

Self-Efficacy and Ministerial Field Education: An Instructional Design Perspective

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## Abstract

This study examined the relationship between mentored ministerial field education's four components and student efficacy beliefs in 11 professional skills for students at several evangelical seminaries in the U.S. It also investigated whether students believed they had become competent practitioners of these skills or had received sufficient mentored field education in order for them to do so. A new self-efficacy survey was developed, and  $N=102$  students from seven seminaries participated. Practice accounted for 7.9% of the variance in self-efficacy. Observation, instruction, and feedback were more weakly correlated with self-efficacy and not significant in the regression. On a scale from 0 ("I cannot do at all") to 10 ("Highly certain I can do"), participants' self-efficacy in the skills ranged from 6.89 in counseling to 8.98 in "using and interpreting Scripture;" and there were indications that many participants had received a somewhat uneven field education. Only 23% of participants reported receiving sufficient practice and 19% sufficient feedback for them to become competent professionals. Future directions for research are suggested; and implications for both schools and churches are discussed from the perspective of instructional design, including incorporating students' self-assessments into learner analysis and field education program evaluation.

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## **Chapter 1: Background and Rationale for this Study**

### **Introduction**

All professional graduate school programs in Christian ministry that are accredited by the Association of Theological Schools in the United States and Canada (ATS) include “supervised experiences in ministry ... of sufficient duration and intensity to provide opportunity to gain expertise in the tasks of ministerial leadership within both the congregation and the broader public context” (ATS, 2010, p. 111). During their field education, students have the opportunity to observe and learn the best practices of mature professionals and to reflect with them on underlying principles. Students must also demonstrate their professional skills in an authentic environment and receive formative feedback from their mentors on their level of ministerial competence. Does the current method of field education mentoring produce competent professionals ready to enter into practice? The models, strategies, and practices of instructional design and technology (IDT) have much to offer in this investigation.

### **The Untested Effectiveness of the Mentored Field Education Model**

Mentored field education in divinity can be viewed as having four essential (though not necessarily linear) components for teaching professional skills, given here from the perspective of the student: (a) receiving instruction on performing the skill from an accomplished practitioner, (b) observing an accomplished practitioner performing the skill in practice, (c) demonstrating the skill before a practitioner, and (d) receiving formative feedback from a practitioner on the performance (Witmer, 2008). Field educators believe that students who receive sufficient mentoring in each professional skill, by an experienced practitioner paying adequate attention to each of these components, will themselves become fully competent and confident practitioners. However, this assumption has never been empirically tested. It is not

known whether all of those components are essential for the development of professional skills. If they are all essential, what is their relative importance? If the mentors do not pay sufficient attention to one or more of these components, what is the effect upon student competency?

### **An Antecedent Gap in Performance Data and Instrumentation**

One reason that this pedagogical question has not been answered is that there is a pressing need for new instruments and data collection regarding student performance in field education programs for Christian ministry. Over 30 years ago, ATS developed the *Profiles of Ministry* (PoM) instrument for use with seminary students and new ministers (Brekke, Schuller, & Strommen, 1976). As of 2006, the PoM was being used by half of all ATS-accredited Master of Divinity programs (Myers, 2006). The PoM resulted from a large interdenominational survey of subject matter experts and a thorough factor analysis.

The field observation component of that instrument measures students' performance on 11 professional skills during their field work. The students' performance is evaluated by ministers, field supervisors, and lay church members; and very interestingly, the field education scores are "uniformly high" (Dash, Dukes, & Smith, 2005, p. 69), with nearly perfect inter-rater reliability (Lonsway, 2007). In other words, according to the results, nearly everyone agrees that nearly every student does an outstanding job demonstrating nearly every ministry skill in an authentic context. This is clearly an unrealistic outcome, suggesting that there is a deficiency in the current assessment process.

An important perspective that is missing from this instrument is that of the students. Do students who have finished their field education believe that they have mastered the essential skills? Do they believe that their mentored field education has sufficiently prepared them for practice? Unfortunately, there is little research in this area. The most recent survey published in

the literature was done by Fuller Seminary in 1991, in which 90% of ministers reported being inadequately trained to cope with the actual demands of the ministry. Even this survey did not specifically address field education, however, nor target specific skills. There is simply no widely-used instrument to evaluate the quality of ministerial field education from the perspective of the students. Instructional designers stress the ongoing need to gather accurate data from key sources about the effectiveness of instruction (Dick, Carey, & Carey, 2005; Kaufman, 1996; Reeves, 2000; Rossett, 2001; Scriven, 1967).

### **The Potential for Further Research in Professional Self-Efficacy**

One remedy for this deficiency would be to collect data on the self-efficacy beliefs (Bandura, 1977, 1982, 1986b, 1997, 2006) of students who have finished their field education relative to performing essential professional skills. Bandura (1997) defined perceived self-efficacy as the “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Many studies have demonstrated self-efficacy to be a strong predictor of actual capability and performance across a wide variety of behaviors (Holden, 1991; Holden, Moncher, Schinke, & Barker, 1990; O’Leary, 1985; Strecher, DeVellis, Becker, & Rosenstock, 1986).

Self-efficacy has not yet been widely applied to professional skills in accredited disciplines, so there is another gap in the literature. However, there have been some notable applications of self-efficacy to professional education. One is the *Hospital Social Work Self-Efficacy Scale*, developed in 1996 because “there was not an in-depth assessment of self-efficacy about specific professional tasks” in hospital social work education (Holden et al., 1997, p. 257). The *Counselor Activity Self-Efficacy Scales* developed by Lent, Him and Hoffman (2003) and previous self-efficacy measures have been employed by educational researchers to test the

*Integrated Developmental Model* of counselor development (Leach, Stoltenberg, McNeill, & Eichenfield, 1997) and to evaluate and improve the effectiveness of counseling curricula and practica (Heppner, Multon, Gysbers, Ellis, & Zook, 1998). Another notable application of self-efficacy has been to teacher education, using general measures of teacher self-efficacy (Bandura, 2006; Erdem & Demirel, 2007; Hechter, 2011; Tschannen-Moran & Hoy, 2001; Woolfolk, Rosoff, & Hoy, 1990), as well the more specific *Science Teaching Efficacy Belief Instrument* developed by Riggs and Enochs (1990).

Although these instruments do not specifically address field education, they have shown that self-efficacy can be successfully and usefully applied to professional skills. There is still, however, a need to pursue further research in applying self-efficacy to professional field education, and specifically to investigate the relationship between mentored instruction in professional skills and students' efficacy beliefs. The four-fold mentoring model of ministerial field education and the established list of skills in the PoM provide a useful framework for research in Christian ministry education.

### **The Need for this Study**

To summarize, there is a need to study ministerial field education, and in particular, the relationship between mentored field education and student self-efficacy. How do the four components of instruction, observation, practice, and feedback relate to student efficacy beliefs? Are all components necessary? Are less than four sufficient? What happens to student efficacy beliefs when students do not receive a sufficient amount of one or more of the mentoring components?

Researchers have begun to apply self-efficacy to professional education, and the effort has proved both successful and useful. No study, however, has specifically addressed ministerial

field education. The four-fold mentoring model and the list of skills for field education given in the PoM provide a useful framework for research. Further, given the lack of instrumentation and data in ministerial education, a research design that works toward the development of a useful instrument and that also collects student data would address another significant gap in the scholarly literature. Instructional design principles and practices have much to contribute to such an investigation.

### **The Purpose of this Study**

The purpose of this study is to examine the relationship between mentored ministerial field education's four components and student efficacy beliefs in 11 professional skills, statistically controlling for the students' prior level of skill upon entering the program, for students at several evangelical seminaries in the United States. Mentored ministerial field education is defined as the reported level of instruction, observation, practice, and feedback in task-specific performance outcomes that students experience during their required field education under professional mentors.

Secondarily, in order to complete this research, since there is no relevant instrument available, a new survey was developed for measuring ministerial self-efficacy and field education. In the course of the study, survey data was collected to address two important ancillary questions: How confident are students who have finished their field education that they have become competent practitioners of essential ministry skills? How confident are students that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

### **Research Questions**

1. To what extent does mentored ministerial field education predict students' self-efficacy

- beliefs in 11 professional skills, controlling for prior skill level?
2. How much variance in students' self-efficacy in these skills can be attributed to each of the four components of mentored ministerial field education?
  3. How confident are students who have completed their field education that they have become competent practitioners of essential ministry skills?
  4. How confident are students who have completed their field education that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

### **Potential Benefits of this Study**

This study has the potential of benefiting ministerial field education programs in five ways. First, the survey may provide seminaries with a simple and standard method of measuring students' level of confidence in 11 essential skills. This specific information could help schools to evaluate and improve the quality of their programs. The self-efficacy survey developed for use in this study should be suitable for all of the graduate schools accredited by ATS, and indeed for any similar field education program in Christian ministry.

Second, this study may help these seminaries to evaluate the quality of the students' field assignments as well as the strengths and weaknesses of their various field work sites. Third, this study may help field educators to understand, by empirical evidence, the effects of sufficient and insufficient mentoring experiences upon their students, thus highlighting the importance of proper mentoring to ministerial education and identifying opportunities for improvement. Fourth, this study has the potential to test by empirical evidence the four components of the model of mentored field education. This research may lead to an improved mentoring model. Lastly, this research also has the potential to benefit other professional disciplines by

contributing to the larger knowledge base on field education.

### **Organization of this Study**

This first chapter provides the background information and identifies the major issues to be addressed in this study. It presents the need for the study, the purpose statement, and the research questions. The second chapter reviews the literature bearing on the research questions and related issues. This chapter is divided into four main parts: (a) applying self-efficacy to education, (b) learning in the field during professional education, (c) applying self-efficacy to professional education, and (d) measuring student competence in ministerial education program evaluation. Chapter 3 describes the methodology to execute this study including the study design and procedures, research participants and site selection, instrumentation, data collection procedures, and data analysis techniques. Chapter 4 reports the results of the study. Chapter 5 concludes with a discussion of the results, including implications for practice, the limitations of this study, and areas for future research.

## **Chapter 2: Review of Literature**

### **Introduction and Literature Review Questions**

This chapter contains a review the scholarly literature relevant to the research questions, topics, and terms involved in this study. This literature review is divided into four general areas. It begins in the first section with a definition self-efficacy and a description of its importance to education and educational research. In the second section, there is an overview of professional education with special attention to the need for, and the role of, field education. In the third section, the intersection of the first two is considered, namely, how self-efficacy has been applied to professional education. In the final section, ministerial education is addressed, specifically considering the practice of mentored field education and how competence in professional skills is measured. The relationship of these topics is illustrated in Figure 1. This four-fold approach to the literature has been selected in order to highlight the potential significance of this study, not only to research in ministerial field education, but more generally to research in professional education as well as in self-efficacy.

The following four questions were used to guide the review of the literature:

- What is self-efficacy, and why is it significant in the enterprise of academic and skill-oriented education?
- What is professional education, and how and why does it employ field education as an essential component?
- How has self-efficacy been applied to professional education?
- What is mentored ministerial field education, and how is student competence in ministerial skills measured?



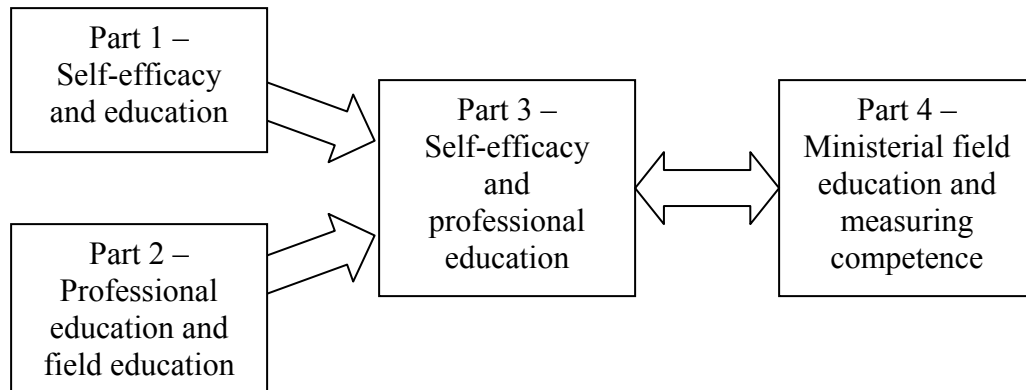


Figure 1. Relationship of topics for the review of literature.

The search for relevant literature was conducted primarily through Virginia Tech’s library system (including the ERIC, PsycInfo, and ProQuest databases, and the more comprehensive Summon system), as well as through Google Scholar. The World Wide Web was used as a secondary source for locating scholarly resources and directories of resources, but not as a source of literature.

### **Self-Efficacy and Education**

What is *self-efficacy*, and why is it significant for the enterprise of academic and skill-oriented education? The construct of self-efficacy was defined and principally developed by Albert Bandura (1977, 1982, 1986a, 1986b, 1995, 1997, 2006, 2012), and it is a primary construct in a larger theory of education called *social cognitive theory*. Self-efficacy has proven to be a very useful construct in academic research as well as in other domains of human agency. In this first section of the chapter, this construct will be defined and described from the literature and its significance for the educational enterprise will be explained. Later, in the third section of this chapter, the specific usefulness of self-efficacy to research in professional education will be explained.

**The definition of self-efficacy.** The term *self-efficacy* is synonymous with one’s *efficacy*

*beliefs*, and with one's *perceived self-efficacy*. Since these terms are used interchangeably in the literature, they will also be used interchangeably in this literature review. Putting it very simply, Bandura (1997) offered this definition of the construct: "Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 2). It is "the conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p. 193). It is a theoretical though easily measured cognitive construct which can "enable people to predict events and to exercise control over them" (Bandura, 2000, p. 212). Zimmerman (2000) succinctly described self-efficacy as a "performance-based measure of perceived capability" (p. 82). However, such brief definitions need a few qualifications and elaborations.

***Now, not later.*** First, self-efficacy is one's *present* confidence in one's *present* ability to perform. It is not a judgment either of future confidence or of future performance. Bandura (2006) writes that in self-efficacy research, "People are asked to judge their operative capabilities as of *now*, not their potential capabilities or their expected future capabilities. It is easy for people to imagine themselves to be fully efficacious in some hypothetical future" (p. 313). The only exception which Bandura makes is with respect to self-regulation efficacy beliefs, which are by definition beliefs concerning future ability. However, self-regulation efficacy is not a part of this study.

***Can do, not will do.*** Self-efficacy also relates to one's perceived *capability*, not one's *intention* to perform. Efficacy beliefs are naturally a major determinant of one's intention, but these are different constructs, both conceptually and empirically. The fact that one *can* do something does not mean that one *intends* to do something. Bandura (2006) therefore directs that efficacy measurements clearly reflect this distinction: "The items should be phrased in

terms of *can do* rather than *will do*. *Can* is a judgment of capability; *will* is a statement of intention” (p. 308).

***Able to do, not competent.*** Self-efficacy is not an evaluation of one’s skills *per se*. Rather, self-efficacy is a judgment of one’s ability to *employ* one’s skills. There are reasons why one might not be able to employ one’s skills, such as a lack of self-regulation or an aversive emotional state. Bandura (1996) succinctly remarked, “It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses” (p. 391). Ability and self-efficacy are thus conceptually and empirically distinct constructs, although they are very closely related.

***Efficacy expectation, not outcome expectation.*** Bandura (1977) has also distinguished between an *outcome expectation* and an *efficacy expectation*. The former refers to one’s beliefs that a certain effect would result from one’s course of action. The latter refers to one’s belief that one can execute a course of action. Bandura (2012) summarized the relationship between efficacy expectations and outcome expectations in this way: “Perceived self-efficacy should also be distinguished from ... *outcome expectancies*. ... The outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations” (p. 309).

***Specific, not general.*** Efficacy beliefs are domain specific; and according to Bandura, there is no such thing as *general self-efficacy*. One may have a general can-do attitude, but this is a different construct. Bandura (2012) explained that self-efficacy is inherently specific and varies according to each human endeavor:

Human life involves diverse spheres of activities. One cannot be all things. Hence, people differ in the areas on which they cultivate their self-efficacy and the levels to which they develop it even within their chosen pursuits. If, for example, a corporate

executive has high self-efficacy for managing a company, low self-efficacy for managing family life, and middling self-efficacy for social activities, how do divergent types of self-efficacy create a general sense of self-efficacy? (p. 30)

Bandura has therefore insisted that “scales of perceived self-efficacy must be tailored to the particular domain of functioning that is the object of interest” (2006, pp. 306-307). He notes (1986b) that precise judgments of capability paired with specific outcomes both yield the best predictions and offer the best explanations of performance. This was confirmed by the meta-analysis of Multon, Brown, and Lent (1991), who found that specific measures of self-efficacy paired with corresponding performance measures produced the most significant predictive results. Self-efficacy measures typically require respondents assign a number to their level of confidence that they can organize and execute a specific course of action or apply a specific skill (Bandura, 1997).

Some researchers that disagree with Bandura, however, have created a *Generalized Self-Efficacy* scale (GSE), which measures one’s overall “belief about one’s ability to achieve goals and overcome obstacles” (Shelton, 1990). However, while this might be a useful construct, Bandura (2006) vigorously denies that this is a measure of self-efficacy, a construct which is by definition and according to its theoretical nature task-specific.

***Personal capability, not self-esteem.*** Occasionally self-efficacy and self-esteem are confused, but these are very different constructs. Bandura (1997) explained succinctly, “Perceived self-efficacy is concerned with judgments of personal capability, whereas self-esteem is concerned with judgments of self-worth” (pp. 10-11). Therefore, “Perceived self-efficacy should also be distinguished from other constructs such as *self-esteem* [and] *locus of control*” (p. 309).

