Student: ...

Bill (OTI): Why do you want to know John?

Student: ...

Bill (OTI): Anybody worried about this Second Coming?

Student: ...

Bill (OSI): This is what we want to do—we want to see the signs the Lord has given in the scriptures...

Bill displayed directions on his projector screen directing different groups of students to study assigned blocks of scripture looking for “signs of the Second Coming that help you prepare.” After students studied, he invited them to share their findings. Then he asked:

Bill (CSP): What did Jesus tell the disciples so they wouldn't be scared?

Student: ...

Bill (GTP): So, if we don't want to be scared, what do we need to do?

Student: ...

Bill (CAP): If we're hearkening to Christ, do we need to be scared?

While various combinations of search and think questions were prevalent in class, the combination of questions teacher's spoke most passionately about in their interviews and gave, as Greg explained, “prime time” (the last minutes of the lesson) to in their class were open application of principle (OAP) questions. As Bill explained in his interview,

I try to help them identify, pretty quickly, what the important principles are in the

lesson and then help them feel the truth and importance of that principle for themselves and then connect that principle with them. What does this have to do with you? What does it make you think or feel? What does it make you want to do? What are you going to do about it? How is this principle going to make your life better?

Such questions were found often in conclusion to a study of a block of scripture. As examples, the following are all questions that each respective teacher asked near the end of class:

- Bill: When you see all of these things [the signs of the Second Coming], what goes through your mind? What does it make you want to do?
- Dave: Knowing your past behavior, what changes do you need to make in what you are currently doing to avoid those situations, circumstances, etc.?
- Greg: Based on everything we've learned today, how many of you guys are going to do something about it tonight? What are you going to do?
- Peter: What will you do to give to someone in need this week? When are you going to do it? What might prevent you from doing that today?
- Steven: Will you ponder, what would the Spirit have you act on? What does it need to be and when will it happen?
- Wendy: What's one specific thing you're going to do to help build Zion today?

As mentioned at the beginning of this chapter, the organic nature of teacher questioning in seminary classes meant that, early on in the research process it was recognized that any description, categorization, or coding scheme would fall short of completely capturing all of the dynamics at play. However, the discovery of overlapping dimensions of description went a long way in explaining many of those dynamics that teachers felt most pertinent to their students' learning experiences.

## Conclusion

This chapter has reported the data collected, discussed the associated coding and analysis of that data, and presented the findings pursuant to the central research question of what questioning practices and rationales seminary instructors employ to reach

learning outcomes as well as the sub research questions guiding this study. Further, this chapter has demonstrated the methodologies used for analysis consistent with the grounded theory methodology outlined in the previous chapter. Six teacher participants were selected for this study. Data was collected from classroom observations and interviews with the teachers following the observation. .

In total, the teachers in this study asked almost one thousand questions. To interpret this data a grounded theory method of open, axial, and selective coding was used to address the first research subquestion and identify the kinds of questions teachers asked. Over 25 codes emerged from the initial analysis of the data. Ongoing analysis, including axial coding selective coding of both the observation and the interview data revealed nine axial codes that encapsulated the initial codes. To explain the different aspects of individual questions these axial codes were combined into three selective codes, referred to as questioning dimensions in this report, which were overlapped to produce a multidimensional model of questioning that allows for a contoured description of teacher questioning.

Amidst the discussion of the kinds of questions, teachers asked the preceding discussion addressed the other three subquestions. It was shown that teachers combined and sequenced specific groups of questions to help students reach, in addition to cognitive outcomes, affective outcomes of being motivated to study, valuing the principles discussed in class, and feeling urgency to apply those principles. Further, teachers aimed specific questions and question sequences at helping students reach the social and behavior outcomes of studying the scriptures individual or in groups,

volunteering personal thoughts or experiences, and committing to and planning action based on class discussions. These affective and social outcomes were shown to be the overarching goal of teacher questioning in seminary.

Using the descriptive model proposed in this chapter, the next chapter will discuss these findings in more detail. Specifically, the results of the study will be connected back to the literature, implications for practitioners will be drawn from further analyses of the data, and implications for researchers will be drawn from discussing the admitted (albeit foreseen) limitations of the study.

## CHAPTER 5

### DISCUSSION

This study focused on teacher questioning in seminary classes for the Church of Jesus Christ. Specifically, the researcher sought to answer the following central and subresearch questions.

*Central question:* What questioning practices and rationales do seminary instructors for the Church of Jesus Christ employ to reach learning outcomes?

Subquestions:

1. What types of questions do instructors ask in seminary classes?
2. How do instructors sequence their questions during classroom instruction?
3. What do instructors view as the role of teacher questioning in the seminary environment?
4. What outcomes do instructors target with their individual questions and questioning sequences?

The previous chapter presented the results of data collection and analysis as guided by the grounded theory methodological framework outlined in Chapter 3. In this chapter key findings from the research are discussed. This discussion begins by connecting findings from this study back to the literature reviewed in Chapter 2 and addresses some of the gaps identified in that review, specifically the relative absence of examinations of affect and socially motivated questions. Further, this chapter will discuss the implications of these research findings, particularly the multidimensional questioning framework presented in Chapter 4, for professional educators and will illustrate specific questioning strategies that could be used in teaching and learning to reach affective and

social or behavioral outcomes. Finally, this chapter will discuss limitations inherent in this study and will recommend, based on those limitations, a course for future research into affective and social/behavioral questioning.

### **Connections to Literature**

The commissioner of education for The Church of Jesus Christ stated recently, “Understanding the gospel is much more than a cognitive experience; it’s a spiritual experience in which the Holy Ghost witnesses of the truth, enlightens our minds and changes our hearts” (Clark, 2019, para. 6). Clark further defined understanding as the ability of a student to see how knowledge acquired while learning can influence her personal life and explained that a change of heart meant that the student would come to value and be motivated to apply learned truths. This prioritizing of affective and behavioral outcomes over cognitive outcomes is prevalent in the training materials for seminary teachers and differs significantly from the predominant focus on cognitive outcomes in existing educational research and theory literature (Carlsen, 1991; Shahrill, 2013). The participant teachers in this study expressed their own alignment with this prioritization of educational objectives. Their questions, as has been illustrated, focused secondarily on helping students know details or facts and primarily on helping students feel excited to study the lesson, motivated to participate in class, and confident in their ability to and plans for applying lessons to their lives.