**The four primary influences upon self-efficacy.** Bandura (1977) has identified four principal sources of efficacy beliefs. As described in the third part of this chapter, the first three of these sources relate directly to mentored field education and to this study in particular.

***Mastery experiences.*** First, there are *mastery experiences*. One is much more likely to report higher self-efficacy if one has been successful in previous performance accomplishments. In their research, Bandura, Adams, Hardy, and Howells (1980) reported that “both the level and strength of efficacy were substantially boosted by the enactive mastery treatment” (p. 58). However, if one’s past experiences have been unsuccessful, one’s efficacy beliefs should be correspondingly lower, particularly if a failure occurs before a firm efficacy belief is established (Bandura, 2000).

Mastery experiences are the most powerful of the four principal sources of efficacy beliefs. Citing several research studies, Bandura (1997) concluded, “Enactive mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can muster whatever it takes to succeed” (p. 80). However, self-efficacy in total is much more than a reflection of successful performance in past experiences. As described later in this section, researchers have repeatedly found self-efficacy to be a better predictor of performance than prior accomplishment. Researchers have also found that the successful completion of a very difficult task can sometimes reduce self-efficacy (Bandura & Cervone, 1986), since participants learn by experience how difficult it is to achieve successful performance. Self-efficacy also may not increase if one succeeds by means of substantial external assistance or in unusual circumstances.

***Vicarious experiences or social modeling.*** The second major support of efficacy beliefs comes from *vicarious experiences*, which Bandura (2000) later broadened to *social modeling*.

Efficacy increases when one witnesses the successful performance of others or through direct skill training. There are several variables which mediate the effect of vicarious experiences on self-efficacy. For example, efficacy increases if one perceives some similarity to an observed model, or if one observes a variety of different models performing successfully. Efficacy also increases if a model demonstrates coping behaviors and overcomes difficulties, as opposed to mere “facile performances by adept models” (Bandura et al., 1980, p. 40). In activities which cannot be witnessed directly (such as thought activities), efficacy can be increased vicariously by means of models verbalizing their tacit thought processes (Schunk, 1981; Schunk & Hanson, 1985).

***Verbal persuasion.*** The third major support of efficacy beliefs is *verbal persuasion*. One can be influenced by verbal interaction with others to a higher or to a lower self-efficacy. The credibility and competence of a persuading agent plays an important role in influencing self-efficacy. Verbal persuasion is perhaps the most commonly used of the four means to affect efficacy because of the ease and efficiency of applying verbal treatments.

Verbal persuasion is effective on its own, but it is much more powerful when it is used in conjunction with opportunities for performance practice (Bandura, 1977). In this case, verbal persuasion often takes the form of *feedback*, which will be a critical part of this study as an essential component of mentoring. For students’ efficacy to increase, they must believe that their mentors are competent and qualified to give meaningful and accurate feedback. Bandura (1997) notes that persuasive comments are of greatest benefit when they are used to support performance which one perceives to be just beyond one’s capabilities. Otherwise, Bandura cautions, unrealistic persuasive feedback about tasks out of reach can decrease self-efficacy and damage the credibility of the persuader. Several researchers have found that when people

receive accurate and encouraging feedback, either with respect to ability or effort, both efficacy beliefs and performance have increased (Relich, 1984; Schunk, 1981, 1982, 1983a, 1984; Schunk & Hanson, 1989).

Feedback has the power to improve efficacy and achievement independent of prior differences in ability, experience, or level of performance. For example, Bouffard-Bouchard, Parent & Larivee (1991) demonstrated the effects of raising or lowering students' perceived problem solving efficacy. He gave students bogus feedback during an experiment, telling one group that they had performed better than their peers so far, and telling another group that they had performed worse. The students whose self-efficacy was arbitrarily raised by positive bogus feedback subsequently set themselves higher standards, used more efficient strategies for problem solving, and achieved higher intellectual performances than their counterparts whose self-efficacy was arbitrarily lowered. Similarly, in Brown and Inouye's (1978) experiment involving modeling and self efficacy, participants observed a model evidently having difficulty performing a task. The participants then began to perform the task themselves. At the midpoint, one group was given bogus feedback that they were performing more competently than the model they observed having difficulty. This group of participants subsequently judged their self-efficacy higher, persisted longer, and performed better than a control group who received no feedback. Participants in another treatment group were given bogus feedback that they had only performed as well as the model whom they had seen having difficulty. These participants subsequently judged their self-efficacy lower, persisted for less time, and performed worse than the control group.

***Psychological and affective states.*** The fourth and final principal support of efficacy beliefs is *psychological and affective states*. When people make judgments about their ability to

perform, they evaluate their emotional state, mood, and levels of stress, pain, and fatigue. In general, people have less expectation of success when they are in a state of aversive arousal (Bandura, 1997). However, there is not a simple linear relationship. Though a high level of aversive arousal tends to lower self-efficacy and weaken performance, a moderate level of anxiety and emotional arousal can actually increase higher self-efficacy, as well as boost attention, facilitate the use of skills, and improve performance. Simple tasks are not as affected by psychological and affective states, but more complex activities that require precision and organization are more vulnerable to disruption (Bandura, 1997).

This fourth principal source of self-efficacy strongly covaries with the first three; and the interrelatedness of this component with the three others means that its independent effect is often small or insignificant when all sources are considered (Lent et al., 1991; Matsui, Matsui, & Ohnishi, 1990). This finding has some relevance to the present study, in which the first three sources of efficacy in field education are measured by the survey directly (as practice, observation, and instruction / feedback), and the fourth source of efficacy is omitted.

**The general importance of self-efficacy to human behavior.** Why is self-efficacy an important construct? Bandura (1997) has summarized the critical role which efficacy beliefs play in human life and behavior:

Among the mechanisms of agency, none is more pervasive than beliefs of personal efficacy. ... People guide their lives by their beliefs of personal efficacy. ... People's beliefs in their efficacy have diverse effects. Such beliefs influence the courses of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and



depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize. (pp. 2-3)

According to social cognitive theory (and with considerable empirical support), efficacy beliefs affect psychosocial functioning through their influence upon choice of behavior, effort expenditure, persistence, and self-guiding thought (Bandura, 1980). Bandura (1977) has demonstrated that efficacy beliefs affect coping behavior and persistence in the face of “aversive experiences” (p. 191). Conversely, Bandura (1997) has shown that people with low self-efficacy, who doubt their ability to perform and to achieve expected outcomes, often experience low motivation, diminished skill application, weak commitment, and half-hearted efforts toward performance-based goals. Bandura (2012) summarized the operative role of self-efficacy in human behavior this way:

Self-efficacy beliefs affect the quality of human functioning through cognitive, motivational, affective, and decisional processes. Specifically, people’s beliefs in their efficacy influence whether they think pessimistically or optimistically, in self-enabling or self-debilitating ways. Self-efficacy beliefs influence how well people motivate themselves and persevere in the face of difficulties through the goals they set for themselves, their outcome expectations, and causal attributions for their successes and failures. (p. 13)

**The predictive power of self-efficacy in academic performance.** A wide variety of experiments in the academic domain have demonstrated that self-efficacy is a very powerful predictor of academic performance. Self-efficacy’s predictive power over performance remains after controlling for aptitude, experience level, prior academic achievement, composite ability measures, standardized achievement measures, amount and quantity of completed homework,

and a wide variety of demographic, domestic, and socioeconomic metrics (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Caprara et al., 2008; Joo, Bong, & Choi, 2000; Lent, Brown, & Larkin, 1986, 1987; Pajares & Johnson, 1994, 1996; Pajares & Kranzler, 1995; Pajares & Miller, 1994; Pajares & Valiante, 1997; Wood & Locke, 1987; Zimmerman & Bandura, 1994; Zimmerman, Bandura, & Martinez-Pons, 1992; Zimmerman & Kitsantas, 2005).

Confidence in one's ability to perform successfully in academic endeavors is often called *academic self-efficacy* (Zimmerman & Schunk, 2003). There have been quite a number of research studies on the role and effect of academic self-efficacy in the learning enterprise. Researchers have repeatedly demonstrated academic self-efficacy to be a more powerful predictor of success than both prior performance and actual ability (Bouffard-Bouchard, 1990; Schunk, 1982, 1983a, 1984; Zimmerman, Bandura, & Martinez-Pons, 1992). For example, self-efficacy has been shown to predict math achievement better than a number of other variables including the level of acquired mathematical skill (Pajares & Miller, 1995).

Self-efficacy not only predicts academic performance, but also a range of other measures covariant with or prerequisite to success. Among students matched in ability but differing in self-efficacy, those with greater self-efficacy manage their time better, are more persistent, less likely to reject good solutions prematurely, and more successful in problem solving (Bouffard-Bouchard, Parent, & Larivee, 1991). In his survey of self-efficacy and motivation Schunk (1991) reported that self-efficacy better explains academic motivation than constructs such as perceived control, outcome expectations, perceived value of outcomes, attributions, and self-concept.

In their meta-analysis of self-efficacy and performance, Multon, Brown and Lent (1991) determined that self-efficacy accounted for 14% of the variance in student performance after

controlling for prior individual differences in ability, with an overall effect size of 0.56 for students of lower achievement level and 0.33 for students of average achievement level. The effect was greater for high school and college students than for elementary, at 0.41, 0.35, and 0.21, respectively.

**The predictive power of self-efficacy in other domains of performance.** Self-efficacy also predicts performance across a wide range of activities and skills outside of the academic domain. Bandura (1982) analyzed the state of self efficacy research 30 years ago and concluded that it had already demonstrated significant explanatory power in domains as varied as career choice, personal achievement, health rehabilitation, treatment of phobias, physical stamina, and addiction treatment. Many other studies have since been conducted; and meta-analyses of self-efficacy have validated the explanatory power of efficacy beliefs across widely disparate domains including personal health (Holden, 1991), sports performance (Moritz, Feltz, Fahrback, & Mack, 2000), group functioning, and psychosocial functioning in children (Gully, Incalcaterra, Joshi, & Beaubien, 2002; Stajkovic & Luthans, 1998). Self-efficacy powerfully predicts motivation, persistence, outcome expectations, and actual performance across a very wide range of endeavors.

For example, Seo and Ilies (2009) recruited stock market investors and gave the participants 12 days and a hypothetical \$10,000. To enhance the meaningfulness of the activity, the traders were offered actual rewards from \$100 to \$1,000 based on their performance. Each day, they set their own goals and rated their efficacy beliefs that they could beat the market by certain percentage ranges. Controlling for individual differences among traders in their past performance, amount of experience, and goal levels, the stronger the traders' self-efficacy, the higher they set their own goals, the more effort they devoted every day, and the better was their

actual investment performance.

Feltz, Chow, and Hepler (2008) used a variety of analytic models in a series of recursive trials to quantify the relationship among self-efficacy, past performance, and future performance in diving. In all of the residualized models, self-efficacy proved not only to be the stronger predictor of future performance but it also increased in its predictive power over time.

**The prescriptive role of self-efficacy in teaching and learning.** Self-efficacy is not simply a descriptive construct. It is an integral part of a prescriptive theory of learning called *social learning theory* (Bandura, 1977), which Bandura later expanded and renamed as *social cognitive theory* (1986a, 1997). This learning theory has gained substantial empirical support over the last 3 decades through educational research; and instructional designers have applied Bandura's research both to increase student motivation (Driscoll, 2004) and to improve the effectiveness of learning transfer (Carroll, 1993). Bandura explains that efficacy beliefs play a critical role in learning by influencing learners' choices and actions in a triadic model:

In the social cognitive view people are neither driven by inner forces nor automatically shaped and controlled by external stimuli. Rather, human functioning is explained in terms of a model of triadic reciprocity in which behavior, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other.

(Bandura, 1986a, p. 18)

Bandura's theory therefore would direct instructional designers to create learning environments with proficient models, practice opportunities, and performance feedback in a safe, low-stress environment. Instructional designers have applied the insights of Bandura to develop specific instructional methods for practice, modeling, suggestion, and climate setting to enhance transfer of learning (Carroll, 1993). Such an approach not only supports students' self-efficacy

through its various components but also supports the most effective and efficient means of human learning. This makes an obvious connection to the role of field education, which is discussed later.

**Teaching for self-efficacy rather than simply ability as a learning outcome.** The large body of research on the role and effect of efficacy beliefs on human performance has led many researchers and educators to reevaluate their view of ability. *Ability* is now regarded by many, no longer as a definite quantity, but as a generative capacity in people (Sternberg & Kolligan, 1990). Bandura (2012) summarized the impact of self-efficacy research findings in this way:

In sum, the field has moved beyond the simplistic view that efficacy beliefs are reflectors of performance or “ability.” ... Diverse lines of research, using multiple controls in between-person analyses, provide converging evidence for the unique contribution of self-efficacy in multifaceted causal structures. The controls usually extend beyond past performance to a host of possible covarying influences evaluated by structural modeling of direct and mediated paths of influence. (p. 28)

[Ability] is a generative capability in which cognitive, social, emotional, and behavioral skills must be organized and effectively orchestrated to serve diverse purposes (Bandura 1990). There is a marked difference between possessing knowledge and skills and being able to use them well under diverse circumstances, many of which contain ambiguous, unpredictable, and stressful elements. Self-efficacy plays an influential role at the operative level. The malleability of ability is strikingly illustrated in research demonstrating that individuals of higher self-efficacy outperform their counterparts of lower perceived efficacy at each level of ability. (p. 24)

Many researchers and educators therefore no longer regard ability or even performance as ultimate learning outcomes. Therefore, the third section of this chapter contains a description of how self-efficacy has itself become an important learning outcome in professional education. The goal now is not simply to produce *competent* professionals but also *confident* professionals, people who have well-grounded efficacy beliefs that they are able to apply their skills successfully.

**Conclusion.** Self-efficacy is a useful construct in education and educational research. As a variable that is easily measured, it is a strong predictor successful learning outcomes. As a central component of social cognitive theory, it can help to direct the way to achieving successful learning outcomes. Because of its role in human behavior and functioning, performance, and cognitive development, self-efficacy is increasingly being regarded as itself a successful learning outcome.

### **Professional Education and Professional Field Education**

In this second section, there is a description of the nature of professional education in general, followed by a description of the nature of professional field education specifically. Although the domain in this research study is the Christian ministry, this section describes how the professions have a great deal in common in their nature, in their approach to education, and specifically in their practice of field education. Therefore the results of this study might reasonably be applied to other professional educational programs.

**The definition of profession and the common characteristics of professions.** The word *profession* is a sociological term. Its traditional definition is “the occupation which one professes to be skilled in and to follow,” and more specifically “the three learned professions of divinity, law, and medicine” (Shorter Oxford English Dictionary, 1935, p. 1593). Modern usage,

of course, is much more liberal in scope; and definitions vary. In *The Qualifying Associations*, Geoffrey Millerson (1964) perceptively identified the six most significant characteristics of what constitutes a profession:

- It has a skill based on theoretical knowledge.
- The skill requires education and training.
- Competence in the skill must be demonstrated by passing a test, so that professional practice is restricted.
- Professional integrity is maintained by a code of conduct.
- It gives a service for the public good.
- It is organized as a profession, and strives for public status, not merely for financial rewards.

The term *professional* is now generally applied to diverse accredited fields including accounting, architecture, engineering, social work, and education, as well as the traditional three disciplines of divinity, law, and medicine. These six distinguishing characteristics of a *professional* greatly help to define the requirements of an educational curriculum designed to prepare professionals for practice.

**The common characteristics of professional education.** Shulman maintains that to be a professional, one must be able to *profess* through “service, understanding, practice, judgment, learning from experience, and community” (2004, p. 530). In analyzing professional education, Shulman (2005, 2007) characterized it as an inextricably intertwined three-fold processes of (a) professional socialization, (b) the development of professional or clinical skills, and (c) the development of specialized knowledge. Therefore, all professional curriculum development must specifically address the social and humanitarian aspect, the vocational aspect, and the

academic aspect of the professional calling (Savin-Baden, 2008).

How different is the enterprise of professional education from other similar enterprises? Although there has been large commonality of philosophy and practice among university educators, professional educators, and vocational and technical educators over the years, there has also been an historic tension because of their differences. Nearly forty years ago, for instance, Jencks and Riesman (1968) gave this warning:

The affiliation of professional schools with universities probably encourages those who educate future professionals to take a more academic and less practical view of what students need to know. ... Engineering professors ... are usually interested in turning out men with skills appropriate to teachers of engineering; they simply take it for granted that these skills will also be appropriate to the practice of engineering. (pp. 252-253)

Situating professional education in the university, they warned, must lead to a “divergence between professional training and professional practice” (p. 253). Their concerns were shared by those inside the university also. Years earlier, Veblen (1918), advocated that professional and other vocational schools should be removed altogether from universities, arguing strongly that their methods, goals, and achievements were utterly “foreign to the higher learning” (p. 19). Universities were degrading themselves stooping to “vocationalism,” that is, training people for work rather than educating them for life. This would ultimately lead universities into “hopeless discredit” (p. 31).

Perhaps the differences and tensions between these branches of education have been somewhat exaggerated. The professional education surely requires students to learn and apply theoretical knowledge like any other graduate degree. Veblen and the others are also surely correct in observing that developing a curriculum for professional education has a great deal in



common with developing one for vocational and technical education. Vocational curricula thrive on practical relevance. Two vocational curriculum development scholars from Virginia Tech wrote, “The extent to which a curriculum assists students to enter and succeed in the world of work spells our success” (Finch & Crunkilton, 1993, p. 17). This spells success for professional education too; and therefore professional curriculum developers have interacted freely over the years with their colleagues in both higher education and vocational and technical education (Reeves, 2006).