### **Cognitive, Affective, and Social/Behavioral Outcomes**

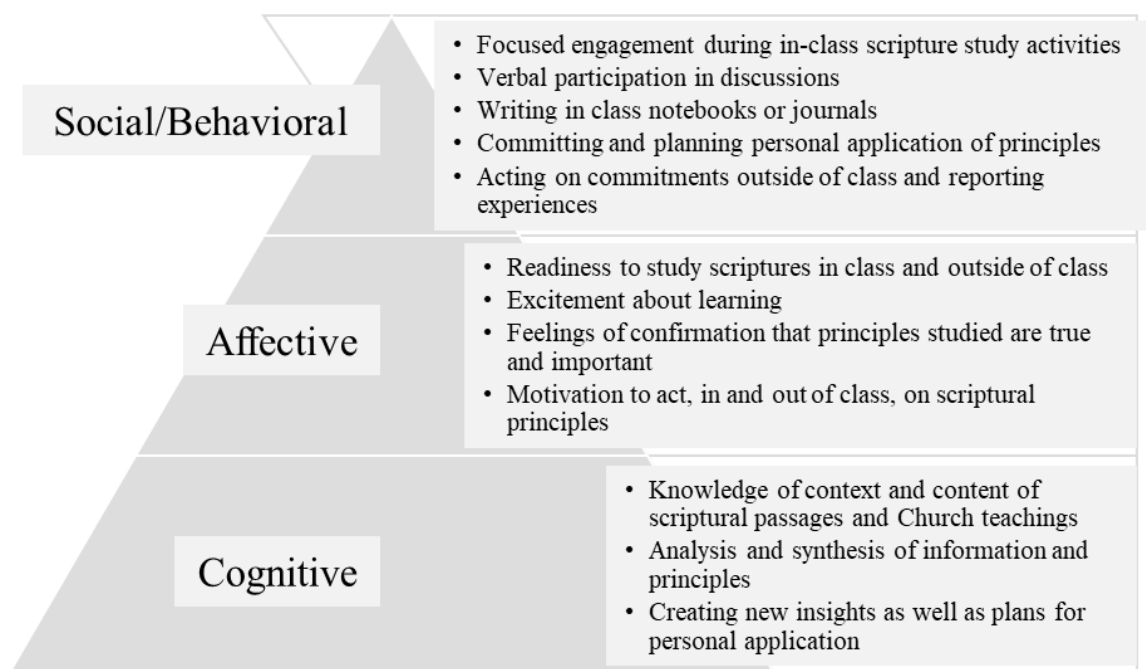
Whereas Bloom’s (1956) taxonomy of educational objectives focused on the

cognitive domain, research has focused heavily on lower-cognitive questioning and treated sparsely higher-cognitive questioning. Further, studies into the affective or social/behavioral domains, even those done by Bloom and his colleagues (Krathwohl et al., 1964; see also Cunningham, 1987; Price, 1968; Rath et al., 1978, have been largely ignored (Irvine, 2017). The findings of this research speak to this gap in the literature. Specifically, the following findings, presented and discussed in the previous chapter, address the higher cognitive, affective, and social/behavioral domains of questioning:

- Seminary teachers prioritized helping students thoughtfully analyze and apply principles over the identification and retention of information.
- Seminary teachers saw the pursuit of affective student outcomes of interest, valuing, and desire and motivation to apply principles to personal living as primarily important and foundational to actual student change.
- Seminary teachers sought for widespread participation in discussion and thoughtful engagement in class study and activities.
- Seminary teachers felt that students applying principles to their lives and changing their behavior because of those principles was the ultimate objective of teaching.
- Seminary teachers used a multidimensional approach with three main questioning dimensions with associated categories and types of questions to target these affective and social/behavioral outcomes. Specifically, teachers focused on asking divergent, relevant, and significant questions to facilitate participation, valuing, and change.

Research has recently uncovered that, despite the prevalent focus on cognitive outcomes in modern education, teachers value affective and social outcomes as much if not more (Eshach et al., 2014). Interviews with teachers in the present study confirmed this passion. Indeed, many of the teacher explained that helping students to gain factual knowledge was only important as a foundational objective to achieving affective and

behavioral goals. Figure 5.1 combines seminary teachers' explanations of their prioritized educational objectives.



*Figure 5.1.* Prioritized educational objectives of seminary teachers.

Pursuant to the central research question of this study, seminary teachers held these priorities as they planned and rationalized their questioning practices.

Although cognitive outcomes were less prioritized by participants, they were not ignored. Indeed, many teachers saw cognitive outcomes as foundational to the achievement of other objectives. As noted, many teachers expressed a desire to ascertain their students' existing knowledge about a topic; Greg explained that this was often the first objective on which he focused. The types of questions asked with this focus echoed lower-level questions discussed by researchers (Anderson et al., 2001; Bloom, 1956; Marzano & Kendall, 2007; Sanders, 1966). Specifically, teachers in this study asked

remember or retrieval questions about existing knowledge or past lessons students had studied as well as comprehension questions about details they had found in searching scriptural passages (Anderson et al., 2001; Marzano & Kendall, 2007).

Further, teachers asked higher-level questions that closely resembled application, analysis, and synthesis questions (Bloom, 1956). Whereas examples of these higher-level questions were sparse among teachers researched in the literature (Bickmore & Parker, 2014; Chin, 2006, 2007; Feston, 2016; Heritage & Heritage, 2013; Hill, 2016; Purdum-Cassidy et al., 2015) the examples of productive, higher-level questions were readily observable among teachers in this study (Cunningham, 1987; Enokson, 1973).

Specifically, teachers asked think questions aimed at helping students analyze information and principles and synthesize those with existing knowledge and personal experiences and apply questions to help students create new insights and knowledge as well as goals and plans for application (Bloom, 1956). Although it has been concluded that teachers often lack the conceptualization of and training for higher-level cognitive questioning (Tienken et al., 2009), teachers in this study felt both competent in the skills and confident in their abilities to ask questions targeting these higher-level outcomes.

Questioning literature has often explained affective outcomes as something other than cognitive outcomes (Cunningham, 1987; Krathwohl et al., 1964; Lennon, 2017). Teachers in this study saw cognitive questions building a necessary foundation for questions aimed at affective outcomes. Using the language from Krathwohl et al. (1947), teachers specifically asked readiness questions to facilitate student receiving and responding which is students' awareness of and focused participation in the discussion,

think questions to help student valuing of principles, and apply questions to encourage organization or connection between principles and students' lives and characterization or integration into the students' value complexes which guide their actions. In confirmation of research findings that higher-level cognitive questions or productive questions facilitate increased positive student emotions such as interest, motivation, and valuing, teachers both expressed and exemplified this connection (Anderson et al., 2001; Boyd, 2015; Heritage & Heritage, 2013; Jurik et al., 2014). Dave's insistence that questions had to be "real" for students conveyed with it the sentiment that unless students were given open-ended, challenging, personally-significant questions they often lacked interest in and motivation for study and discussion.

Social and behavior outcomes of questioning, such as engagement in class activities, verbal participation in discussions, and actual application of principles were found to depend heavily on a question's divergence as well as its relevance. Research has provided ample evidence to support the correlation between higher-level questions and increased classroom participation (Brophy & Good, 1986; Cazden, 2001; Chin, 2006; Good & Lavigne, 2017; Reynolds, 1992; Webb, 2009; W. Wilen, 2001). Indeed, the shift to a sociolinguistic perspective of questioning is indicative of this conclusion (Carlsen, 1991; Cazden, 2001; Lemke, 1982; Webb, 2009). This study illustrated that this was not only a correlation in seminary classes but that teachers purposefully targeted social outcomes with their questions. Specifically, teachers asked open and either analyze or apply questions when they desired students' increased participation in class. Although this study did not focus on or collect student data, it was generally observable that

students responded in greater numbers and with greater depth when asked these kinds of questions. This finding addresses the noted gap in the literature that, with the forgone conclusion that higher-level questions positively affect student participation, relatively little has been researched and, thus, found to explain what specific kinds of questions can actually facilitate that participation (Webb, 2009).