**The common commitment to field education.** In the literature, one essential component in professional education curricula is assimilating students into the community of practitioners, their culture, values, traditions, and practices (Harris, 2011). Professional programs uniformly require field work, internships, or capstone experiences in which the students become assimilated and demonstrate their “readiness” to enter professional community (Banta, 2001, p. 10). Learning in the workplace is intended to serve multiple purposes: to develop professional skills, to provide for initiation into and socialization in a community of practice, to provide motivation for classroom learning, and to provide an authentic context for skill development, problem solving, and assessment (Hafler, 2011).

In all professional education curricula, therefore, academic instruction is complemented with “field work or similar opportunities” (Banta, 2001, p. 10), so that students must integrate and demonstrate the skills and knowledge learned in the classroom. These field work venues also ideally provide students the opportunity to learn and observe the *best practices* of mature professionals, and then reflect with these master practitioners about the practices they have just observed. This part of the curriculum allows for cognitive apprenticeship, in which novices enter a community of practice and engage in authentic work at a level commensurate with their ability.

With the support of master practitioners, they are also able to perform work in their zone of proximal development, receiving feedback as well as learning to reflect on their own practice (Vygotsky, 1978). Authentic tasks help students to avoid the *inert knowledge* problem (Whitehead, 1920), in which they fail to recognize situations in which they ought to apply what they have learned. Brown, Collins, and Duguid (1989) have demonstrated that such authentic learning is not only necessary but beneficial, since learning and motivation increase when students perceive that their tasks are authentic work and when these tasks are performed for real audiences. Brill, Kim, and Galloway (2001) also note that cognitive apprenticeships can benefit learners by increasing retention and transfer and by facilitating higher order reasoning.

Goldman et al. (1999, 2005) identify four characteristics of effective learning environments, which apply directly to effective professional field education. They are (a) knowledge centered, in which “instruction is organized around meaningful problems with appropriate goals;” (b) learner centered, in which instruction provides scaffolds for supporting “learning with understanding” and solving meaningful problems; (c) assessment centered, in which there is ample opportunity for formative feedback, revision, and reflection; and (d) community centered, in which learning outcomes and norms result from collaboration and distributed expertise, within the classroom/school as well as in connection with the “outside world” (Pellegrino, 2004, p. 34-35).

Many clinical and field work settings also provide dedicated time for instruction and classroom-style opportunities for learning. Medical students, for instance, must participate in regularly scheduled rounds, conferences, and the end-of-shift debriefing “report.” Collaborative learning environments like this are ideal for teaching applied theory and for making tacit knowledge explicit (Tennyson & Barron, 1995; Hatano & Inagaki, 1991; Pellegrino, 2004). In

summary:

The goals and objectives best served by placement in the practice settings of the workplace are goals in the domain of professional skills and professional socialization, rather than purely cognitive knowledge goals, which are well served by such methods as the use of case studies and simulations in classroom settings. What, then, is the optimal use of the practice settings of the workplace to achieve these goals and objectives in the domain of professional skills and professional socialization? Ideally, practice settings should exemplify “best practices” for the profession – such as exemplary doctoring, nursing, teaching, or pastoral care. Second, ideally the practice settings should be prepared for the involvement of students in what is primarily a work situation. Third, workplace supervisors should also demonstrate “best practices” – in teaching. (Harris, 2011, p. 8)

**The common concern for professional competence.** *Competence* is a major concern evident in the literature in every professional discipline (Banta, 2001); and virtually all professional curricula are designed to train students to meet certain standards of competency that have been established by the profession itself. “In applied fields, the development of expected competencies is often facilitated by guidance from professional associations or accrediting bodies” (Palomba, 2001, p. 14). Professional education programs typically include “explicit statements of expected competencies” (p. 246); and the students must be prepared at the end of their course to pass their professions’ licensing examinations, which require them to demonstrate essential skills at a level acceptable for professional practice.

This shared commitment to standards of competence implies that schools must be very familiar with the requirements of professional practice as well as the competency level of their

graduates. This has been well advocated by Schön's (1983) work on reflective practice and the development of professional expertise and competence. This commitment to competence in practice also implies that a significant amount of learning should take place in authentic settings with experienced professionals who can provide students accurate feedback on their competence levels (Bandura, 1986a; Lave & Wenger, 1991). Many scholars of instructional design have likewise stressed the need for students to work in authentic environments, or at least where the learning context most nearly approximates the performance context (Brill et al., 2001; Brown et al., 1989; Perkins & Salomon, 1996; Tessmer & Richey, 1997). Professional education curricula also have many "classroom" components which are designed to teach specialized knowledge that is well grounded in theory; but even in the classroom, professional education is oriented to prepare competent practitioners.

The public and humanitarian orientation of the professions leads directly to a very practical consideration in determining competency: the scope of any professional development curriculum must in part be determined by the scope of the needs of the client or beneficiary of the practice, namely the needs of the individuals, group, organization—or society as a whole—which a profession serves (Kaufman, Rojas, & Mayer, 1993). Kaufman (1996) points out that from the perspective of instructional designers, needs assessment is the justification of and basis for all good educational planning; but this is especially relevant to curriculum development for professional practice. *Needs assessment* can be succinctly defined as "an information gathering and analysis process which results in the identification of the needs of individuals, institutions, communities, and societies" (Suarez, 1991, p. 433). Burton and Merrill (1991) defined *needs assessment* as "the process of determining goals, measuring needs, and establishing priorities for action" (p. 35). All professions define competency, at least in large measure, according to the

needs of the beneficiaries of professional practice.

All professional education programs also share a common challenge in measuring the effectiveness of their preparation for practice. “In the literature on effective professional development, it is apparent that there is little consensus on the definition of *effective*” (Guskey 2003). Schools indeed face a challenging prospect in evaluating and revising their curricula based upon the effectiveness of their professional preparation. Monitoring the rate of those passing professional licensure is one thing, but measuring the performance of their graduates and the broader outcomes in the profession and society is quite another. A variety of approaches are being used, but no model of graduate program evaluation has yet to attain widespread acceptance. As the next section describes, it is at this point that self-efficacy has found a place in professional education and research, by providing a practical and powerful measurement of *effective*.

**Conclusion.** Professional education programs across various disciplines have much in common. To complete a professional program, students must satisfactorily complete academic classroom requirements as well as clinical or field service work where professional skills are taught and assessed in an authentic context. This makes field education a requirement in every professional discipline. All programs face similar challenges in assessment and measurement; but particularly during field education, students must attain to professional competence. Certainly, before entering into practice, graduates must pass the licensure examination of their professional associations. The requirements and processes of licensure vary by profession. For example, both medicine and law examinations are supervised and regulated by the state, whereas the state has no oversight in divinity examination and licensure. Both law and medicine have well established standards for professional practice, though these may vary from state to state.

The situation is considerably more complicated in divinity where each denomination sets its own standards. In every case, however, there is some standard of professional competence *for* which schools *train* and *to* which students must *attain*. This training takes place supremely during field education. Furthermore, “training in [Christian] ministry competence in the field is not unlike the approach found in other professional disciplines” (Witmer, 2008, p. 37).

### **Self-Efficacy and Professional Education**

The first part of this chapter described self-efficacy and its application to the educational enterprise. The second part described professional education and its essential component of field education. These subjects have much in common, both in theory and in the scholarly literature. The third part of the chapter discusses their intersection, surveying the literature concerning the application of self-efficacy to professional education. Educational research articles are predominantly cited, rather than program evaluation articles, since this study is being conducted for educational research. However, as noted at the end of this section, research into professional self-efficacy and efficacy scales has played a very important role in professional program evaluation and the curriculum improvement process.

**The rationale for applying self-efficacy to professional education.** In *Curriculum, Plans, and Processes in Instructional Design*, Seel (2004) offers this very perceptive summary of the task of professional curriculum development, “The central issue of curriculum development is to allocate the contents and methods that are seen as relevant for the challenges in the students’ present and future life” (p. 132). Curriculum development is an inherently student-oriented activity, in the sense that all is done for the sake of the students’ “present and future” lives. This is particularly true in the case of graduate programs for professional education, which have self-consciously undertaken the task of preparing practitioners.

There are many challenging questions facing any professional preparation program: Are the curriculum's content and methods adequate to prepare students for their future professional lives? How can the effectiveness of a program preparing students for practice be measured? Is a program effective in producing professionals who are *competent* and *confident* in essential skills? Self-efficacy has proven to be a convenient and powerful way to estimate answers to these questions; and self-efficacy is now being applied by researchers and educators alike across a wide variety of professional disciplines.

Bandura (1997) specifically discussed self-efficacy as an outcome of occupational training, citing studies by Saks (1994, 1995) to demonstrate that training can affect workers' occupational self-efficacy. Bandura advocated that one goal of workplace training should be to increase workers' efficacy appropriate to the performance expected of them.

Self-efficacy is not only the goal of such training; it also helps to direct the way. As summarized in the first section of this chapter, self-efficacy is not simply a descriptive construct but is part of a prescriptive theory of learning called social cognitive theory (Bandura, 1986a, 1997). This theory directs educators to create learning environments exactly like those that are found in quality professional field education, namely, environments which offer proficient models, practice opportunities, and performance feedback in a safe, low-stress environment. Such an approach, Bandura (1977) argued, not only supports students' self-efficacy but also supports the most common, effective, and efficient means of human learning:

Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded

information serves as a guide for action. (p. 22)

Bandura (1977) argued that performance and experience-based education was more effective than simple verbal instruction, in terms of influencing psychological changes and affecting human behavior. Cognitive change is “induced and altered most readily by experience of mastery arising from effective performance” (p. 191). For people to attain resilient and robust self-efficacy, they require sufficient mastery experiences which require them to overcome obstacles through coping behaviors and persevering effort. Resilient efficacy is built by learning how to manage failures so that they are informative rather than demoralizing. Indeed, if people experience only easy successes they come to expect quick results and are easily discouraged by setbacks and failures (Bandura, 1986b). Researchers have demonstrated that self-efficacy is not as strong of a predictor of complex task performance unless people have already had sufficient experience in performing the task (Stajkovic & Luthans, 1998).

Professional field education therefore should provide exactly what self-efficacy requires. Strong, robust, well-founded self-efficacy requires sufficient modeling for vicarious experiences and sufficient practice opportunity for enactive mastery. These must be complemented by verbal persuasion, instruction, and feedback. The educational process should take place in a relatively safe environment which engenders no more than moderate anxiety. Professional field education delivers at all points. Figure 2 illustrates the harmonious marriage between self-efficacy and professional field education.



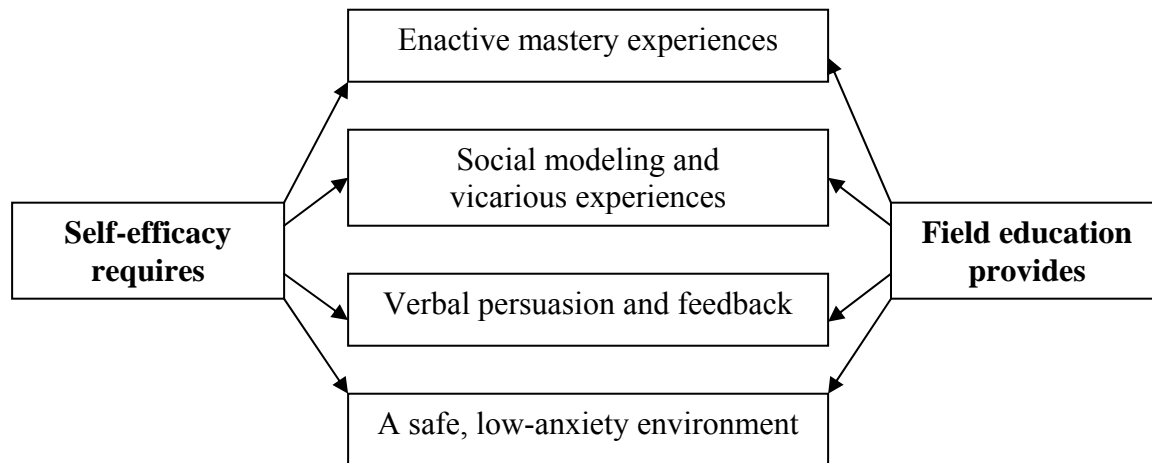


Figure 2. The harmonious conjunction of self-efficacy and professional field education.

**Self-efficacy as an outcome of professional education.** How well does self-efficacy predict performance in professional skills? Although the research is still developing in this area, Bandura, Barbaranelli, Caprara, and Pastorelli (2001) have reported that “efficacy beliefs predict occupational choices and level of mastery of educational requirements for those pursuits when variations in actual ability, prior level of academic achievement, scholastic aptitude and vocational interests are controlled” (p. 188). Fourteen years ago, Stajkovic and Luthans (1998) conducted a meta-analysis of 109 studies to examine the relationship between student self-efficacy and subsequent work-related performance in a variety of vocations. Although most of the studies involved in the analysis were correlational designs, the authors demonstrated that there was a significant positive relationship between self-efficacy and work performance after controlling for many other factors.

Self-efficacy has been closely linked to the choice of and subsequent persistence in a career. Bandura (1997) found that, “efficacy beliefs predict the range of career options people consider viable for themselves” (p. 423). He reported that the higher people’s perceived efficacy to fulfill various occupational roles, the better they prepare themselves educationally,

and the greater their staying power in challenging career pursuits.

As students gain experience and grow in expertise, they become more accurate in context-specific self-efficacy judgments (Bong, 1999). This gives students well-grounded self-efficacy beliefs. This is an important outcome for professional schools, which are interested in preparing practitioners who are both *competent* and *confident*, those who both *have* the skills and are *certain* that they can *use* these skills in practice.

Self-efficacy is often used for predication in educational research. However, because it predicts not only performance but many related constructs deemed necessary for success (as mentioned in the first section of this chapter), self-efficacy is increasingly being used as an educational outcome in its own right (Holden, Barker, Meenaghan, & Rosenberg, 1999).

**Various applications of self-efficacy to professional skills.** Although self-efficacy has not yet been widely applied to skills in the accredited professional disciplines, there have been several notable applications of self-efficacy in the last twenty years.

***Social work self-efficacy.*** One of the most successful applications of self-efficacy to professional practice has been to the field of social work. In the last 15 years, there has been substantial evidence supporting the utility of self-efficacy as an educational outcome in social work (e.g., Holden, Cuzzi, Chernack, Rutter, & Rosenberg, 1997; Holden, Cuzzi, Rutter, Rosenberg, & Chernack, 1996; Holden, Barker, Meenaghan, & Rosenberg, 1999; Holden, Meenaghan, Anastas, & Metrey, 2002). In 1996, the *Hospital Social Work Self-Efficacy Scale* (HSWSE) was developed because “there was not an in-depth assessment of self-efficacy about specific professional tasks” in hospital social work education (Holden et al., 1997, p. 257). A substantial number of professional schools are now measuring self-efficacy as an outcome in social work education using this scale (Holden et al., 2002).

Following on the success of this instrument, social work educators created the *Research Self-Efficacy Scale* specifically for social work courses which focus on evaluation. This nine-item instrument was designed to measure social workers' confidence in their ability to execute specific research activities (Holden, Barker, Meenaghan, & Rosenberg, 1999). Subsequently, Holden, Meenaghan, Anastas, and Metrey (2002) created the *Social Work Self-Efficacy Scale* (SWSE) as a more general instrument to measure social workers' confidence across a variety of social work skills:

On the SWSE, respondents indicate how confident they are *today* in their ability to *successfully perform each task*. Their level of confidence is rated on an 11-point scale (0=cannot do at all, 50=moderately certain can do, 100=certain can do, 10 point intervals). Respondents are told to consider "successfully" as meaning that they would be able to perform the specific task in a manner that an experienced supervisor would think was excellent. (p. 118)

Most recently, the *Foundation Practice Self-Efficacy* scale (FPSE), was designed to assess students' self-efficacy at the end of their first year regarding social work skills specified by the accrediting body for the foundation year of the Masters of Social Work program (Holden, Anastas & Meenaghan, 2003).

**Teaching self-efficacy.** Another notable application has been to teacher education. Efforts to develop a strong measure of teaching self-efficacy, however, have been hampered by ongoing issues of construct validity and measurement integrity (Henson, 2001). There has been, for instance, confusion between teaching efficacy, which is concerned with outcome expectations, and teacher self-efficacy, which is concerned with one's confidence in pursuing a course of action. Despite these issues, the more general measure of *Teacher Self-Efficacy*

(Bandura, 2006; Erdem & Demirel, 2007; Tschannen-Moran & Hoy, 2001; Woolfolk, et al., 1990), as well the more specific *Science Teaching Efficacy Belief Instrument* (STEBI) developed by Riggs and Enochs (1990) have enjoyed some success.

Researchers have demonstrated the predictive power of teacher self-efficacy over the classroom. Teacher self-efficacy predicts student motivation (Midgley, Feldlaufer, & Eccles, 1989); and various studies report that students of self-efficacious teachers tend to outperform other students. For example, students of teachers with higher levels of self-efficacy scored higher on the *Iowa Test of Basic Skills* (Moore & Esselman, 1992), the *Canadian Achievement Tests* (Anderson, Greene, & Loewen, 1988), and the *Ontario Assessment Instrument Pool* (Ross, 1992). More efficacious teachers also stay longer in the teaching profession (Burley, Hall, Villeme, & Brockmeier, 1991), experience less burnout, and enjoy higher job satisfaction (Skaalvik & Skaalvik, 2009).