### **Questioning Dichotomies**

As noted in Chapter 2, another recognized gap in the literature is the dichotomizing of questions into categories that are often not nuanced enough to adequately describe teachers' questioning practices (Anderson et al., 2001). Bloom's (1956) original taxonomy outlined six different cognitive outcomes; the later taxonomy of affective outcomes outlined five different outcomes (Krathwohl et al., 1964). Despite these delineations, common classifications of questions in the literature rely on either the simple dichotomy of higher- and lower-order questions (Davoudi & Sadeghi, 2015; Farrar, 1986) or else the dichotomy of convergent or divergent questions (Cotton, 2001; Hill, 2016; Gallagher & Aschner, 1963; Shahrill, 2013; Tienken et al., 2009). These two classification systems, sometimes overlapping (Cunningham, 1987; Enokson, 1973), have been the lens through which teacher questioning data has been predominantly viewed. However, the findings of this study not only provide examples of questions that fall outside of or in between these traditional categories but which also illustrate a need for more nuanced descriptions overall.

Thus, instead of classifying a question as either closed or open, questioning divergence has been portrayed as falling on a range from closed questions, through

guided questions, and to open questions. Similarly, instead of classifying questions as lower-level or higher-level questioning, categories have been broadened and contoured to include, for example, higher-level questions that challenge students to think and higher-level questions that invite students to consider application. These two categories are then combined with the other dimensions to create, for example, guided think about information questions, guided think about principle questions, open think about principle questions, or open apply principle questions just to name a few.

Further, a common critique of questioning research literature is that classification systems, although sharing the common dichotomous threads discussed above, often disagree on the actual classification of individual questions (Farrar, 1986; Rosenshine, 1971). This problem is compounded by the fact that the pursuit of objectivity often means a researcher uses a sterilized observation tool designed by others and that is sometimes naive to the intricacies of the specific class being observed (Farrar, 1986). Some have recently taken a more qualitative and, designedly so, subjective approach to researching questions where teacher interviews are used to identify objectives (Eshach et al., 2014). This study deliberately sought teachers' descriptions of their own questioning strategies, objectives, and practices thus lending to a model that reflects, as the central research question outlined, both the observation data describing what questions teachers asked in class but also the rationale and descriptions of those questions provided by teachers themselves.

The multidimensional model presented in this study allows for a more nuanced description of teacher questioning. The important aspect of these varied classifications is

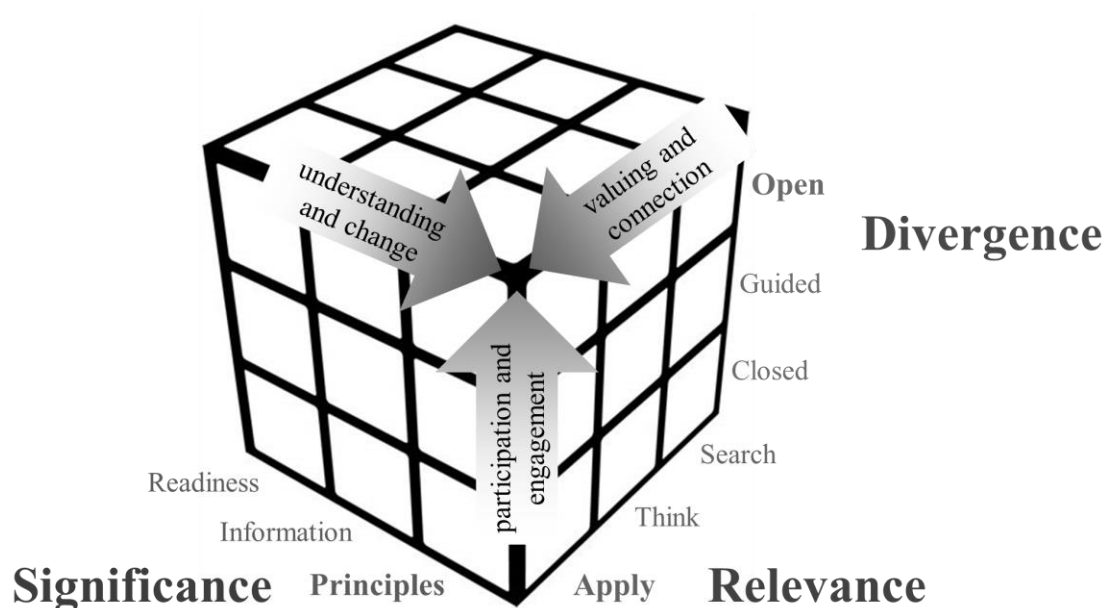
not merely to provide more descriptive categories to use in categorizing questioning but also to convey that teacher questioning, an organic process that combines varied teacher purposes and passions with diverse groups of students in a specifically unique classroom environment with distinct lesson outcomes and foci, cannot be simplified to an either-or description (Anderson et al., 2001; Davoudi & Sadeghi, 2015; Farrar, 1986). The following sections will discuss the implications of this model for teaching professionals and, after acknowledging research limitations, propose further research for the academy.

### **Implications and Recommendations for Practice**

Commissioner Clark (2019, para. 8) asked an audience of seminary teachers, “What can you and I do to help students apply their hearts to understanding?” In answer to the question Clark explained,

First, there is great power in connecting the principle to their own experience and to what they already know and understand. Personal experience really is the gateway to their hearts. Second, it is critically important to use questions.... Questions unlock their minds and their hearts. (para. 13)

This study is poised to recommend implications for professional teachers that will help them unlock students’ minds and hearts and deepen their content understanding, application of content principles, and overall learning experience. Specifically, this section discusses multidimensional questioning and its associated principles of questioning that will help teachers foster broader and deeper student participation, help students value and apply lesson principles, and help students develop and change. The following figure depicts how asking multidimensional questions can help students achieve these specific affective and social/behavioral outcomes (Figure 5.2).



*Figure 5.2.* Targeting affective and social/behavioral outcomes with multidimensional questioning.

### **Multidimensional Questioning for Classroom Instruction**

The multidimensional questioning model is, at the same time, descriptive of the data collected in this study of seminary teachers as well as potentially prescriptive for enhanced learning in all academic domains. The longstanding reliance on lower-level questions has often reduced learning to a mere process of fact collection, comprehension, recall, and regurgitation (Au, 2011; Doll, 2008). This reduction both frustrates and exhausts students who are not merely cognitive learners and fosters in them compliance rather than creativity and change (Eisner, 2002). Clearly, students' emotions, social interactions, behaviors, and personal lives matter to them and impact their learning (Noddings, 2005). Thus, an approach to learning is needed that considers these emotions, interactions, and behaviors. Multidimensional questioning allows teachers to foster a

discussion and, consequently, a classroom learning environment where students are treated with care and can learn holistically.

Teachers could beneficially apply multidimensional questioning by considering the following steps.

1. Teachers should evaluate their own teaching objectives and, if needed, enhance those objectives to include fostering widespread student participation and high-cognitive engagement, motivating student valuing of lesson principles and connection of those principles to students' personal lives, and encouraging understanding of principles and inviting practical change in students' thinking and behavior because of that understanding.
2. To improve student participation and engagement, teachers should draw on the divergence dimension and seek to ask divergent questions that increasingly reduce students' anxiety over getting the wrong answer and, consequently, invite more students to participate at a higher-cognitive level.
3. To improve student valuing and connection, teachers should utilize the relevance dimension and seek to develop more relevant questions that increasingly prompt students to think critically, consider connections between the lesson and their own lives, and share those thoughts and connections with the class.
4. To improve student understanding and change, teachers should consider the significance dimension and seek to develop more significant questions that help students progress from interest in the lesson, through comprehension of lesson information, to identification and understanding of underlying principles that can be applied to increase cognitive and behavioral change.

These recommendations will be discussed in more detail the following sections. It is important to note that these suggestions should be considered and applied in tandem with each other. To reduce personal development of teacher questioning to only one dimension would not bring about the desired effects in full. For example, a teacher who only tries to ask more open questions but does not concurrently try to ask more relevant and significant questions will frustrate her students with a series of open questions that focus only on information that students have searched for without inciting thought and

application of underlying principles. Multidimensional questioning should be approached holistically to achieve the best results.

### **Divergence: Questions of Trust Foster Participation and Engagement**

One of the discussed outcomes named by teachers in this study was the desire to foster both a breadth and depth to student participation, that is, a high number of students who participate and volunteer comments that reflect deep analysis, personal feelings, and lived experiences. Certainly, this desire is one shared by almost all educators no matter the subject. Indeed, Kliebard (2004) expressed the feelings of many for more open, self-willed education by quoting Stanley Hall who quipped, “There is no more wild, free, vigorous growth of the forest, but everything is in pots or rows like a rococo garden” (p. 12). Before planning and asking questions to students, teachers should ask themselves how much they trust their students. The divergence dimension of the multidimensional questioning model prompts teachers to consider how much they limit or foster participation by the autonomy they grant students with their questions. The findings of this study indicate that the more teachers convey trust to their students by asking more divergent questions the more students are willing and even motivated to participate in class. Specifically, teachers should seek to build participation in their classes by asking students progressively more open questions commensurate with the degree of participation they desire.

Closed questions enable a teacher to reach two main outcomes. First, closed questions help a teacher assess existing student knowledge and their recall of specific

knowledge learned in class. Second, closed questions help students quickly identify specific details or principles in a study. These two outcomes are, often, an important foundation to later study; however, if the research conducted in the literature is any indication, these outcomes are often the only outcomes achieved in a class. The current environment of high stakes testing certainly heightens the pressure put on teachers to achieve these outcomes (Au, 2011; Doll, 2008). Further, closed questions tend to limit student participation either because students are afraid of responding incorrectly to a question with a perceived right answer or else because they feel the answer is so obvious that it, literally, goes without saying. Although aiding student recall and information identification is, in some places, important, teachers should seek to limit their use of closed questions to those times when such narrow objectives are the focus and seek to ask more divergent questions to build on those outcomes and expand student participation.

Guided questions may be, in many cases, an alternative to closed questions and enable teachers to reach similar outcomes but with increased student participation and the potential for greater cognitive and affective depth to the responses. Teachers should seek to alter their questions to allow for more student autonomy in their responses. If a class were likened to a hike up a mountain, guided questions do not have a specific location in mind but rather a path which teachers guide students to follow. Thus, instead of asking a student, “What is the answer to problem X” a teacher might ask, “Tell me what you’re thinking of as you consider this problem?” or “Given that the right answer is Y, what helped you get to that answer?” These questions will help students realize the right answer but, more importantly, will convey a student’s thought process. Further, these

questions, just by their phrasing, invite more students to volunteer responses and allow the teacher a greater ability to assess the class's comprehension of the studied principle.

Open questions convey to students a degree of trust and freedom to respond that can be most motivating to them as they participate. In this study, the number of students that participated verbally in a discussion and the excitement and personal thought put into their comments dramatically increased as the teacher asked more open questions. The “snowball” effect mentioned by Peter, where a student's comment spurs other students to comment, happened when teachers were asking open questions. These questions allow students full autonomy and convey to them that the teacher cares most for their thoughts and perspective than he does for his own lesson. In a sense, it conveys to students that at this portion of the lesson they are no longer on a journey to get somewhere but are free to explore an idea or topic and follow their own passions.

Teachers in all disciplines are often frustrated by a lack of participation among students or a deficiency of depth in the discussion. Considering a question's divergence can enable a teacher to address these frustrations. A math teacher, for example, who laments that too few of her students participate in a given discussion or that that participation is too shallow should avail herself of more divergent questions. In place of challenging students to arrive at the correct answer to a particular problem and then asking them what answer they received, she might consider asking questions that invite students to share their thought processes and experiences. For example, she might ask a question such as, “Tell me what you did to arrive at that answer?”, “Did anyone else solve this problem differently?”, and “Which method do you think works best?” These

questions may encourage more students to participate because they sense the absence of pressure to provide the right answer. Such questions can also help both teacher and student engage in a deeper discussion that will allow the teacher to better evaluate student thinking and allow students to learn from each other.

**Relevance: Questions that Relate Foster Valuing and Connection**

Another desire expressed by teachers in this study, which certainly echoes the feelings of their companions in other educational arenas, is to motivate students to care about their learning and to connect what they're learning and their personal lives (Noddings, 2005). Before asking students questions, teachers should ask themselves how much students do and should care about the topic. The relevance dimension of the multidimensional questioning model prompts a teacher to consider how much they foster student caring for the lesson by the connections they make between the lesson and students' own thoughts and experiences. The findings of this study indicate that when teachers care about how their students' emotions, specifically about students' feelings about what they're learning and about their ability to understand connections between the lesson and their personal lives, they naturally ask questions more relevant to students and, cyclically, foster greater valuing and application. Teachers should develop a curiosity about what their students see, think, feel, and experience as they study. That curiosity should engender in teachers a passion for and skill at asking questions that progressively relate to students.

Search questions, like closed questions, aim at lower-cognitive outcomes such as

identifying information and consuming course materials. These questions engage students in class but often in something that is quite far away from students' innate interests and personal experiences. Of course, part of the process of coming to value and apply knowledge is acquiring knowledge that may or may not be interesting to the student and learning how to connect it to daily application. Search questions can begin this process but do expend energy and motivation. In this study, students often began a scripture study activity with excitement that had been built up in preparation for that study. Their reading of the text then expended that excitement. Unless teachers quickly and repeatedly connected what students were studying with students' lives, that excitement kept diminishing. Greg explained that a student once explained to him that the reason for her disinterest in class was, "I don't care about a bunch of old dead guys." Greg then explained how he had to seek to find a relevance to the study and help this student see that relevance as well. Teachers should aim to mitigate diminishing interest by constantly helping students connect what they're reading or studying to their own interests.

Think questions can aid a teacher in connecting new information gleaned from search questions to students' lives. These questions, at their core, ask students to explain what they think or feel about a particular topic. As such, these questions are often more relevant to students because they pertain to their own perspective. Teachers in this study, who were purposefully sampled for their ability to foster student interest and participation, relied heavily on think questions to engage students' passions about topics. This pattern can be effectively followed by all educators. Teachers should seek to ask questions that begin with, "What do you think about..." or "What do you feel about..." to

convey to students their interest in students' perspectives. In some cases, these think questions can be combined with search questions to enable students to acquire new information or knowledge while also connecting that search to their own thoughts and feelings. Thus, a teacher may ask, "As you read this passage, what do you think are some of the important points?" or "How does what you're studying make you feel?"

Teachers should ask apply questions to help students fuse what they were learning in class with their own experiences. In this study, students were observed to be the most motivated, excited, or otherwise emotionally involved in the lesson when the teacher was asking apply questions. Students care about their own lives and every effort that is made to invite them to discuss their own experiences in relation to class study increases the chances that students will be interested, motivated, and come to value what they're learning. Teachers should seek these affective outcomes by asking apply questions. Thus, a teacher might ask, "Tell me the experiences you've had with X?" or "Where have you seen Y before? What was it like?"