***Counseling Self-Efficacy.*** The *Counselor Activity Self-Efficacy Scales* (CASES) was developed by Lent, Him, and Hoffman (2003) to assess counseling self-efficacy for skills related to three areas (a) performing general helping skills, (b) managing the counseling process, and (c) handling challenging counseling situations. Although this has perhaps been the most successful instrument, it was neither the first nor the last for counseling self-efficacy.

Researchers had previously found that higher self-efficacy predicted a higher quality of counseling services (Bradley & Fiorini, 1999). In their review of the counseling self-efficacy literature, Larson and Daniels (1998) found that higher counseling self-efficacy predicted a higher level of counselor perseverance in the face of challenging tasks as well as lower levels of counselor anxiety.

The application of self-efficacy to counselor education has improved the quality of

professional programs. Some counselor educators and researchers had been concerned previously that programs were leaving professional skill development to chance (Etringer & Hillerbrand, 1995; Fong, Borders, Ethington, & Pitts, 1997), and that inattention to professional skill cultivation had been resulting in decreased counseling self-efficacy, decreased counseling performance, and increased anxiety. Professional programs therefore began to use self-efficacy measures to test the *Integrated Developmental Model* of counselor development (Leach, Stoltenberg, McNeill, & Eichenfield, 1997) and to evaluate and improve the effectiveness of counseling curricula and practica (Heppner et al., 1998).

Similar counseling scales have also been constructed for various counseling specialties, including the *Addiction Counseling Self-Efficacy Scale* (Murdock, Wendler, & Nilsson, 2005), the *School Counselor Self-Efficacy Scale* (Bodenhorn & Skaggs, 2005), and the *Elementary School Counselors' Self Efficacy Beliefs* scale (Can, 2010).

***Nursing Self-Efficacy.*** Two self-efficacy scales were simultaneously developed for nursing education programs (Harvey & McMurray, 1994), the *Nursing Academic Self-Efficacy Scale* (NASSES), focusing on completing the classroom portion, and the *Nursing Clinical Self-Efficacy Scale* (NCSES) focusing on 10 clinical skills deemed essential for nursing practice. These scales have received fairly little attention in the literature, and apparently have had limited application. DiIorio and Price (2001) went on to create the more specific *Neuroscience Nursing Self-Efficacy Scale*, and Murphy and Kraft (1993) created the *Perinatal Nursing Self-Efficacy Scale*. However, these scales have received even less attention in the scholarly literature than the NCSES.

***Other Self-Efficacy Applications to the Professions.*** Self-efficacy has been applied to piloting skills during aviation training, and predicts student performance in subsequent skill

assessments (David, Fedor, Parsons, & Herold, 2000). Self-efficacy has also been applied to skills in pharmacy programs (Plaza, Draugalis, Retterer, & Herrier, 2002), primary care physician practice (Gottlieb, Mullen, & McAllister, 1987), family physician practice (Laschinger, McWilliam, & Weston, 1999), and recreation therapy (Bishop & Bieschke, 1998), though these applications of self-efficacy have received relatively little attention in scholarly literature.

**Conclusion.** Many studies using various instruments and designs have demonstrated that self-efficacy can be successfully applied to professional skills. Self-efficacy is a natural match for professional field education, and it has found several successful applications in the last 20 years. However, there is still a need to pursue further research in applying self-efficacy to professional field education, and specifically to investigate the relationship between mentored instruction in professional skills and students' efficacy beliefs. While many professional disciplines now have scales of self-efficacy in their core professional skills, no scale has ever been created for the Christian ministry, a goal of this study.

### **Measuring the Effectiveness of Ministerial Field Education**

Although self-efficacy has been applied to education in other professions, there is no record in the literature of self-efficacy being applied specifically to ministerial education. Therefore, this section begins with a brief review of the literature regarding how ministerial field education is conducted. Following this, there is a summary of how student competence in ministerial skills has been measured heretofore. This section concludes with a discussion of the importance of valid measurement for the evaluation of masters programs in the Christian ministry.

In the literature of ministerial and professional education, the terms *skills* and

*competencies* are often used interchangeably (e.g. Kyte, 2008). However, to be precise, a competency is a cluster of related knowledge, attitudes, and skills required for successful job performance (Parry, 1998). In this literature review, the term *ministry skills* will refer to professional proficiencies that are required for the practice of Christian ministry (while recognizing that definite knowledge and attitudes are required to perform such skills at a competent level).

**The requirement of ministerial field education.** Hillman (2008) has noted that there are a confusing variety of the terms found in the literature to describe the setting and activity of ministerial field education, including *internship, practicum, residency, apprenticeship, practical training, pastoral training, and mentored ministry*. Similarly, the instructor in field education is often called *mentor, supervisor, or even coach*. Although the names change, one commitment stays the same: “A field education internship is not busywork or cheap labor but is instead a fundamental element in the intentional development of a future ministry leader” (p. 9).

Like all professional field education, field education in the Christian ministry is designed to support a variety of educational goals. It is important in supporting vocational discernment, as a place where students may “test [their] gifts by actual ministry experiences before assuming more weighty ministry responsibilities” (Kesner, 1995, p. 34). It allows students “to appraise their gifts, interests, and abilities ... [and] to develop their professional understanding and competence in ministry, while supervised in the practice of ministry” (Grimm, 2008, p. 18). Here students are given the opportunity to learn the best practices in ministry from seasoned mentors, observing them in action and reflecting with them on underlying principles involved in ministerial practice. Students are provided ample opportunity to demonstrate their skills in an authentic environment under the supervision of their mentors; and from their mentors they

receive formative feedback for continuous improvement. “It is the intentional focus upon evaluation that makes supervised ministry experiences much more valuable and beneficial to the student” (Seals, 1995, p. 126).

Above all other goals and purposes which are served by ministerial field education, “there is a sense in which the development of competence in ministry is what field education is all about. It is only in the field of the local church or other ministry site that a student can get the opportunity to develop skills for ministry with the guidance of an experienced mentor” (Witmer, 2008, p. 37). Thus, all Masters of Divinity programs that are accredited by the Association of Theological Schools in United States and Canada (ATS) must include “supervised experiences in ministry ... of sufficient duration and intensity to provide opportunity to gain expertise in the tasks of ministerial leadership within both the congregation and the broader public context” (ATS, 2010, p. 111).

**Mentoring for competency in ministerial field education.** As in other professions, field education is designed to be a critical part of students’ *education*, in which they are mentored and their work supervised by experienced ministers (or at times other experienced professionals such as counselors), with a view to preparing competent practitioners. The process for developing student competence in ministry skills can be regarded as fourfold, which Witmer (2008) has given from the perspective of the mentor: “instruction, demonstration, observation, evaluation” (p. 44).

**Instruction.** Students must receive instruction on competent performance of ministry skills from an accomplished practitioner. Mentors must explain to students not only the *how-to* but the *wherefore* of competent practice in ministry skills. Although students have had some previous classroom instruction in some of these skills, such as preaching and counseling, there



are many practical aspects of performance of many skills that are not explained in the classroom. In field education, mentors explain the nature of competent performance and call attention to all aspects of it, both great and small (like whether to sit on the bed during hospital visitation).

***Demonstration.*** Students must have sufficient opportunity to see what competent practice looks like in action. Students must accompany their mentors in order to observe model performance; and afterwards, students and mentors have the opportunity to reflect on the mentor's performance of the activity. Students can ask questions, and mentors can verbalize tacit knowledge about their skills. "This time of mutual reflection ... is absolutely critical to maximize the effectiveness of the modeling stage of mentoring ministry competency" (Witmer, 2008, p. 49).

***Observation.*** After students have been adequately prepared, mentors must begin to involve students in performing ministry. Witmer asks, "How is it possible to know if the student is ready? One of the best ways to know is to simply ask the student" (p. 49). This is an informal measurement of self-efficacy which repeatedly takes place during the mentoring process. Over the course of their field education, students are moved from no participation, to partial participation, to full performance of ministry skills. Compare other similarities between the four principal supports of self-efficacy and the requirements for mentored ministerial education in Figure 3.

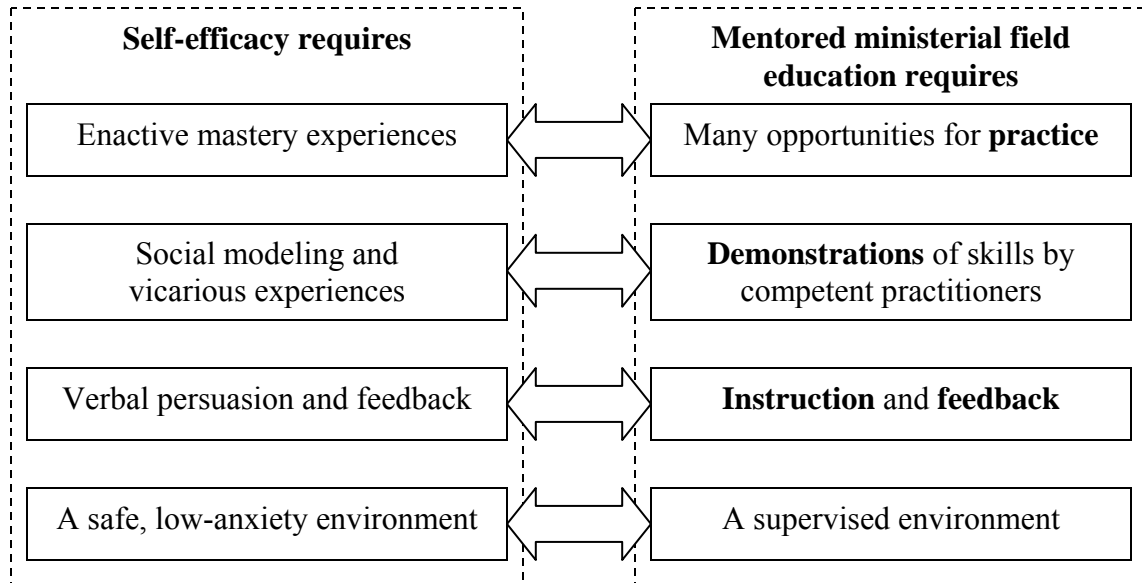


Figure 3. The supports of self-efficacy and the requirements of ministerial field education.

**Evaluation.** Instructional design scholars would at this point prefer to use the term “assessment,” and the point of this component is not the assessment but the feedback students receive. Mentors must competently assess student performance and provide students adequate formative feedback to prepare them for future attempts. “The process of evaluation in the supervisory experience is crucial in order for the student to learn and grow as a result of the ministry experience” (Seals, 1995, p. 126).

The expectation is that if students receive sufficient mentoring in each professional skill by experienced practitioner(s) who pay adequate attention to each of the four components of mentoring, then students will themselves become fully *competent* and *confident* practitioners. However, as mentioned in the first chapter, this outcome has never been empirically tested. Are all four of these components necessary to develop professional competence? If so, what is their relative importance? If the mentors do not pay sufficient attention to one or more of these components, how much does this affect student competency? There is no answer yet in the literature to these questions.

**Measurement of student competency in ministerial field education.** Although some assessment is performed in the classroom for certain skills (e.g. *preaching*), most assessment of student competency in ministerial skills takes place during field education. Some schools develop their own student assessments for ministerial field education that typically involve formal written reports on students' performance, based upon learning outcomes previously specified in *learning covenants*. These assessments are often more qualitative in nature and include "ministry reports, such as verbatim reports, case studies, or ministry events" (Seals, 1995, p. 133). Some schools generate their own list of core ministry skills for assessment, although such lists are not required for accreditation (ATS, 2010). If the school is aligned with a certain Christian denomination, the church might help to form a list of essential skills, since "most denominations require that students seeking ordination with them have certain competencies in place" (Kyte, 2008, p. 136).

There have, however, been two large-scale projects to enumerate the commonly recognized essential skills required for the Christian ministry and then quantitatively to measure students with respect to these skills. The first extensive effort to collect and assess readiness-for-ministry performance data was conducted by the Educational Testing Service by Kling (1958). This project resulted in a 30-item inventory, which was later termed the *Ministerial Activity Scale* (Nauss, 1994). Subsequently ATS initiated the Readiness for Ministry program and developed the *Profiles of Ministry* instrument (PoM) for use with seminary students and new ministers (Aleshire & Schuller, 2005). As of 2006, the PoM was being used by half of all ATS-accredited Master of Divinity programs (Myers, 2006). No other instrument has enjoyed widespread use.

**Measuring competence with the Profiles of Ministry instrument.** ATS set out to

identify “the characteristics and abilities most needed for competency in ministry” and then to design an instrument to measure whether “these characteristics are present in those preparing for ministry” (Aleshire, Schuller, & Williams, 2005, p. 3). The result of this project is the PoM, an instrument measuring 42 specific behavioral and affective constructs which had been previously identified as essential by surveys of a very wide variety of subject matter experts. These constructs include, for example, “Competent Preaching” and “Competent Worship Leading,” as well as three negatively scored traits such as “Self-Serving Behavior” (Lonsway, 2006, p. 131). These construct criteria items are linked together and reported under several umbrella rubrics (e.g. “Responsible and Caring,” and “Community and Congregational Ministry,” p. 130), which had also been identified in a previous study.

*A description of the Profiles of Ministry instrument.* There are three parts to the PoM. The first is the “casebook,” in which a series of situations are presented to the participant. For each situation, the participant evaluates various courses of action, responses, or choices on a five-point modified Likert scale (“very likely” to “very unlikely”).

The second part of the PoM is the structured “interview” of twenty mostly open-ended questions (e.g. “What would be your objective when visiting un-churched people in your local community?”). During the interview, these questions are read verbatim, and the responses are recorded for later scoring by ATS-trained evaluators.

The third part of the instrument is the “field observation” component, which is completed by the student’s mentoring supervisor(s) and a handful of lay people who have observed the student’s performance. Note that in this instrument, the raters do not assess students’ observed performance. Rather they rate students’ *expected future* performance in ministry and their ministry “style” using a five-point Likert scale, scored from “very unlikely” to “very likely”

(Aleshire, Schuller, & Williams, 2005, p. 3). This is a curious design decision which is not explained either in the instrument's instructions or in the literature.

*The impressive design, scope, and stability of the PoM.* The impressive design of the PoM is well summarized in two publications of the American Educational Research Association (AERA), the first by Menges in 1975 during the initial PoM design phase:

The project employs a representative seminary sample of the 48 member denominations of the Association of Theological Schools in the United States and Canada. Job settings entered by the 1973 graduates of those seminaries were classified into 12 "ministry-contexts." Approximately 1,200 persons, representing five groups (congregational laity, clergy, denominational placement officers, senior seminarians, and seminary professors), provided critical incidents. That is, they described a situation in which the ministry they observed was seen as either effective or ineffective, and they indicated why it was seen that way. The resulting 729 items were subsequently rated on a scale of 1 (highly important) to 7 (does not apply) by other persons in those five groups. Each respondent chose one of the 12 ministry-contexts as a frame of reference for rating "the beginning minister." Subsequent factor analysis will identify clusters of items that define effective ministry for each respondent group and context. The project will then develop instruments to detect the presence of such competence in new ministers. (p. 177)

The second summary of interest was published in 1991 by McGaghie, shortly after ATS had conducted a major replication of the original study in order to update the PoM instrument. The replication study and the instrument update program were completed during the fifteenth anniversary of the readiness for ministry program. The replication survey returned very similar results to the original; and so the PoM instrument remained mostly unchanged:

The Readiness for Ministry Project of the Association of Theological Schools in the United States and Canada conducted an elaborate series of survey research and factor analytic studies aimed at two goals (Schuller, Brekke, & Strommen, 1975; Schuller, Brekke, Strommen, & Aleshire, 1976). The first goal was to identify criteria that are generalizable across Protestant denominations, that capture the essence of effectiveness in pastoral roles. The criteria reflect expectations of ministers based on the values of the religious traditions within which persons minister, rather than a popular market analysis of what is most desired. Examples of ministerial criteria include *Evangelistic Witness*, *Acceptance of Clergy Role*, *Acknowledgement of Own Humanity*, and *Service Without Regard for Acclaim*. The second goal was to develop assessment instruments that embody the criteria. Both goals were achieved and reported in the mid-1970.... It is also instructive that the work on identifying criteria for the ministry, undertaken about 15 years ago, has been replicated recently. The results are remarkably stable, suggesting that measured pastoral effectiveness has not changed much. (p. 6)

The thirtieth anniversary of the PoM program became the occasion for longitudinal study by Francis Lonsway in order to update the instrument for the second time in 30 years and to re-evaluate the validity and reliability of the instrument. The results of the study were reported in articles in 2006 and 2007. In one article, entitled “The Churches and the Preparation of Candidates for Ministry” (2006), the author describes the impressive research involved in the development and updating of the PoM instrument. The PoM profile quantitatively measures 42 constructs which churches and subject matter experts judge to be “essential, helpful, or likely to impede a successful ministry” (p. 125). In the anniversary study, ATS sent a 330-item survey to a stratified random stage sample of “ATS member school graduates, seminary faculty, senior

seminarians, denominational leaders, and laity served by the graduates” (p. 125) in order to determine contemporary expectations for beginning clergy among 17 denominational families served by the 254 schools at that time in ATS membership. The survey ( $N=2433$ ) measured the relative importance of many constructs to successful Christian ministry; and the raters evaluated the relative importance of construct characteristics and styles of ministry on a five-point Likert scale.