Many teachers often sense that their students do not inherently care about the lesson they are learning or, even, the overall topic of the course. Asking more relevant questions can help students come to value their learning more and motivate them to apply themselves more to their studies. Thus, a history teacher who worries that students find her subject boring can seek to connect students to their studies through relevant questions. Instead of merely tasking students to find, memorize, and the regurgitate details found in a textbook she might consider asking questions that help them see connections between what they're learning and their own modern contexts. She might

ask, for example, “What similarities do you see between this historical event and the world today?”, and “What do you think the most important parts of this event are for a modern reader?”, and even “What merit do you think studying this event might have for you in your life?” These questions would help students see that the goal of their studies is not merely to search for information but to connect what they’re finding to their everyday lives and truly learn from the past.

### **Significance: Questions that Matter Foster Understanding and Change**

Of course, teachers are, or should be, naturally passionate about their chosen subject of study and desire that students develop in knowledge, understanding, and skill regarding that subject. Teachers should also be interested and confident in helping students understand how their study can impact their life. As Alfred North Whitehead quipped about education, ““There is only one subject-matter for education, and that is Life in all its manifestations. Instead of this single unity, we offer children Algebra..., Geometry..., Science..., [and] History, from which nothing follows”” (Noddings, 2013, pp. 400-401). Unfortunately, a “nothing follows” curriculum does not interest students, nor does it motivate better living. Before teachers ask their students questions, they should ask themselves why the topic they were teaching matters? The significance dimension of the multidimensional questioning model prompts a teacher to consider how much he facilitates student understanding and change by the degree to which his questions focus on information or on principles. Although teachers in this study expressed and displayed questions that were divergent and fostered participation and

were relevant and fostered valuing, they were quick to recognize that those outcomes were only important inasmuch as they helped students actually learn, understand, and grow because of what they were learning. To help students reach these goals, teachers should ask questions that are not only germane to the topic of study but which help students transcend mere rote learning of facts or details and instead identify and understand the principles underlying those details.

Readiness questions have, as stated by teachers in this study, two purposes. First, to ready students minds for the learning process by engaging them in a discussion that is interesting and has a high probability of eliciting student verbal participation, and second, to help them begin visualizing how the information and principles they learn from class might change their lives. Readiness questions were often combinations of an open question to foster a breadth of participation and either think or apply question to stimulate interest or motivation. The findings in this study imply two specific guidelines for using readiness questions. First, teachers should ask readiness questions about topics students are familiar with or, at least, interested in. This requires a teacher to know students well enough to be able to identify those familiarities or interests. Second, teachers should be cautious about spending too much time asking readiness questions. Although readiness questions excite discussions and prompt participation, if prolonged they can lead to distractedness and a loss of purpose in the class.

Of course, with every study in every discipline, students need to learn new information, data, or facts germane to the topic. Information questions direct students to identify and comprehend that information. While a few of these questions are often

needed in a discussion, teachers should be cautious and discerning with the amount of information questions they ask in class discussions. Teachers should consider focusing their questions on information that is essential in helping students identify and comprehend principles (discussed below). Admittedly, this diverges sharply from the long-standing, IRE (initiate-response-evaluate) tradition in educational settings (Mehan, 1979). However, information questioning, while sometimes necessary, drains student interest and motivation and may even translate to reduced knowledge, comprehension, and learning.

Principles are underlying truths, theories, or frameworks that govern specific knowledge domains. Thus, while there might be numerous facts, details, or even practices that teachers desire students to learn, there are often undergirding principles that, if understood, would make learning the facts, details, and practices easier. In a sense, principle questions are the scaffolding upon which students can stand to build or paint. Asking principle questions may demand something of teachers and students that neither may be used to. In order to ask principle questions, teachers must first know what the principles are that they desire to teach. This implies that the teacher, himself, study the content of a lesson in search of underlying truths or frameworks. Students may likewise be unaccustomed to spending time learning these principles. Teachers should ask principle questions to help students identify, understand, and seek to apply these principles in their own learning and lives. The merit in principle questions lies in the fact that principles, clearly distilled and identified, enable students to better retain and understand important information and, more importantly, enable them to grow and

develop in their own skills and abilities related to that topic.

Passionate teachers often find it frustrating that the instruction they provide does not translate to actual change for students. Knowing that students memorize information to pass a test only to forget that information later often makes teaching feel futile. Asking more significant questions that help students identify principles that can both help them retain those details longer and, maybe more importantly, help them actually change from their studies can help assuage these feelings. A biology teacher, in an effort to help students retain their learning and transcend rote memorization to practical understanding could use principal questions to help his students. For example, instead of asking students questions merely about the details of a particular biological phenomenon, he might consider asking, “What similarities are you seeing between what we’re learning now and what we studied last time?”, and “Could you state a principle you feel helps us understand what’s happening?”, and “How would you apply that principle to this new situation?” These kinds of significant, principle-focused questions would help students see that their learning is not solely focused on the accumulation of information but on the understanding of the biological world and their relationship with it.

### **Questioning Professional Learning and Practice**

The foregoing implications illustrate the power of multidimensional questioning to facilitate not just greater student knowledge but stronger affective connections to their learning as well as actual growth and change in their individual lives. However, to realize this power in individual classrooms teachers and administrators should take effective

steps to seek professional learning experiences and practice multidimensional questioning strategies.

Administrators should evaluate current professional development and professional learning resources and opportunities and consider infusing both with multidimensional questioning principles, strategies, and skills. To do this, leaders will have to specify how these principles will look and sound within specific educational disciplines. The suggestions presented above have been deliberately general; for them to be effectively practiced as part of professional learning they must be specific to the subject being taught. For example, professional learning resources for science teachers must be able to clearly exemplify what an open apply principle question would sound like in a science classroom.

Further, teachers should study, plan for, and practice multidimensional questioning in their instruction. This might imply, for many teachers, a portion of lesson preparation time spent studying the principles and methods presented herein, considering their own questioning practices, and planning specific questions to ask students in pursuit of higher-cognitive, affective, and social or behavioral goals. Teachers should then actively practice their questioning in class, gauging their effectiveness from the breadth and depth of student participation and verbal discussions, and adjusting their practices accordingly. Teachers in the same or similar disciplines can help each other in this pursuit by collaborating in lesson preparation and peer-to-peer, in-class observations. As administrators, professional development leaders, and teachers seek to, themselves, learn, understand, and apply effective questioning principles and practices, students will benefit

and experience a more enjoyable learning process and be better enabled to reach learning outcomes.

### **Limitations and Recommendations for Further Research**

The central and sub research questions provided a fairly narrow focus for this study. Research focused on a small sample of seminary teachers and the questions those teachers asked in class. Further, this research excluded student data. These deliberate foci and exclusions limit the findings of this study. These limitations can be potentially addressed with future research. This section outlines those limitations and recommends future research to the academy.

First, this study focused on a purposeful sample of six seminary teachers from the Salt Lake Valley. This limited scope allowed for an in-depth exploration of the experiences of these teachers and, together with the grounded theory methodology followed in data collection and analysis, guided the formulation of the multidimensional questioning framework. Although saturation was reached with these six teachers and member-checking was used to bolster the resultant model, this study must be recognized as coming from a limited and singular perspective. Thus, future research could seek to validate or amend this descriptive model through similar studies of other samples and, eventually, other populations. A similar grounded theory study could be conducted with a different sample of teachers. The comparison of the resultant theory or model with the findings of this study would significantly enhance the understanding of questioning in seminary.

This study further limited its scope to only seminary teachers. As has been discussed, this was deliberately done so as to focus on an educational environment that prioritized affective and social/behavioral outcomes over cognitive outcomes. Future research could examine other educational disciplines where affective and/or social/behavioral outcomes are valued. These examinations, combined with the current study, could expand the generalizability of the findings presented.

Finally, this study limited its focus to only teachers. An examination of teachers questioning and the resultant impact on students, although initially considered, was deemed too broad of a scope to be able to address the research questions. Although general student observations were made and reported, no specific student data was analyzed or reported which limits the findings to only teachers' experiences and rationales. Further research into the impact these affect and socially motivated questions have on students is not only warranted but needed. Future research could use the multidimensional framework as a lens through which to examine students' experiences. Specifically, researchers could investigate how students respond and perceive their experience when asked varying questions targeting their emotions and their behavior. Such a study would provide the academy and professionals with a more robust understanding of teacher questioning and student participation in education.

### **Conclusion**

This study has examined what questions seminary teachers ask in their instruction and the rationale guiding those questioning practices. As no previous examination had

been conducted into questioning in educational disciplines where affect and social outcomes are prioritized, a grounded theory methodology was used. Six teachers were purposefully sampled and were both observed in teaching and interviewed. The data was iteratively collected, coded, and analyzed. The resultant findings and multidimensional questioning model serve to both expand knowledge about questioning practices of seminary teachers as well as inform effective questioning principles and practices in all disciplines. This resultant recommendation from this study is that teachers focus more on affective and social outcomes of instruction by studying and practicing multidimensional questioning. This study has also further recommended that continuing research be conducted into affective and social questioning, particularly with other samples of teachers and companion samples of students.

According to his student, Plato, Socrates had a gift for instigating thought and creativity. Plato (2003) recorded in *Republic* how Socrates used questioning to lead a student, Glaucon, to examine the underlying and long-standing beliefs about justice and, once understood, turn those beliefs upside down. He challenged his student to think critically about what he knew, think constructively about what he didn't know, and think creatively about what could be known. This gift—to help students move from the known to the unknown—and the equally important gifts of helping students feel interested, motivated, and passionate about their learning and consequently to participate individually with their class and with the greater community should lie at the heart of every teacher. As Noddings (2005) asserts,

Not only must we respect the various talents of our children and the occupations they will fill as adults but, if we are doing the work of attentive love, we must

care deeply for them. We want to preserve their lives, nurture their growth, and shape them by some ideal of acceptability. Our parental instincts inevitably guide the choices we make. (p. 62)

In short, this study has illustrated how multidimensional questioning can be a powerful framework for helping teachers refocus their instruction, not just on the minds, but on the hearts and lives of students.

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## APPENDICES

## Appendix A

### Recruitment Scripts for Area Directors and Teacher Participants

### **E-mail Script for Area Directors**

Dear S&I Administrator,

I am Zach Horton, a principal at Salt Lake East Seminary and a PhD student at Utah State University (USU). I am undertaking a research study with Dr. Max Longhurst, assistant professor at USU, into the questioning practices of seminary teachers. The purpose of this research is to observe and describe the theory and practice of questioning LDS seminary teachers use in their classes. To gather data for this study I will observe one class for each teacher and then interview that teacher after class regarding his/her questioning philosophies and practices.

To select teacher participants for this study, I am requesting from you a list of teachers in your area who meet the following criteria and who you feel would be willing to participate in the study:

- The teacher is not a student teacher and is not on probation.
- The teacher exhibits skill at asking effective questions.
- The teacher's lessons often include a high amount of student participation.
- You would feel comfortable with this teacher being observed and interviewed.

Please provide a list of ten teachers who meet these criteria. From this proposed list, a smaller sample will be purposefully selected.

In an effort to select a sample of teachers that resembles the larger population of seminary teachers, please consider a list that contains

- Teachers with differing levels of experience (under five years, five to 20 years, over 20 years)
- Both male and female teachers
- Teachers from different preservice programs (Salt Lake, Provo, Weber, etc.)
- Teachers who have different work histories (administrative assignments, Church Office Building assignments, coordinating assignments, etc.)

This study will help the researchers learn more about questioning and may help future seminary teachers by providing a taxonomy of questions upon which teachers can draw as well as help researchers by postulating a theory of teacher questioning in seminary. Your participation in identifying potential teachers to observe is greatly appreciated.

Thank you for your help,  
Zachary Horton

### **E-mail Script for Potential Teacher Participants**

Dear Teacher,

My name is Dr. Max Longhurst, and I am a professor in the School of Teacher Education and Leadership at Utah State University (USU). I am undertaking a research study with Zach Horton, a seminary principal at East Seminary and doctoral candidate at USU, into the questioning practices of seminary teachers. The purpose of this research is to observe and describe the theory and practice of questioning LDS seminary teachers use in their classes.

You have been recommended as someone that might be willing to participate in this study. To gather data for this study, Zach Horton wishes to observe one of your regularly scheduled classes and then interview you after class regarding your questioning philosophies and practices. You should know that participating in this study is completely up to you and if you decide not to participate, that will not be shared with your Area Director and will not impact your employment at all.

Prior to participating in this study, I would like to obtain your informed consent to collect information. If you would be willing to participate in this study, please follow this link <link> that will ask for your informed consent. Following your consent, you will be asked four questions that will aid in the selection of teachers who are observed and interview. If you are selected to participate in the observation and interview you will be contacted by Zach Horton to arrange a classroom observation and interview. Please know that your response will be kept confidential. Your identity will not be revealed in any publications, presentations, or reports resulting from this research study.

This study will help the researchers learn more about questioning and may help future seminary teachers by providing a taxonomy of questions upon which teachers can draw as well as help researchers by postulating a theory of teacher questioning in seminary. Your response to this e-mail is greatly appreciated.

Thank you in advance,

Max Longhurst

Once a teacher participant agrees to provide informed consent via Qualtrics they will be invited to respond to the following questions in order to aid the researchers in identifying and selecting a sample that approximates the demographics of the population:

- How many years have you been teaching seminary?
- What preservice program did you attend?
- What have been your different assignments in your career?
- Would you be willing to participate in this study as outlined above?

### Phone Call Script

1. Greetings
2. Introduce myself and my studies generally
3. Explain the proposed study (drawn from the informed consent form) – *summarize the following information:*
  - a. Purpose of the study: “The purpose of this research is to observe and describe the theory and practice of questioning LDS seminary teachers use in their classes.”
  - b. Procedures: “Your participation will involve teaching your regularly scheduled seminary class while being observed by the student researcher. The researcher will both audio record your class as well as take notes on the questions you ask students during your lesson. After the lesson, you will be asked to participate in a 30-minute interview with the researcher where he will ask you the reasoning behind the questions you asked as well as other questions related to your teaching. The total time of your participation is expected to be the time spent in your class (usually 60 to 90 minutes) plus the 30-minute interview.”
  - c. Risks: “The foreseeable risks or discomforts include minor disruption to classroom instruction, stress from being observed, and loss of preparation time due to interviewing. In order to minimize those risks and discomforts, the researchers will sit at the back of the classroom and refrain from any interruption to classroom instruction not necessary for the observation. Further, interviews will be planned to last no more than 30 minutes.”
  - d. Benefits: “Participation in this study may directly benefit you by making you more aware of your own questioning practices. More broadly, this study will help the researchers learn more about questioning and may help future seminary teachers by providing a taxonomy of questions upon which teachers can draw as well as help researchers by postulating a theory of teacher questioning in seminary.”
  - e. Confidentiality: “The researchers will make every effort to ensure that the information you provide as part of this study remains confidential. Your identity will not be revealed in any publications, presentations, or reports resulting from this research study.”
  - f. Voluntary Participation: “Your participation in this research is completely voluntary. If you agree to participate now and change your mind later, you may withdraw at any time by contacting either the principal researcher or the student researcher via e-mail or phone and requesting to be withdrawn from the study.”
4. If the person wishes to discontinue their participation in the study, thank them for their willingness
5. to talk on the phone. If they agree to continue, schedule a time for the observation and interview.
6. Answer any additional questions.