That anniversary study, completed in 2005, “resulted in only minor changes in the instruments” (p. 146), as did the previous study at the fifteen year mark. The original 1973-74 study analyzed 5169 responses, while the fifteen-year and thirty-year studies were about half that size, 2607 in 1987–88, and 2433 in 2002–05 (Lonsway, 2007). The author concludes that “The smaller samples were adequate for replicating the original study” (p. 141). The results are impressively reported at the  $p=.01$  level, with significant differences reported at the  $p=.001$  level. The PoM instrument has thus remained basically unchanged for thirty years.

The ATS research which identified the 42 essential constructs for the Christian ministry appears to be very sound. The validity of the original research is substantially reinforced by the fact that the core constructs have remain largely unchanged over a 30 year period, even across a widening range of Christian denominations and throughout 3 decades of rapid social change.

***Clear descriptions of eleven essential ministerial skills.*** Although the PoM instrument includes many important affective and behavioral constructs such as “Involvement in Caring,” “Mutual Family Commitment,” and “Active Concern for the Oppressed,” (Aleshire, Schuller, & Williams, 2005, p. 6), it also measures 11 essential ministerial skills. Ten of these skills are also listed in clearer language as “abilities” on ATS’s *Graduating Student Questionnaire* or GSQ (ATS, 2012, p. 7), which some ATS-affiliated schools administer to measure student *satisfaction*

for the purpose of program evaluation. In plain language, the survey asks students to indicate their level satisfaction in their progress in various skills, on a scale from “1 = very dissatisfied” to “5 = very satisfied.” Since the GSQ was designed to be read and answered by students, the GSQ description of 10 essential ministry skills is much clearer than the PoM’s titles for these skill-oriented constructs. The survey created for this study use the much clearer GSQ language which was designed to communicate immediately to students. There is not a perfect correspondence between the two publications, since *evangelism* is one skill measured on the PoM (as the construct entitled “Assertive Individual Evangelism”) for which there is no corresponding item in the GSQ. This is most likely an oversight. In this study, self-efficacy will be measured in the following 11 skills (ATS, 2012, pp. 7-8):

- ability to preach,
- ability to teach,
- ability to conduct worship / liturgy,
- ability in pastoral counseling,
- ability to lead others,
- ability to administer a congregation (note that rather than “parish” as in the PoM and the GSQ, this survey will use “congregation,” since this is a Biblical word which would communicate more clearly to a wider audience),
- ability to give spiritual direction,
- ability to relate social issues to faith,
- ability to think theologically,
- ability to use and interpret Scripture, and
- ability in evangelism (which is measured in the PoM but not in the GSQ).



**Is there a problem with the Profiles of Ministry instrument?** Since empirical research of ministerial performance began in 1955, the research task has been plagued with difficulties (Dittes, 1962; Malony, 1984; Nauss, 1996). Dash, Dukes, and Smith (2005) illustrate the general problem by pointing out that, although ATS's survey of students affirms that "seminary education is achieving some of its most cherished goals," and that "graduates experienced growth in pastoral skills," there is no data indicating that these measurements correlate with an effective pastoral ministry (p. 69). Scores are almost uniformly high; meanwhile, 90% of ministers report being inadequately trained to cope with the actual demands of the ministry according to a study by Fuller Seminary (1991). Of course, this was the situation even before the PoM was developed and widely adopted. In an earlier survey by Fukuyama (1972) in the United Church of Christ, only 11% of ministers and 6% of ministerial students reported that their theological education was at least good. Is there a problem, then, with the PoM instrument?

*A problem evaluating the instrument's validity.* Lonsway's (2007) article, "What's in an Instrument? The Answer from the Profiles of Ministry Program," reports on the validity and reliability of the PoM measures. The results include the historical reliability of the measures, reported as Cronbach's alpha coefficients for each variable in each of the surveys. Clearly, the instrument enjoys a high degree of *reliability*. However, the discussion of *validity* was passed by lightly, and without any empirical support. In discussing the internal validity of the PoM, Lonsway noted that self-assessment surveys had been collected and used to check the PoM results. Unfortunately, no details of this critical procedure were described, and readers are left without any data to judge its effectiveness.

No limitations of the study are mentioned in this article. It simply concludes, "Subsequent analysis of data and the thirty-year study revisited the original work and were able

to pronounce it solid and useful for seminarians and the churches. The Profiles of Ministry program is healthy and ready for the next chapter of its development and use” (p. 151). The author’s trailing biographical paragraph indicate that Dr. Lonsway was on the ATS staff during the original project, and subsequently the director of the Profiles of Ministry program from 1992 to 2005.

A review of the literature revealed no attempts to validate the instrument beside the three studies performed by ATS. Without further research on the PoM’s internal validity, there is little that can be concluded for certain. There does seem to be sufficient cause to question whether something might be amiss, whether despite the strong PoM results, seminary education is truly achieving some of its most cherished goals.

*A problem in the instrument’s measurement of field education.* The field observation component of the PoM was designed to measure and report the performance of the student in an authentic context in several key areas. Very significantly, the *field observation* scores enjoyed the highest reliability coefficients among the three parts of the PoM instrument. This is counterintuitive, since the structured interviews are scored by trained assessors with extremely high inter-rater reliability (Lonsway noted that inter-judge reliability on the interview component has always exceeded .90 reliability throughout the history of the program). On the other hand, the field observation assessments are scored by ministers, field supervisors, and various lay individuals who receive no training in assessment.

The scores on the field observation are not only consistent, with near perfect inter-rater reliability, but uniformly high (Dash, Dukes, & Smith, p. 69). In other words, according to the PoM results, nearly everyone agrees that nearly every student does an outstanding job demonstrating nearly every professional skill in the real world. This is an unrealistic outcome,

strongly suggesting that there is some major deficiency in the field assessment process.

**The practical importance of validity for ministerial educational programs.**

Educational research and program evaluation are very different, though interrelated enterprises.

This literature review has relied heavily on research articles and tended to avoid evaluation articles, since this is a research study. However, one important use of self-efficacy research in professional education has been to support program evaluation for curriculum improvement (Holden et al., 2002; Harvey & McMurray, 1993)

For Master of Divinity program accreditation, ATS requires schools to conduct a thorough ongoing program evaluation and to implement changes based upon the results. There is to be a continual “assessment loop” in four steps:

- concerns that lead to questioning;
- data collection;
- interpretation and proposal making; and
- strategic choices and implementation tactics (Myer, 2006, p. 7)

Schools are learning to regard program evaluation, not as a linear process which has a definite end, but as an ongoing cyclical process nurturing continuous improvement, self-awareness, and intentionality (Myers, 2006). When the evaluation process goes full cycle, this is often called *closing the assessment loop*. For accreditation, seminaries must provide evidence that they perform each of the four steps, and evidence that the process has resulted in specific curriculum changes, thus going full circle.

Are schools producing competent ministers? Many theological schools rely on the PoM instrument to provide data for their required ongoing program evaluation or “closing the assessment loop” (Myers, 2006, p. 7). If schools do not have a valid measure of students’

ministerial competence, there would be a gap between schools' *perceptions* of their programs' effectiveness and the *actual* effectiveness of their programs. It would seem from the limited data that is available in the scholarly literature that there is, in fact, a substantial gap at this point.

**Conclusion.** The PoM instrument has a very impressive design, and the skill-oriented constructs that it identifies have stood the test of time for over 30 years. However, there may well be a measurement problem in the important field observation component, the measure designed to report the future performance of students in several key areas. One limitation of the instrument is that the field experiences are judged by pastors, field supervisors, and lay members. How do students themselves judge their own ministerial skills? One goal of this study is to address this gap in the literature.

### **Overall Summary of the Relevant Literature**

Self-efficacy has been shown to be a powerful predictor of performance and other important measures of success in a number of domains, including that of professional skills. As a critical component of social cognitive theory, self-efficacy also helps direct the way to achieve successful learning outcomes. Indeed, professional field education fulfills the requirements suggested by Bandura for constructing an effective learning environment which supports learning and learner efficacy beliefs. There is therefore good reason to apply self-efficacy to research in professional field education.

Self-efficacy has often been used to predict performance and other outcomes. However, it is increasingly viewed as an important educational outcome in its own right, since researchers have shown the critical role that self-efficacy plays in human agency and performance. Although self-efficacy has been applied to many professional disciplines, it has not yet been applied to the Christian ministry.

The practice of mentored ministerial field education has been surveyed, followed by a discussion of how competence in ministerial skills has been measured heretofore. Research conducted for the PoM has identified a list of skills common to the Christian ministry throughout various denominations; and subsequent studies have proven this list of skills to be stable for more than 30 years. However, there may well be a measurement problem in the field education component of the instrument.

A new instrument which measures self-efficacy in ministerial skills would not only be useful to educators but would also contribute to the lack of published data regarding ministerial education and field education. Therefore, the next chapter will describe the construction of a new ministerial self-efficacy survey and the design of a correlational study which investigates the relationship between efficacy beliefs and mentored field education in the Christian ministry.

### **Chapter 3: Methodology**

#### **Introduction**

The purpose of this study is to examine the relationship between mentored ministerial field education's four components and student efficacy beliefs in 11 professional skills, statistically controlling for the students' prior level of skill upon entering the program, for students at several evangelical seminaries in the United States. Secondly, in order to complete this research, since there is no relevant instrument available, a new survey was developed for measuring ministerial self-efficacy and field education. In the course of the study, survey data was collected in order to address two important ancillary questions: How confident are students who have finished their field education that they have become competent practitioners of essential ministry skills? How confident are these students that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

The research questions for this study are:

1. To what extent does mentored ministerial field education predict students' self-efficacy beliefs in 11 professional skills, controlling for prior skill level?
2. How much variance in students' self-efficacy in these skills can be attributed to each of the four components of mentored ministerial field education?
3. How confident are students who have completed their field education that they have become competent practitioners of essential ministry skills?
4. How confident are students who have completed their field education that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

This chapter describes the methodology used in this study to answer the four research questions. It describes the procedures, participants, research setting, and the survey itself. The chapter concludes with a description of the multiple regression procedure and the related techniques used to analyze the data.

### **Study Design**

This study used a cross-sectional survey design for the “collection and analysis of quantitative data” (Creswell, 2009, p. 211) in order to gather data from seminary students who had completed their field education. The survey used Likert-style scales to take measurements from the students in the following four areas: (a) their level of self-efficacy in the 11 professional skills identified by ATS, (b) the amount of instruction, observation, practice, and feedback they received in each of the 11 skills during their field education, (c) their level of satisfaction with the amount of instruction, observation, practice, and feedback that they received, and (d) their perceived skill level in each of the 11 ministry skills at the time that they entered the program. Some demographic information was also collected from the participants, as described below.

### **Site Selection**

The study was conducted at seven seminaries (and at a total of ten campus locations) which offer a Masters of Divinity degree that is accredited by ATS: Reformed Theological Seminary (RTS), having campuses in Charlotte, NC, Jackson, MS, and Orlando, FL; Gordon-Conwell Theological Seminary (GCTS), having campuses in Boston, MA and Charlotte, NC; Erskine Theological Seminary (ETS) in Due West, SC; Dallas Theological Seminary (DTS) in Dallas, TX; Fuller Theological Seminary (FTS) in Pasadena, CA; Reformed Presbyterian Theological Seminary (RPTS) in Pittsburgh, PA; and Beeson Divinity School (BDS) of Samford

University in Birmingham, AL. These seven are evangelical seminaries; and they are perhaps in some ways representative of the larger population of reformed and evangelical divinity schools in North America. Erskine and RPTS are both aligned with denominations, namely, the Associate Reformed Presbyterian Church and the Reformed Presbyterian Church of North America, respectively. The other five seminaries are independent of denominational affiliation. These seven seminaries train ministers for a wide range of churches, principally, Presbyterian, Baptist, Congregational, Episcopal, and Methodist.

Because these seven seminaries were chosen for convenience (Creswell, 2009; Fraenkel & Wallen, 2011; Rea & Parker, 2005), the research findings are not statistically generalizable to other schools and students. However, Stake (1995) has advocated *naturalistic generalization* as a means of applying research and experience from one case study to similar cases through the use of human wisdom and judgment. The findings of this study might reasonably be applied by educators to similar reformed and evangelical institutions in North America that adopt the approach to field education that is required for accreditation by ATS. The self-efficacy survey was not customized in any way for these seven sites. It should be suitable for use in all of the 261 graduate schools accredited by ATS, and indeed for any field education program in Christian ministry that adopts a similar approach.

### **Research Participants**

The participants in this study were Master of Divinity students who have completed their field education and who are thus nearing the completion of their Masters of Divinity degree. Only students who have already completed their schools' field education requirements were eligible to participate.

It is very important to note that many of the participants had previous experience in



Christian ministry or related work—in some cases extensive experience—prior to enrolling in the masters program. These students would presumably tend to enter and exit seminary with higher self-efficacy in relevant ministerial skills regardless of the quality of field education they received (Bandura, 2006). For the purpose of statistical control during the analysis, participants were asked to report their perceived skill level upon entering the program in the 11 skill areas under study. In the survey's demographic section, the participants were also asked to list their relevant prior work experience.

### **Instrumentation**

The literature reveals no extant self-efficacy scale that is relevant to professional skills in the Christian ministry. Bandura (2006) has insisted that “scales of perceived self-efficacy must be tailored to the particular domain of functioning that is the object of interest” (pp. 306-307). Therefore a new self-efficacy survey was created for this study in order to measure participants' confidence in performing the 11 ministerial skills identified by ATS (see Appendix A). The survey was constructed following Bandura's (2006) directions for creating self-efficacy scales, and it follows the general pattern of the successful Hospital Social Work Self-Efficacy scale (Holden et al., 1996; Holden et al., 1997) and Bandura's (2006) sample “Teacher Self-Efficacy Scale” (p. 328).

**The measurement of self-efficacy.** In the instructions for the self-efficacy survey, participants were asked to judge their confidence in their personal capabilities *at the present time*, as having fully completed their field education. It is important to note that participants were not asked to judge their *future ability* or the outcome of their *future performance*. Bandura (2006) gives this rule for writing instructions for efficacy instruments:

Preliminary instructions should establish the appropriate mindset that participants should

have when rating the strength of belief in their personal capability. People are asked to judge their operative capabilities as of now, not their potential capabilities or their expected future capabilities. It is easy for people to imagine themselves to be fully efficacious in some hypothetical future. (p. 313)

Self-efficacy measures what people believe they can do *now*. The only exception Bandura (2006) makes to this rule is for self-regulation efficacy beliefs, which are not a part of this study. The instructions were therefore explicit on this point, and the words were emphasized using bold type: “From 0 to 10, please rate how certain you are that ***at this point***, you can competently....”

This first section (section A) of this survey measured students’ self-efficacy in 11 core ministerial skills which had been previously identified by the research of ATS, perceived skill level in each of the 11 ministry skills at the time that they entered the program (see Chapter Two). The survey asked participants to indicate their level of confidence that they can competently perform each of the ministerial skills. Bandura (2006) gives this critical rule for framing self-efficacy items:

The items should be phrased in terms of *can do* rather than *will do*. *Can* is a judgment of capability; *will* is a statement of intention. ... Perceived self-efficacy should also be distinguished from ... *outcome expectancies*. ... The outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations. (p. 308)

The survey was therefore worded to measure whether participants believe they *can* competently perform at this point, not how they believe they *will perform* in the ministry either as they begin work, or at some point in the future, or even over the course of their entire careers.

These are interesting questions, but they are simply not questions of self-efficacy.

Participants were asked to indicate their degree of confidence in performing each of the skills in the first section using a scale from 0 to 10. Although a scale of 0 to 100 would be more sensitive, it is possible that such a scale would bias the results. If students were asked to rate themselves on their skills using a 100-point scale in an academic context, it might seem too much like they were giving themselves “grades;” and that is clearly not the intention of this self-efficacy measure. A ten-point confidence scale would seem to students much less like assigning themselves grades. Bandura (2006) has summarized the procedure for creating self-efficacy scales which was used in the development of this survey:

In the standard methodology for measuring self-efficacy beliefs, individuals ... rate the strength of their belief in their ability to execute the requisite activities. They record the strength of their efficacy beliefs on a 100-point scale, ranging in 10-unit intervals from 0 (“Cannot do”); through intermediate degrees of assurance, 50 (“Moderately certain can do”); to complete assurance, 100 (“Highly certain can do”). A simpler response format retains the same scale structure and descriptors but uses single unit intervals ranging from 0 to 10. (p. 312)

Self-efficacy scales are subject to response biases from social evaluative concerns. In the email invitation and then three times in the survey (in the IRB informed consent, in the student demographic section, and at the beginning of the self-efficacy questions, see Appendix A and D), students were assured that their responses will remain confidential. They were also told both in the invitation and in the survey itself that the purpose of the survey is not for student assessment, in order to encourage honest self-appraisals and “frank answers” (Bandura, 2006, p. 314).

**The measurement of mentored field education.** The second section of this survey

(section B) measured the level of the participants' mentored field education in the 11 core ministerial skills, from their perspective. As previously described, mentored field education can be broken down into four components:

- students receive *instruction* on how to perform certain skills from competent practitioner(s),
- students get to *observe* practitioner(s) demonstrating the competent performance of these skills,
- students get to *practice* these skills under the supervision of these practitioner(s), and
- students receive useful *feedback* from practitioner(s) on their performance of these skills.

This survey therefore asked participants to complete 44 quantitative responses indicating whether (over the course of their entire field education experience) they received a sufficient amount of *instruction, observation, practice, and feedback* from competent practitioners in each of the 11 ministry skills in order for them now to become competent practitioners themselves.

The instructions for this section begin with a statement to the participants that this is intended as a measurement specifically of their experience in field education. Following this, the four components of mentoring are explained. The participants are then instructed to “*Use the following scale to evaluate whether you received enough instruction, observation, practice and feedback for you now to be a competent practitioner of each ministry skill.*” The scale selected for this measurement was a Likert-type unipolar scale (Maurer & Andrews, 2000) from 1 (“I received **none**”) to 6 (“I received **enough** for me to become a competent practitioner”) without a neutral midpoint.

**The measurement of satisfaction.** In the third section of this survey (section C), the participants are asked to indicate their “level of satisfaction” with the instruction, observation,

practice, and feedback that they received during their field education in each of the 11 core ministerial skills. Participants are asked to make 44 quantitative responses; and the format is nearly identical to section B. The scale selected for the measurement of satisfaction was a Likert-type bipolar scale from 1 (“Very dissatisfied”) to 6 (“Very satisfied”) without a neutral midpoint.

**The measurement of prior skill level.** In the fourth section of this survey (section D), the participants are instructed to reflect on their experiences prior to enrolling in seminary through which they may have attained some level of proficiency in the 11 professional skills: “Some people had experience serving formally or informally in the church, perhaps teaching Sunday school, lay preaching, or serving in a position of leadership. Others had work experience closely related to Christian ministry, perhaps in counseling, teaching, management, leadership, or public speaking.” The participants are then given the following directions, “Based on your prior work, life, and/or ministry experience, rate the level of proficiency that you already had before you entered seminary in each of the skills below using the following scale.” The participants then rate their prior skill level using a Likert-type unipolar scale from 0 (“No proficiency”) to 10 (“High proficiency”).

**Demographic information.** Students are asked to provide their name, seminary and campus location, email address, age, gender, marital status, number of children in an optional demographic section of the survey. They are also invited in this section to list their “ministry experience before enrolling in seminary” (up to 4 entries) and the number of years they were involved in each.

**Pilot test.** A small pilot test of sections A, B, and D of this survey was done by administering it to three of the researcher’s colleagues in ministry who had recently graduated

from seminary. Their response was positive regarding the clarity and overall design of the survey, and no modifications were made as a result of the pilot test. Subsequent to the pilot test, section C was added to measure participants' level of satisfaction.

### **Data Collection Procedure**

Following the approval of the Institutional Review Board (IRB), data collection commenced in the first week of May, 2012 and concluded in the third week of July. At each of the ten seminary campuses, faculty members in charge of field education sent emails to all of their students who had completed their field education requirements inviting them to participate in this survey. A follow-up email was also sent to the students by the faculty after approximately two weeks, except at RPTS. Students attending the June, 2012 General Synod meeting of the Associate Reformed Presbyterian Church also received a paper invitation and survey, as did students attending an elective class at the Charlotte campus of RTS in May. The invitation to participate in the survey is included in Appendix B.

### **Data Analysis Techniques**

The data collected in this survey were analyzed using methods appropriate to each of the research questions. Multiple regression analysis (and related tests) was used for questions one and two; and descriptive statistics was used for questions three and four.

**Multiple linear regression for questions one and two.** The first research question is: To what extent does mentored ministerial field education predict students' self-efficacy beliefs in 11 professional skills, controlling for prior skill level? The second question is: How much variance in students' self-efficacy in these skills can be attributed to each of the four components of mentored ministerial field education? These first two questions were answered by multiple regression.

Multiple regression is a general linear statistical procedure for continuous variables. It calculates the degree of predictive power possessed by a set of variables upon one continuous outcome variable. Adding variables one at a time into the regression allows for control of the effects of covariates and decreases the likelihood that the null will be rejected. In this way, multiple regression can be used to control for the effects of pre-existing individual differences among participants:

Multiple regression analysis is more amenable to *ceteris paribus* [that is, *all other things being held constant*] analysis because it allows us to *explicitly* control for many other factors that simultaneously affect the dependent variable. This is important ... when we must rely on nonexperimental data. (Wooldridge, 2009, p. 73)

As previously mentioned in chapter 2, students enter seminary with pre-existing differences in ministry experience and skill level. There has been a documented increase over the last two decades in the number of people entering seminary to prepare for a second career in Christian ministry (Lincoln, 2009; Nesbitt, 1995). Such people can enter seminary having years of Sunday school teaching, lay preaching, youth group ministry, church leadership and administration, and other pastoral ministry experience. Additionally, some students enroll in seminary while working or having worked full-time in the Christian ministry. Researchers have repeatedly demonstrated that prior mastery experiences have a powerful effect upon self-efficacy (Bandura 1997, 2001). Therefore, the regression analysis in this study statistically controlled for participants' perceived ministry skill level prior to enrollment, based upon their previous ministry, work, and life experience.

In the first research question, the null hypothesis was that the variance in self-efficacy would not be significantly different than zero, that is, that field education and prior experience

would not significantly correlate with self-efficacy. The report in the next chapter includes the standard and adjusted  $R^2$ , the five coefficients of the regression equation, the descriptive statistics and the values for  $p$ ,  $F$ , and the unstandardized  $\beta$ . The data is graphically represented by a separate scatter plot of each of the five X variables versus the Y (self-efficacy) with a least-squares trend line. The minimum threshold of significance for all analysis was  $p < .05$ .

In the second research question, the null hypothesis was that the four coefficients corresponding to the four components of mentored field education would not be significantly different than zero, that is, instruction, observation, practice, and feedback would not positively or negatively affect self-efficacy beliefs in professional skills. The report in the next chapter includes the coefficients of the regression equation, the Pearson Correlations with their significances, as well as the relevant descriptive statistics including the  $n$ , mean, and standard deviation for each variable in the regression.

**Descriptive statistics for questions three and four.** The data analysis for the remaining two research questions was more straightforward. The third research question was: How confident are students who have finished their field education that they have become competent practitioners of essential ministry skills? This was answered by calculating the descriptive statistics for the self-efficacy measurements (the first section of the survey) for each of the 11 ministry skills. The report includes the  $n$ , mean, and standard deviation for each, as well as a graphical representation of the data by histogram.

The fourth research question was: How confident are students who have finished their field education that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills? This was also answered by calculating the descriptive statistics for each of the 11 ministerial skills in each of the four



components of field education. The report includes the  $n$ , mean, and standard deviation for each, as well as a graphical representation of the data by histogram.

### **Conclusion**

This chapter has described the methodology used in this study to answer the research questions, as well as the procedures, participants, research setting, and the development of the survey. The survey uses Likert-style scales in sections A through D in order to measure: (a) participants' self-efficacy in the 11 professional skills, (b) the amount of instruction, observation, practice, and feedback that they received in each of the skills during their field education, (c) their level of satisfaction with instruction, observation, practice, and feedback that they received, and (d) their perceived skill level at the time that they entered the program in each skill. Multiple regression of self-efficacy on instruction, observation, practice, feedback, and prior skill level was used to answer research questions one and two. Descriptive statistics on the survey data from sections A and B was used to answer questions three and four.

## Chapter 4: Results

### Introduction

The purpose of this study is to examine the relationship between mentored ministerial field education's four components and student efficacy beliefs in 11 professional skills, statistically controlling for the students' prior level of skill upon entering the program, for students at several evangelical seminaries in the United States. Secondly, in the course of the study, survey data was collected to address two important ancillary questions: How confident are students who have finished their field education that they have become competent practitioners of essential ministry skills? How confident are students that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

This study investigated the following four research questions:

1. To what extent does mentored ministerial field education predict students' self-efficacy beliefs in 11 professional skills, controlling for prior skill level?
2. How much variance in students' self-efficacy in these skills can be attributed to each of the four components of mentored ministerial field education?
3. How confident are students who have completed their field education that they have become competent practitioners of essential ministry skills?
4. How confident are students who have completed their field education that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

In the first research question, the null hypothesis is that the variance in self-efficacy would not be significantly different than zero, that is, that field education would not significantly

correlate with self-efficacy. In the second research question, the null hypothesis is that the four coefficients corresponding to the four components of mentored field education would not be significantly different than zero, that is, instruction, observation, practice, and feedback would not positively or negatively affect self-efficacy beliefs in professional skills.

The survey was emailed to 533 Master of Divinity students who had completed their field education requirements at the seven targeted seminaries. One hundred and two students responded (a response rate of 19%). The analysis presented in this chapter was based upon this survey data, which was collected between May and July of 2012. The threshold of significance for all statistical tests was  $p < .05$ .

### **Data Analysis for Research Questions One and Two**

The first two research questions were directly answered by multiple regression. The dependent variable under study is the level of students' self-efficacy with respect to 11 specific skills. The independent variables are the levels of instruction, observation, practice, and feedback that the students reported receiving during their field education in each of the 11 skills. The control variable is the prior skill level that students judged themselves to have at the time they entered the Master of Divinity program. The regression analysis was calculated through SPSS.

**Research question one.** The first research question is: To what extent does mentored ministerial field education predict students' self-efficacy beliefs in 11 professional skills, controlling for prior skill level? The null hypothesis is that the variance in self-efficacy would not be significantly different than zero. With an  $R^2$  value of .305 ( $p < .05$ ), the null hypothesis was rejected for research question one. The model explains 30.5% of the total variance in self-efficacy; and the variables for practice and prior skill level were the only two significant

variables in the regression. Table 1 summarizes the results of the multiple regression.

Table 1

*Summary of Multiple Regression Analysis for Self-Efficacy*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>	Tolerance	VIF
Instruction	.067	.047	.058	.156	.392	2.549
Observation	.005	.046	.005	.908	.433	2.309
Practice	.195	.052	.178	.000	.291	3.432
Feedback	.079	.053	.074	.131	.277	3.609
Prior Skill Level	.274	.018	.403	.000	.926	1.080

*Note.*  $R^2 = .305$ ,  $R^{*2} = .302$ ,  $R^2 = .226$  for self-efficacy over prior skill level alone, all  $p < .001$

The mathematical assumptions for multiple regression analysis were met. Newton and Rudestam (1999) recommend a minimum sample of size of 90 participants for regression analysis, assuming at least a .05 level of significance and a power of .80. The diagnostic variance inflation factors (VIF) were all well under the rule-of-thumb value of 10 (Kutner, Nachtsheim & Neter, 2004).

Prior skill level accounted for 22.6% of the variance in self-efficacy, and practice accounted for the remaining 7.9% of the variance. In this regression analysis, neither the variables for instruction, observation, nor feedback were statistically significant predictors of self-efficacy at the  $p < .05$  level. These three variables showed a strong correlation with the practice variable, as indicated by the Pearson correlations in Table 2, as well as a high degree of collinearity, as indicated by the relatively low tolerance values in Table 1 and the scatter plots with least-squares trend lines in Figure 4.

Table 2

*Pearson Correlations for Regression Variables*

	Efficacy	Instruction	Observation	Practice	Feedback	Prior Skill Level
Efficacy	-	.298	.261	.388	.352	.475
Instruction	.298	-	.704	.682	.708	.155
Observation	.261	.704	-	.654	.670	.123
Practice	.388	.682	.654	-	.820	.263
Feedback	.352	.708	.670	.820	-	.218
Prior Skill Level	.475	.155	.123	.263	.218	-

*Note.* All are  $p < .001$ .

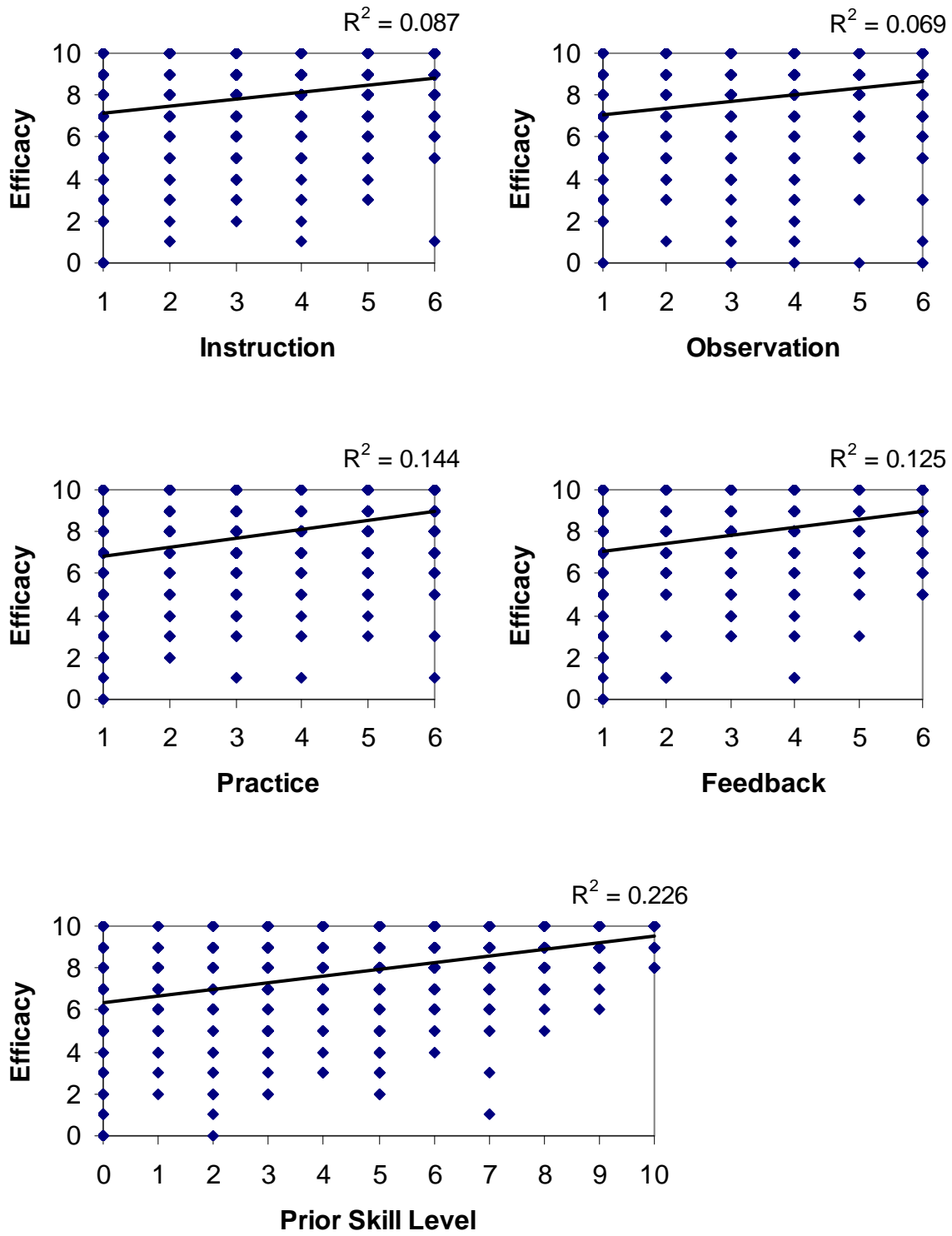


Figure 4. Self-efficacy plotted versus each of the independent and control variables. The least-square lines indicate a high level of collinearity.

**Research question two.** The second research question is: How much variance in students' self-efficacy in these skills can be attributed to each of the four components of mentored ministerial field education? The null hypothesis is that the four coefficients corresponding to the four components of mentored field education would not be significantly different than zero. The null hypothesis was rejected for research question two: The coefficients for prior skill level and practice both statistically significant at a level greater than zero. A greater level of prior skill, as well as more practice during field education, both predicted higher self-efficacy in ministry skill. For each unit increase in prior skill level and practice, participants reported a corresponding increase in self-efficacy of .274 and .195, respectively. The resulting regression equation can be written in mathematical notation as follows:

$$\hat{y}_{\text{efficacy}} = 5.295 + .195 * X_{\text{practice}} + .274 * X_{\text{prior-skill-level}}$$

**Descriptive Statistics.** Across the 11 ministry skills, on the self-efficacy scale from 0 (“I cannot do at all”) to 10 (“Highly certain I can do”), participants reported a mean self-efficacy of 8.05. On the mentoring scale from 1 (“I received none”) to 6 (“I received enough for me to become a competent professional”), participants reported a mean level of instruction at 3.73, observation at 4.13, practice at 3.88, and feedback at 3.49. On the prior skill level scale from 0 (“No proficiency”) to 10 (“High proficiency”), participants reported a mean skill level of 5.30 across all ministry skills. The descriptive statistics for the six variables in the regression are reported in Table 3.

Table 3

*Descriptive Statistics for Regression Variables*

	N	M	SD
Efficacy	1049	8.05	1.94
Instruction	1049	3.73	1.70
Observation	1049	4.13	1.66
Practice	1049	3.88	1.77
Feedback	1049	3.49	1.81
Prior Skill Level	1049	5.30	2.85

*Note.* Listwise deletion was applied during the regression for surveys missing necessary values.

**Data Analysis for Research Question Three**

The third research question is: How confident are students who have finished their field education that they have become competent practitioners of essential ministry skills? Answering the third research question involved computing descriptive statistics on the self-efficacy data (survey section A), and Table 4 summarizes these statistics. On the self-efficacy scale from 0 (“I cannot do at all”) to 10 (“Highly certain I can do”), participants reported the highest self-efficacy in “using and interpreting Scripture” (8.98), “thinking theologically” (8.86), and “teaching” (8.75). Participants reported the lowest self-efficacy in “doing pastoral counseling” (6.89), “evangelizing” (7.30), and “administering / managing a congregation” (7.33). The relative frequencies of self-efficacy values by ministry skill are graphically represented by histogram in Figure 5.