Appendix B  
Informed Consent



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v.8.3; May2017

## Informed Consent

### Questioning Questions: A Preliminary Investigation of Religious Educators

#### Purpose

You are invited to participate in a research study conducted by Dr. Max L. Longhurst, an Assistant Professor in the Department of Teacher Education and Leadership and Zach Horton, a student researcher at Utah State University. The purpose of this research is to observe and describe the theory and practice of questioning LDS seminary teachers use in their classes. This form includes detailed information on the research to help you decide whether to participate in this study. Please read it carefully and ask any questions you have before you agree to participate.

#### Procedures

You will be asked to respond to five questions in this Qualtrics survey. Some individuals will then be asked to participate in a classroom observation and interview. Such participation will involve teaching your regularly scheduled seminary class while being observed by the student researcher. The researcher will both audio record your class as well as take notes on the questions you ask students during your lesson. After the lesson, you will be asked to participate in a 30-minute interview with the researcher where he will ask you the reasoning behind the questions you asked as well as other questions related to your teaching. The total time of your participation is expected to be the time spent in your class (usually 60 to 90 minutes) plus the 30-minute interview. If you agree to participate, the researchers will also collect your name and teaching experience from your area director or principal. We anticipate that one person will participate in this research study at this site, and that up to 15 people will participate from up to 15 sites.

#### Risks

This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those you encounter in everyday activities. The foreseeable risks or discomforts include minor disruption to classroom instruction, stress from being observed, and loss of preparation time due to interviewing or inadvertent loss of confidentiality. In order to minimize those risks and discomforts, the researchers will sit at the back of the classroom and refrain from any interruption to classroom instruction not necessary for the observation. Interviews will be planned to last no more than 30 minutes. Further, all data will be kept in secure, restricted-access location. The transcript of the recording will replace all names with pseudonyms.

#### Benefits

Participation in this study may directly benefit you by making you more aware of your own questioning practices. More broadly, this study will help the researchers learn more about questioning and may help future seminary teachers by providing a taxonomy of questions upon which teachers can draw as well as help researchers by postulating a theory of teacher questioning in seminary.

#### Confidentiality

The researchers will make every effort to ensure that the information you provide as part of this study remains confidential. Your identity will not be revealed in any publications, presentations, or reports resulting from this research study. However, it may be possible for someone to recognize your particular responses.

We will collect your information through typed notes, audio recordings, and interviews, and e-mails. Data will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system and in a locked drawer in a restricted-access office. Personal identifiers, such as your name, will be removed from any transcribed data. The identifiers will be kept for no longer than three years from the beginning of the study and then will be destroyed. This form will be kept for three years after the study is complete, and then it will be destroyed.



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It is unlikely, but possible, that others (Utah State University or state or federal officials) may require us to share the information you give us from the study to ensure that the research was conducted safely and appropriately. We will only share your information if law or policy requires us to do so. If the researchers learn that you intend to harm or actually harm another, state law requires that the researchers report this intention or behavior to the authorities.

#### Voluntary Participation & Withdrawal

Your participation in this research is completely voluntary. If you agree to participate now and change your mind later, you may withdraw at any time by contacting either the principal researcher or the student researcher via e-mail or phone and requesting to be withdrawn from the study. If you choose to withdraw after we have already collected information about you, your data and any electronic communications between you and the researchers will be destroyed. The researchers may choose to terminate your participation in this research study if you are put on probation by Seminaries and Institutes. In such a circumstance, you will be contacted via telephone and/or e-mail and notified of your withdrawal from the study. The decision not to participate in or to withdraw later from the study will not impact your employment in any way.

#### IRB Review

The Institutional Review Board (IRB) for the protection of human research participants at Utah State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator at (435) 797-7093 or [max.longhurst@usu.edu](mailto:max.longhurst@usu.edu). If you have questions about your rights or would simply like to speak with someone other than the research team about questions or concerns, please contact the IRB Director at (435) 797-0567 or [irb@usu.edu](mailto:irb@usu.edu).

\_\_\_\_\_  
 Max Longhurst  
 Principal Investigator  
 (435) 797-7093; [max.longhurst@usu.edu](mailto:max.longhurst@usu.edu)

\_\_\_\_\_  
 Zach Horton  
 Student Investigator  
 (801) 835-6330; [hortonzr@gmail.com](mailto:hortonzr@gmail.com)

#### Informed Consent

By signing below, you agree to participate in this study. You indicate that you understand the risks and benefits of participation, and that you know what you will be asked to do. You also agree that you have asked any questions you might have, and are clear on how to stop your participation in the study if you choose to do so. Please be sure to retain a copy of this form for your records.

\_\_\_\_\_  
 Participant's Signature

\_\_\_\_\_  
 Participant's Name

\_\_\_\_\_  
 Printed Date

Appendix C  
Letter of Information



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v.8 3 May2017

## Letter of Information

### Questioning Questions: A Preliminary Investigation of Religious Educators

#### Introduction

You are invited to allow your child to participate in a research study conducted by Dr. Max L. Longhurst, an Assistant Professor of Science Education in the School of Teacher Education and Leadership at Utah State University and Zach Horton, a student researcher at Utah State University. The purpose of this research is to observe and describe the theory and practice of questioning LDS seminary teachers use in their classes. This form includes detailed information on the research to help you decide if you want your child to participate in this study. Please read it carefully.

#### Procedures

Your child's participation will involve attendance and participation in his/her regularly scheduled seminary class. It is expected that between 20 and 30 students will participate in each class and between 200 and 400 students will participate across all classes observed for this study. Each class will be observed by the student researcher and, as part of this observation, the class will be audio recorded. The purpose of this audio recording is to capture the teacher's questions; however, student commentary will also be recorded. If you agree to have your child participate any verbal comments your child makes during the class will be recorded. This recording will be kept in a secure location and any transcription of this recording will have all names replaced by pseudonyms. If you do not wish to have your child participate, or if they decide not to participate, they will be asked to attend a different seminary class on the day of observation.

#### Risks

This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those your child might encounter in everyday activities. The foreseeable risks or discomforts include stress or discomfort from having an observer in class or inadvertent loss of confidentiality. In order to minimize those risks and discomforts, the researchers will sit at the back of the classroom and refrain from any interruption to classroom instruction not necessary for the observation. Further, all data will be kept in secure, restricted-access location. The transcript of the recording will replace all names with pseudonyms so your child's name will not be used. This research may involve risks that are not yet known. If your child has a negative research-related experience or are injured in any way during your participation, please contact the principal investigator of this study right away at 435.797.7093 or max.longhurst@usu.edu.

#### Benefits

This study will help the researchers learn more about questioning and may help future seminary teachers by providing a taxonomy of questions upon which teachers can draw as well as help researchers by postulating a theory of teacher questioning in seminary.