Table 4

*Descriptive Statistics for Self-Efficacy by Ministry Skill*

	N	M	SD
Preaching	102	8.09	1.78
Teaching	102	8.75	1.21
Evangelizing	102	7.30	2.18
Conducting worship / liturgy	102	7.77	2.38
Doing pastoral counseling	102	6.89	2.38
Leading others	102	8.35	1.63
Administering / managing a congregation	101	7.33	2.43
Giving spiritual direction	102	8.14	1.59
Relating social issues to faith	100	8.22	1.50
Thinking theologically	102	8.86	1.19
Using and interpreting Scripture	102	8.98	1.30

*Note.* The self-efficacy scale is from 0 (“I cannot do at all”) to 10 (“Highly certain I can do”).

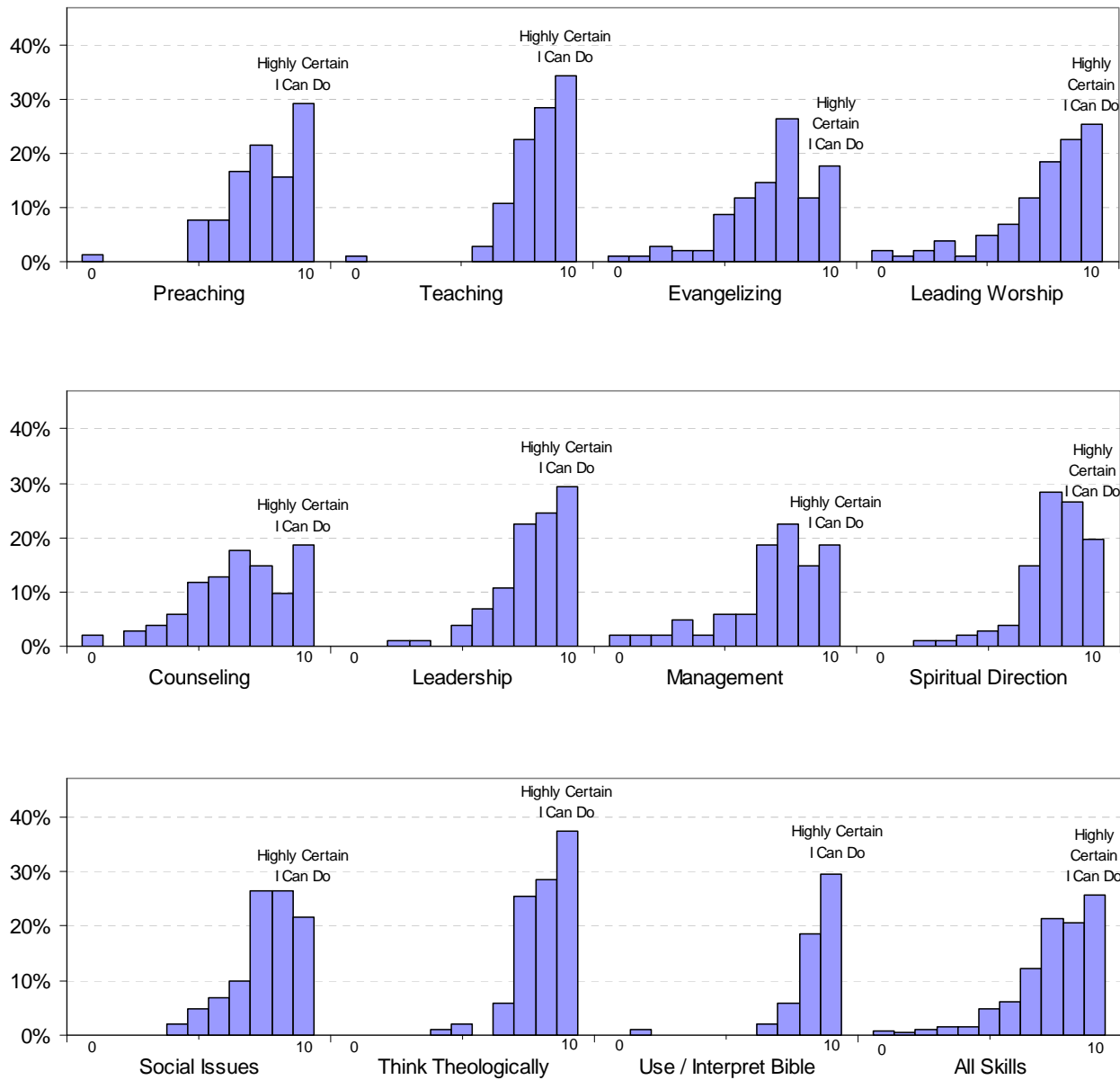


Figure 5. Self-efficacy level frequency distribution by ministry skill. The self-efficacy scale is from 0 (“I cannot do at all”) through the midpoint of 5 (“Moderately certain I can do”) to 10 (“Highly certain I can do”). The scale was created by Bandura (2006).

**Data Analysis for Question Four**

The fourth research question is: How confident are students who have finished their field education that they have received sufficient mentored field education in order for them to

become competent practitioners of essential ministry skills? Answering this fourth and final research question required computing descriptive statistics for the mentoring data in each ministry skill (survey section B), and these statistics are summarized in Table 5. Taking the average across all of the ministry skills, participants reported receiving enough instruction to become competent in a particular skill 20% of the time, enough observation 25% of the time, enough practice 23% of the time, and enough feedback 19% of the time. Participants reported receiving no instruction in a particular skill 15% of the time, no observation 10% of the time, no practice 19% of the time, and no feedback 14% of the time.

There was considerable variation among the field educational experiences. On the mentoring scale from 1 (“I received none”) to 6 (“I received enough for me to become a competent professional”), participants reported receiving the most overall mentoring (instruction, observation, practice, and feedback) in “using and interpreting Scripture” (4.34, 4.81, 4.77, 4.23), “thinking theologically” (4.41, 4.60, 4.65, 4.16), and “preaching” (3.91, 4.53, 4.47, 3.93). Participants had also reported the highest mean self-efficacy in the first two of these skills. Participants reported receiving the least mentoring in “evangelizing” (2.94, 2.99, 2.97, 2.58), “doing pastoral counseling” (3.22, 3.09, 3.11, 2.74), and “administering / managing a congregation” (3.47, 3.94, 3.20, 3.07). Participants had also reported the lowest mean self-efficacy in these three skills. The relative frequencies of values reported for each of the four components of mentoring by skill level are graphically represented by histogram in Figures 6, 7, 8, and 9.

Table 5

*Descriptive Statistics for Sufficient Instruction on Mentoring Components by Ministry Skill*

	Instruction			Observation			Practice			Feedback		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Preaching	101	3.93	1.65	102	4.88	1.32	102	4.22	1.70	102	4.05	1.66
Teaching	102	3.91	1.63	101	4.53	1.47	102	4.47	1.60	102	3.93	1.77
Evangelizing	101	2.94	1.70	100	2.99	1.74	101	2.97	1.69	101	2.58	1.65
Leading Worship	102	3.59	1.77	100	4.60	1.63	101	3.81	1.79	101	3.39	1.83
Counseling	102	3.22	1.68	101	3.09	1.63	102	3.11	1.68	102	2.74	1.72
Leadership	101	4.11	1.43	99	4.52	1.47	100	4.18	1.55	100	3.86	1.67
Management	102	3.47	1.66	101	3.94	1.64	102	3.20	1.72	102	3.07	1.76
Spiritual Direction	102	3.83	1.69	101	3.78	1.68	102	3.80	1.75	102	3.29	1.89
Social Issues	102	3.72	1.58	100	3.91	1.49	100	3.70	1.68	102	3.32	1.75
Think Theologically	101	4.41	1.63	101	4.60	1.41	101	4.65	1.56	101	4.16	1.59
Use / Interpret Bible	100	4.33	1.65	100	4.81	1.37	100	4.77	1.52	101	4.23	1.67

*Note.* The mentoring scale is from 1 (“I received none”) to 6 (“I received enough for me to become a competent professional”).

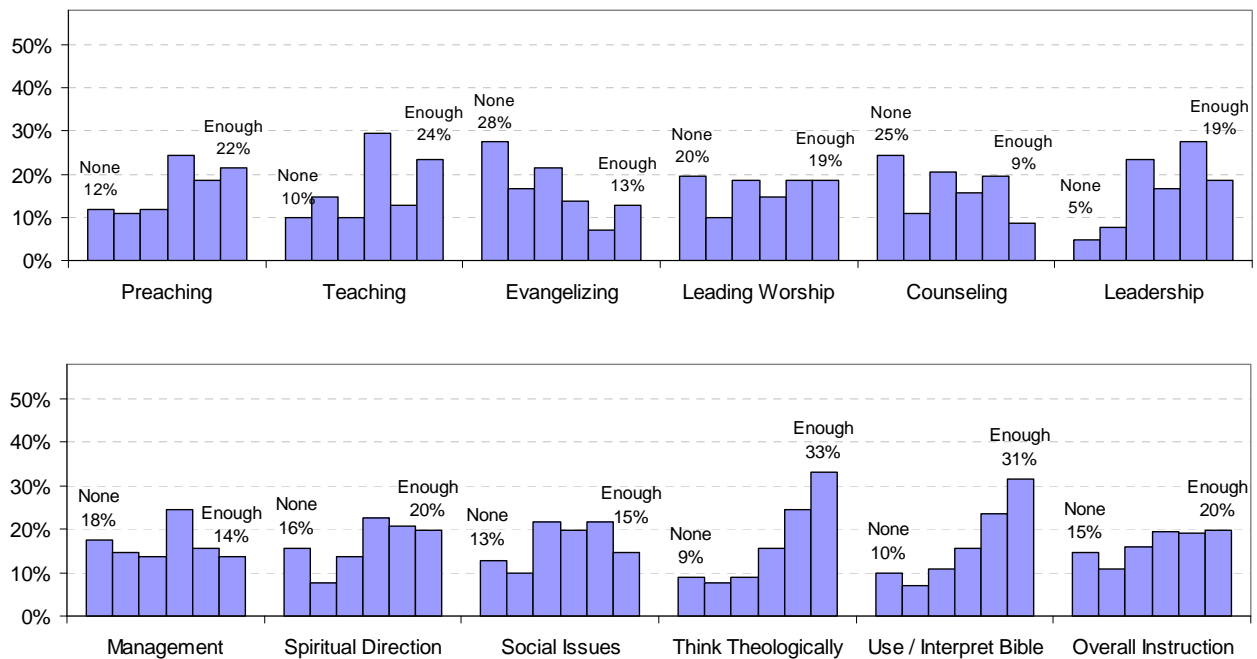


Figure 6. Instruction level relative frequencies by ministry skill. The mentoring scale is from 1 (“I received none”) to 6 (“I received enough for me to become a competent professional”).

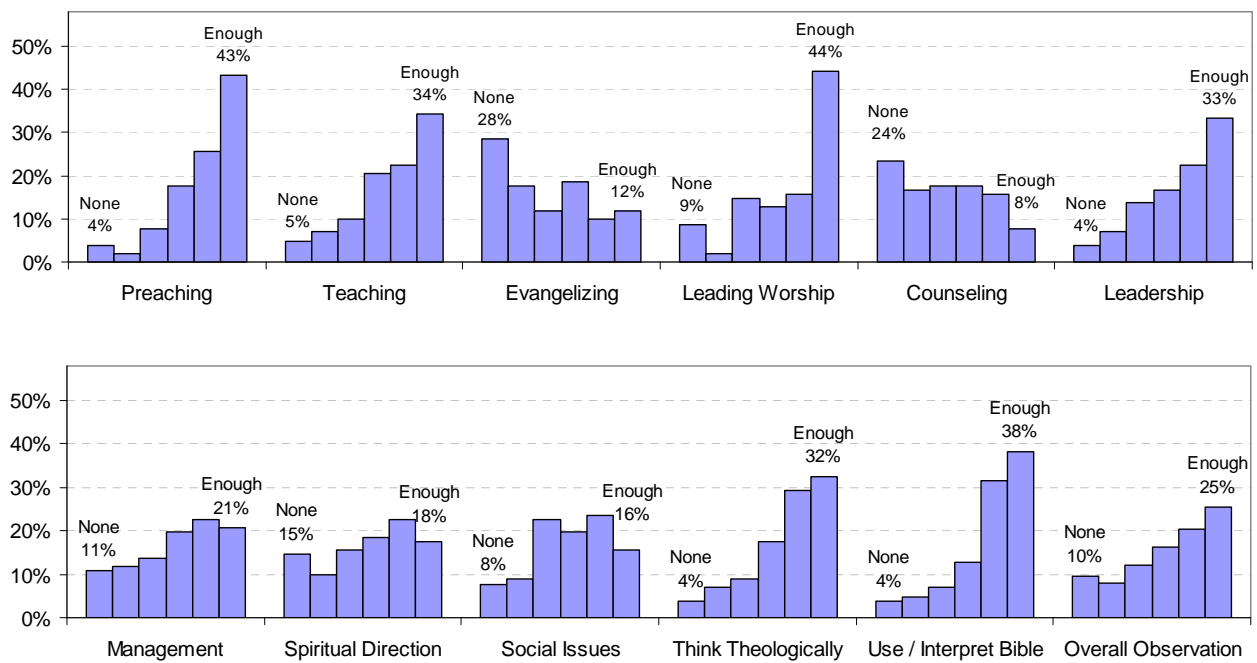


Figure 7. Observation level relative frequencies by ministry skill.

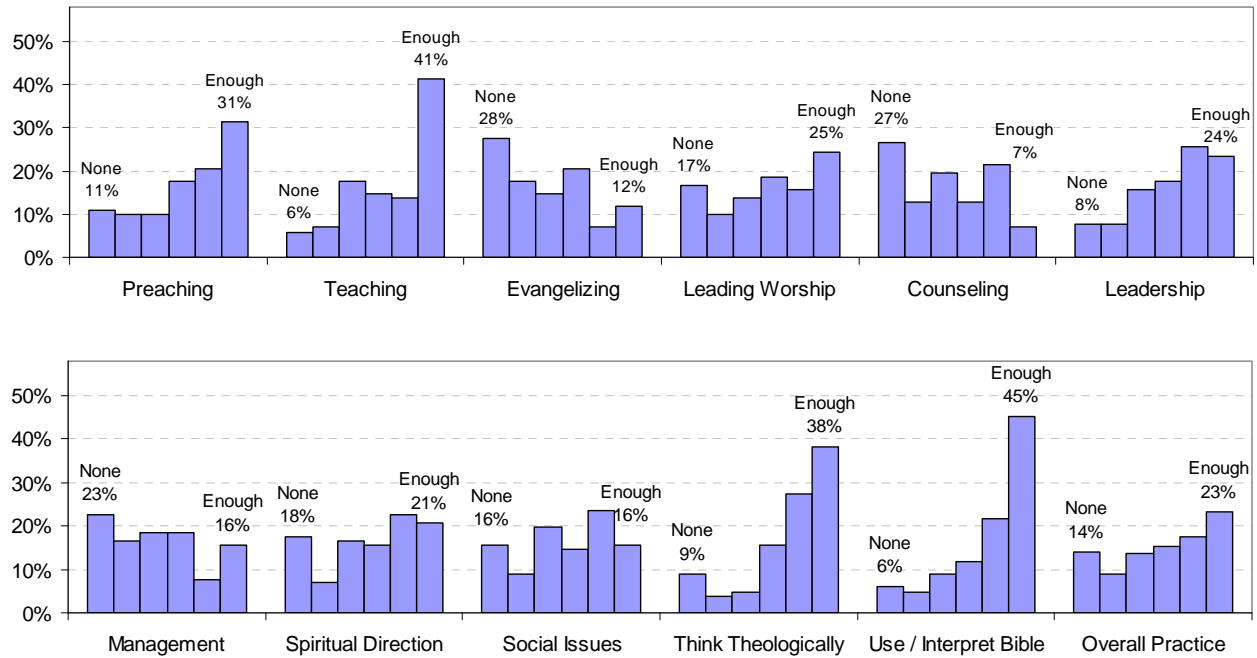


Figure 8. Practice level relative frequencies by ministry skill.