#### Confidentiality

The researchers will make every effort to ensure that the information your child provides as part of this study remains confidential. Your child's identity will not be revealed in any publications, presentations, or reports resulting from this research study.

We will collect your child's responses through audio recordings. This information will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system or in a locked drawer in a restricted-access office. Personal identifiers, such as your child's name, will be removed from any transcribed data. The audio



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recordings will be kept for no longer than three years from the beginning of the and then will be destroyed. This form will be kept for three years after the study is complete, and then it will be destroyed.

It is unlikely, but possible, that others (Utah State University or state or federal officials) may require us to share the responses your child may give us from the survey to ensure that the research was conducted safely and appropriately. We will only share your child's responses if law or policy requires us to do so. If the researchers learn that your child is or has been abused, neglected, or going to engage in self harm/intend to harm others, state law requires that the researchers report this behavior to the authorities.

### Voluntary Participation

Your child's participation in this research is completely voluntary. If you agree to have your child participate now and change your mind later or your child chooses to not participate, you may withdraw at any time by making a verbal or written request to be withdrawn to the researchers. You or your child's decision to opt in or opt out of participation will in no way affect his/her seminary grade or credit.

This Letter of Information is intended to be an opt out opportunity. If you agree to allow your child to participate you do not need to respond to this letter. Please only sign below if you DO NOT want your child to participate. Due to the anonymous data collection procedures, if you or your child choose to withdraw after we have already collected information we will be unable to identify your child's responses and therefore unable to withdraw their information.

### IRB Review

The Institutional Review Board (IRB) for the protection of human research participants at Utah State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator at 435-797.7093 or [max.longhurst@usu.edu](mailto:max.longhurst@usu.edu). If you have questions about your rights or would simply like to speak with someone other than the research team about questions or concerns, please contact the IRB Director at (435) 797-0567 or [irb@usu.edu](mailto:irb@usu.edu).

\_\_\_\_\_  
 Dr. Max L. Longhurst  
 Principal Investigator  
 (435) 797-7093 [max.longhurst@usu.edu](mailto:max.longhurst@usu.edu)

\_\_\_\_\_  
 Zach Horton  
 Student Investigator  
 (801) 835-6330; [hortonzr@gmail.com](mailto:hortonzr@gmail.com)

### Parental/Guardian Decline for Child to Participate in Study

I DO NOT wish to have my child participate in this research.

\_\_\_\_\_  
 Signature of Parent or Guardian

\_\_\_\_\_  
 Relationship to Child

\_\_\_\_\_  
 Name of Child (Please Print)

\_\_\_\_\_  
 Date



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### Youth Assent

We are doing a research study about questions in seminary classes. If you would like to be a part of this research study, your participation in class will be audio recorded. However, because this study is focusing on teacher questions your responses will not be used as part of the study or its report.

Your participation has some inherent benefits and risks. This study will help the researchers learn more about questioning and may help future seminary teachers ask better question and engage more students. Some risks to you might include stress or discomfort from having an observer in class or inadvertent loss of confidentiality (others finding out that you participated in this study).

If you are willing to participate you simply need participate in class as you normally would. If you do not want to participate please tell me or your teacher and we will provide another activity. Your decision to participate or to opt out of participation will not affect your seminary grade or credit in any way.

## Appendix D

### Observation and Interview Notes Template

### Teacher Questioning Observation Field Notes and Interview Protocol

School: \_\_\_\_\_ Page No. \_\_\_\_\_

Teacher: \_\_\_\_\_ Beginning Time: \_\_\_\_\_ Ending Time: \_\_\_\_\_

Lesson: \_\_\_\_\_

Date: \_\_\_\_\_

Time	What questions were asked by the teacher?	Coding

**Talk to me about questioning in this lesson.**

What is your evaluation of your questions today?

How did your questioning practices today compare with other lessons?

**Tell me your thoughts on the role questioning plays in instruction.**

What would you say is/are the purpose(s) of teacher questioning?

In what ways do you use questioning in your teaching?

**Talk to me about why you ask the questions you ask.**

What kinds of questions do you like to ask? Why do you like to ask those kinds of questions?

Are there questions you avoid asking? If so, which ones and why?

## Appendix E

Letter of Approval from Seminaries and Institutes Research Committee

THE CHURCH OF  
**JESUS CHRIST**  
OF LATTER-DAY SAINTS

SEMINARIES AND INSTITUTES OF RELIGION

July 9, 2018

Zachary R. Horton, Principal  
Salt Lake City Utah East Released-Time Seminary  
1253 E 800 S  
Salt Lake City, UT 84102

Dear Brother Horton,

The S&I Education Research Committee approved your research project with the following guidelines:

1. Data is to be collected as outlined in your proposal; any changes to your procedures must be approved by the ERC.
2. You must obtain the authorization from the ERC before presenting or publishing your findings beyond your degree requirements (e.g., professional conference, academic journal).
3. You must provide SAI with a digital copy (PDF) of your research report as soon as it is finalized.

We look forward to reviewing your findings with a view to the S&I Objective.

Sincerely,

Grant C. Anderson  
Associate Administrator

## CURRICULUM VITAE

### ZACHARY R. HORTON

#### Education

- |      |       |   |
|------|-------|---|
| 2019 | Ph.D. | Curriculum and Instruction<br>Utah State University<br>Dissertation: Questioning Questions: A Grounded Theory<br>Investigation of Teacher Questioning in Seminary for the Church of<br>Jesus Christ |
| 2015 | M.A.  | Religious Studies<br>Brigham young University<br>Thesis: "Wherein Shall We Return?": A Historical and Analytical<br>Examination of Lorenzo Snow's 1899 Reemphasis of Tithing                        |
| 2009 | B.S.  | Business Administration<br>University of Utah   |

#### Professional Experience

- |              |  |
|--------------|--|
| 2015-present | Principal<br>Seminaries and Institutes of Religion: The Church of Jesus Christ of<br>Latter-day Saints |
| 2008-2015    | Instructor<br>Seminaries and Institutes  |
| 2007-2008    | Program Coordinator/Tutor<br>Salt Lake City School District  |

#### Related Experience

- |           |   |
|-----------|---|
| 2014-2015 | New Teacher Training Mentor<br>Seminaries and Institutes        |
| 2010-2012 | Special Education Instructor<br>Seminaries and Institutes       |
| 2010-2012 | Student Leadership Council Advisor<br>Seminaries and Institutes |

### **Professional Presentations**

Horton, Z. R. (2019). Questioning Questions: A grounded Theory Investigation of Teacher Questioning in Seminary for the Church of Jesus Christ. TEAL 7015 Orientation to Educational Research, Logan, UT.

Horton, Z. R. (2018). Questioning Questions: A Framework for Teacher Questioning in Seminary. Seminaries and Institutes of Religion Central Office Research Presentation, Salt Lake City, UT.

Horton, Z. R., & Barney, Q. Z. (2015). Life after Death: Doctrinal Introduction and Progression in the Funeral Sermons of Joseph Smith. Brigham Young University Sperry Symposium, Provo, UT.

### **Professional Certification Projects**

Horton, Z. R. (2013). Evaluating the Effect of Technology Use on Seminary Students' Individual and Class Experiences. Research portfolio completed for advanced teacher certification.

Horton, Z. R. (2013). Principles of Effective Scripture Teaching. Research portfolio completed for advanced teacher certification.