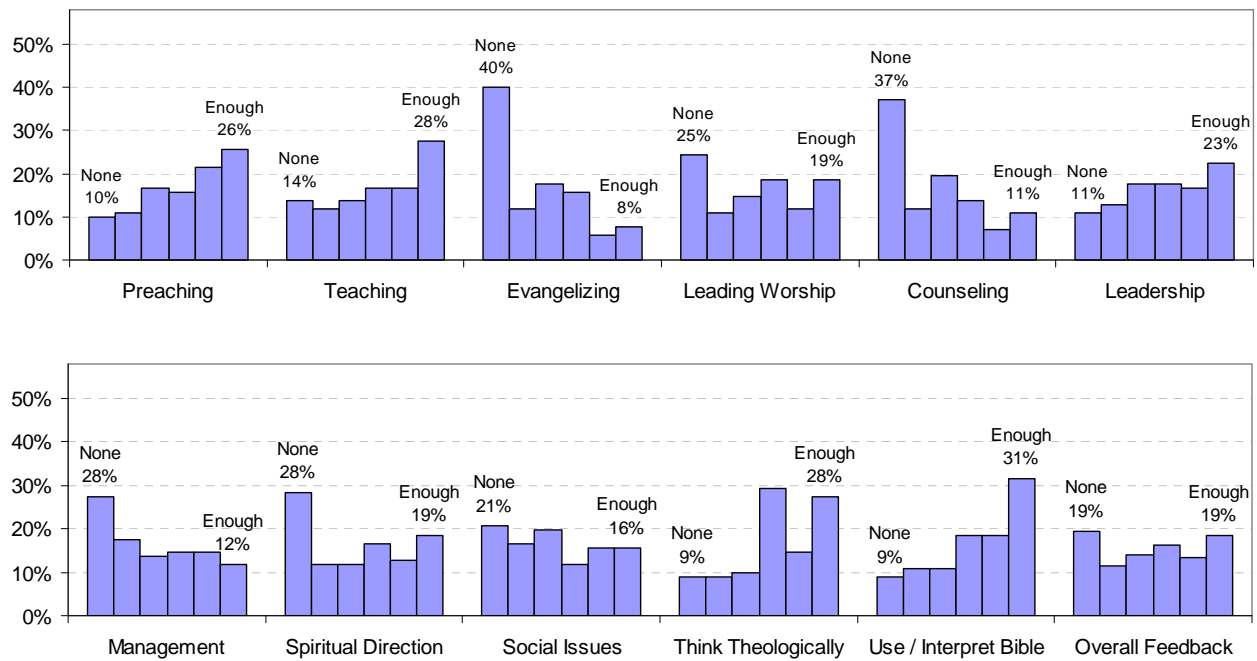


Figure 9. Feedback level relative frequencies by ministry skill.

### **Participant Satisfaction with Mentoring**

The survey also asked the participants to indicate “how satisfied you are with the instruction, observation, practice, and feedback components of your field education experience.” They indicated their level of satisfaction on a scale from 1 (“Very dissatisfied”) to 6 (“Very satisfied”) with no neutral midpoint. The participants reported the highest levels of satisfaction with their mentoring (instruction, observation, practice, and feedback) in “using and interpreting Scripture” (4.63, 4.74, 4.88, 4.44), “thinking theologically” (4.66, 4.65, 4.75, 4.38) and “teaching” (3.76, 3.77, 3.96, 3.69). Participants had also reported having both the highest self-efficacy and receiving the most mentoring in the first two of these three skills. The participants reported the lowest levels of satisfaction with their mentoring (instruction, observation, practice, and feedback) in “evangelizing” (3.43, 3.17, 3.43, 3.10), “doing pastoral counseling” (3.61, 3.42, 3.53, 3.40) and “giving spiritual direction” (3.76, 3.77, 3.96, 3.69). Participants had also reported having both the lowest self-efficacy and receiving the least mentoring in the first two of these skills. The descriptive statistics for the satisfaction variables in each of the four components of mentoring by skill level are given in Table 6.

Table 6

*Descriptive Statistics for Satisfaction with Mentoring Components by Ministry Skill*

	Instruction			Observation			Practice			Feedback		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Preaching	99	4.24	1.55	99	4.72	1.40	99	4.52	1.64	98	4.14	1.69
Teaching	99	4.32	1.51	99	4.54	1.51	99	4.73	1.60	99	4.07	1.73
Evangelizing	98	3.43	1.61	98	3.17	1.70	98	3.43	1.72	97	3.10	1.73
Leading Worship	98	4.10	1.65	97	4.46	1.53	97	4.20	1.69	97	3.84	1.84
Counseling	97	3.61	1.66	97	3.42	1.69	97	3.53	1.68	97	3.40	1.77
Leadership	97	4.09	1.55	97	4.26	1.55	97	4.18	1.56	97	3.87	1.69
Management	97	3.75	1.57	97	4.13	1.61	96	3.81	1.71	96	3.58	1.73
Spiritual Direction	97	3.76	1.68	97	3.77	1.74	97	3.96	1.68	96	3.69	1.72
Social Issues	97	3.91	1.62	97	4.07	1.60	97	4.04	1.56	95	3.79	1.69
Think Theologically	98	4.66	1.44	98	4.65	1.46	97	4.75	1.48	97	4.38	1.60
Use / Interpret Bible	97	4.63	1.60	97	4.74	1.49	97	4.88	1.44	97	4.44	1.70

*Note.* The satisfaction scale is from 1 (“Very dissatisfied”) to 6 (“Very satisfied”) with no neutral midpoint.

### **Participant Demographic Data**

The mean age of participants in this study was 36.7 years old, with a standard deviation of 11.2. The youngest participant was 23 and the oldest was 63 years old. Eighteen percent of the participants were female and 82% were male. Eighty-four percent were married and 16% were unmarried. Their mean number of children was 1.46, including the 41% of the participants who had no children. Eleven percent had one child, 23% had two children, and the remaining 25% had three or more children.



In the demographic section of the survey, participants were asked, “Did you have any formal or informal ministry experience before entering seminary?” The participants had the opportunity of listing up to four previous ministry experiences, as well as the number of years for each. The participants reported having an average of 8.25 years of experience in a wide variety of ministry experiences before enrolling in seminary. Thirty-one participants had been involved in youth or college ministry, which was the most common response. Eighteen participants had taught Sunday school, 11 had already worked in full-time pastoral ministry, and four had previously been foreign missionaries. Two participants reported having “none,” and another ten participants did not make any response to these items.

### **Survey Response and Data Screening**

Of the 533 students who received the email invitation to participate in the survey, 102 participated (19%). McMillan (2011) recommends that non-experimental correlation research be conducted with a minimum of 30 subjects. The response rates are reported by seminary and campus location in Appendix C.

As indicated by the uniformly high *N* values reported in Tables 3, 4, and 5, nearly all of the surveys were filled out completely; and participants responded to 98% of the items. Data screening was greatly simplified because the survey was administered over the internet using radio buttons for all of the numeric data. SPSS applied listwise deletion to remove incomplete responses from calculations as necessary.

### **Conclusion**

The null hypotheses for research questions one and two were rejected. Prior skill level upon entering seminary and the amount of mentored practice during field education together accounted for 30.5% of the total variance in ministry skill self-efficacy. For each unit increase in

prior skill level and practice, participants reported an increase in self-efficacy of .274 and .195, respectively.

For research question three, the participants reported an average self-efficacy of 8.05 across all skills (on the scale from 0 to 10), with “using and interpreting Scripture” being the highest at 8.98, and “doing pastoral counseling” being the lowest at 6.89.

For research question four, the participants reported having received enough instruction to become competent in a particular skill 20% of the time, enough observation 25% of the time, enough practice 23% of the time, and enough feedback 19% of the time. Participants reported receiving the most mentoring (instruction, observation, practice, and feedback) in “using and interpreting Scripture” (4.34, 4.81, 4.77, 4.23), and the least mentoring in “evangelizing” (2.94, 2.99, 2.97, 2.58), on the scale from 1 to 6.

## **Chapter 5: Discussion**

### **Introduction**

The purpose of this study was to examine the relationship between mentored ministerial field education's four components and student efficacy beliefs in 11 professional skills, statistically controlling for the students' prior level of skill upon entering the program, for students at several evangelical seminaries in the United States. The survey data collected also answered two ancillary questions: How confident are students who have finished their field education that they have become competent practitioners of essential ministry skills? How confident are students that they have received sufficient mentored field education in order for them to become competent practitioners of essential ministry skills?

Since there was no relevant instrument available, a new survey for measuring ministerial self-efficacy and field education was created. The survey was emailed to 533 Master of Divinity students who had completed their field education requirements at the seven targeted seminaries; and 102 students responded (a response rate of 19%). The results were analyzed using multiple regression and descriptive statistics. A mathematically significant relationship was identified between mentored practice during field education and self-efficacy after controlling for the effects of prior skill level. This chapter includes a discussion of the results obtained this study, its practical implications for seminaries and churches, the limitations of this study, and recommendations for future research.

### **The Effect of Field Education on Professional Self-Efficacy**

This study was conducted in part to address the lack of self-efficacy research in the area of professional field education. Self-efficacy is increasingly being applied to education in various professional disciplines (Bandura, 2006; Can, 2010; Holden, Lent, Him & Hoffman, 2003;

Meenaghan, Anastas, & Metrey, 2002), but the role of field education in the development of self-efficacy in professional skills has not been researched until now.

**The sources of self-efficacy in field education.** Do the principal sources of self-efficacy operate the same way in field education as they do in other environments? Bandura (1977, 1997) identified four principal sources of efficacy beliefs, namely, mastery experiences, vicarious experiences (or social modeling), verbal persuasion, and psychological and affective states. Of the four, mastery experiences are “the most influential source of efficacy information because they provide the most authentic evidence of whether one can muster whatever it takes to succeed” (1997, p. 80). Vicarious experiences are the second most influential, followed by verbal persuasion. Ideally, professional field education provides what self-efficacy requires. Students are given abundant opportunity to practice professional skills in a safe and supervised environment, to observe the best practices of competent professionals in the field, and to receive from their supervisors and others direct instruction and feedback. Because of a lack of research, however, the development of self-efficacy in professional field education is not well understood. No study had investigated whether the principal sources of self-efficacy operate the same way in a professional field education environment.

This study found that practice (corresponding to Bandura’s mastery experiences) was indeed the most significant predictor of self-efficacy in ministerial students. Practice correlated with self-efficacy at a level of .388. Bandura’s research would have predicted that observation (corresponding to vicarious experiences) would correlate at the next highest level, followed by instruction and feedback (corresponding to verbal persuasion). However, this study found that observation had the weakest correlation of the four at .261. Feedback and instruction were both more strongly correlated with self-efficacy at .352 and .298, respectively. Similarly, in the

regression analysis, observation was the least significant term with  $p=.908$ . Both feedback and instruction, although still not significant at the .05 threshold, came in much stronger at .131 and .156, respectively. This unexpected result is illustrated in Figure 10.

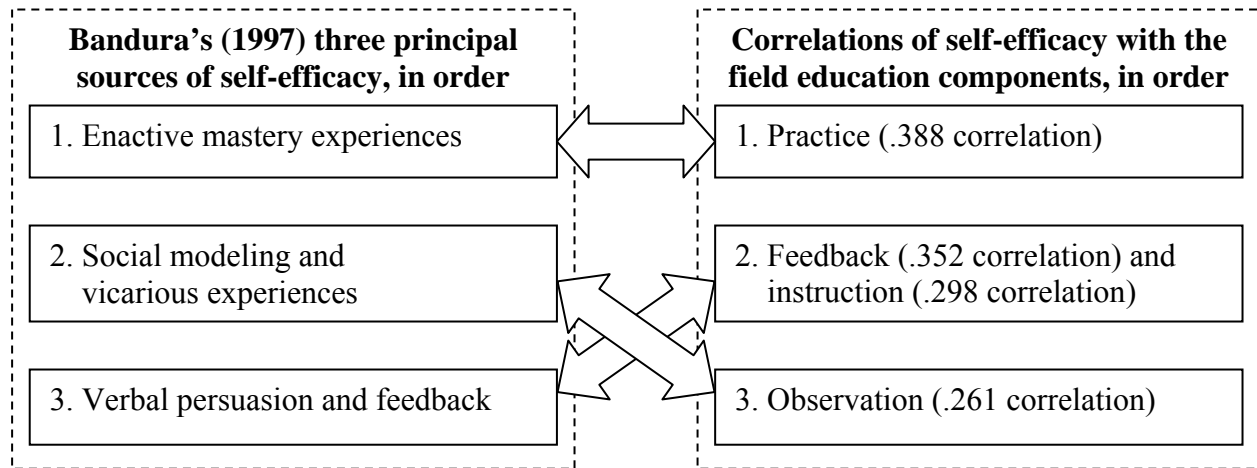


Figure 10. Principal sources of efficacy compared to efficacy correlations in this study.

Although this study found that observation had the weakest correlation with self-efficacy, some caution may be in order before drawing a conclusion. Only 25% of participants reported receiving “enough observation” of a competent professional during practice in order for them to become competent in a particular skill. It is certainly possible that, had participants received more and higher quality observational experiences, the results of this study may have fallen more in line with Bandura’s findings. On the other hand, participants rated observation the highest among the four components of their ministerial field education. Just 20% of participants reported receiving enough instruction, 23% enough practice, and 19% enough feedback. Does this unexpected result indicate that observation operates differently in ministerial field education, and perhaps in other professional disciplines as well? More research is needed to clarify the role of observation in developing self-efficacy in field experiences. Further reflections on this matter will be made later in the chapter.

Practice and feedback, which were more strongly correlated with self-efficacy in this study, play a critical role in the learning process. Instructional designers have modeled the process of instruction as a set of external events designed to support internal learning (Gagné, 1970, 1985); and in this process, practice and feedback are essential components. In Gagné's seminal *The Conditions of Learning* (1970), he enumerated nine events of instruction in which the fifth is eliciting the performance (i.e. practice) and the sixth is providing feedback. Dick, Carey, and Carey (2005) summarize many years of research in instructional design by saying, "One of the most powerful components in the learning process is that of practice with feedback" (p. 194). This study similarly highlights the importance of practice and feedback in developing *confident* as well as competent practitioners.

**The general effectiveness of professional field education on self-efficacy.** How much does field education contribute to students' self-efficacy in their profession's skills? Field education is an essential component of all professional curricula; and it is believed to serve several important purposes: to develop professional skills, to provide for initiation into and socialization in a community of practice, to provide motivation for classroom learning, and to provide an authentic context for skill development, problem solving, and assessment (Hafler, 2011). Field education provides for cognitive apprenticeships in which, with the support of master practitioners, students work in their zone of proximal development, receive immediate feedback, and reflect on underlying principles of practice (Vygotsky, 1978). Situated, contextual learning in this model has the potential to increase retention, transfer, and motivation when students are given authentic tasks (Collins et al., 1991) and work in a context similar to that of expert practitioners (Brown et al., 1989; Perkins & Salomon, 1996). It facilitates authentic assessment and can support higher-level reasoning processes (Brill et al., 2001). Gagné, Briggs,

and Wager (1992) have concluded, “The existence of the meaningful context in which the material has been learned appears to offer the best assurance that the information can be reinstated” (p. 198). In all professional education curricula, academic instruction is complemented with “field work or similar opportunities” (Banta, 2001, p. 10). Field education would therefore be expected to have a major effect on students’ efficacy beliefs with respect to their professional skills. However, no study has yet investigated how much of a contribution field education makes to students’ self-efficacy.

This is the first study to attempt to quantify field education’s contribution to self-efficacy in a professional discipline. This study has found that field education in the Christian ministry does have a statistically significant effect on students’ self-efficacy at several evangelical seminaries in the United States. Controlling for prior skill level, field education accounted for 7.9% of the total variance in efficacy beliefs among students relative to the 11 ministerial skills.

Perhaps this is not surprising given the low number of participants who reported that they had received a sufficient amount of mentored field education for them to become competent professionals. Field education is also only one part of a curriculum designed to prepare professionals for practice. Does field education have a smaller role to play in self-efficacy in professional skills? Is 7.9% typical, or does it vary according to unknown factors? Further self-efficacy research in other professional disciplines may help to determine the relative importance of field education in developing self-efficacy.

### **The Effectiveness of the Mentored Ministerial Field Education Model**

Another gap in the literature that this study was designed to help address is the lack of empirical research in the four-fold model of mentored field education in the Christian ministry (Witmer, 2008). How well does the current model work in developing students’ self-efficacy?

Only in the discipline of counseling have researchers tested the effectiveness of their professional educational model using self-efficacy (Fong et al., 1997; Heppner et al., 1998; Leach et al., 1997; Lent et al., 2003). This effort proved to be successful and led to a revision and improvement of the *Integrated Development Model* of counselor development. As previously described, ministerial field educators believe that students who receive a sufficient amount of instruction, observation, practice, and feedback in each ministry skill by an experienced practitioner paying adequate attention to each of these components will themselves become fully competent and confident practitioners. However, this is the first study to test this model empirically.

In the regression analysis, practice was the only component of mentored ministerial field education that significantly explained self-efficacy. After taking into account the effect of practice (and prior skill level) on self-efficacy, both instruction ( $B=.067$ ,  $p=.156$ ) and feedback ( $B=.079$ ,  $p=.131$ ) failed to reach the threshold of  $p<.05$ ; and the effect of observation on efficacy was almost completely discounted ( $B=.005$ ,  $p=.908$ ).

This result may be partially explained by observing the high correlations among the four components of mentoring. Practice correlated with instruction at a level of .682, with observation at .654, and with feedback at .820. Multiple regression analysis is useful for producing the most efficient model, discounting the effect of one variable when its effect can largely be explained by another variable. Regression variables with a high degree of collinearity are regarded as redundant and removed from the equation as being less statistically significant to the model (Wooldridge, 2009). However, since practice only correlated with both instruction and observation in the medium range of .6 to .7, it is clear that covariance can only provide part of the explanation of why these latter variables were eliminated from the regression equation.



Independent of other variables, instruction and observation only correlated with self-efficacy at a level of .298 and .261, respectively. Pearson correlation values less than .3 are commonly judged to be small (Cohen, 1988). Practice and feedback both had a somewhat higher correlation with self-efficacy, at .388 and .352, respectively.

Another possible interpretation of these results is that field education is only a part of the “total curriculum” of the seminary (Kelly, 2004, p. 4) and a small fraction of the life experience of the students. Many students of divinity have been church members for years. During that time, they have been observing a variety ministry skills being performed by various people. Students did report receiving “enough” observation more frequently than they did for instruction, practice, and feedback, particularly in skills such as “preaching” (43%) and “conducting worship / liturgy” (44%). Even if students had little time during field education to observe professionals, they may have had plenty of other opportunities outside of their field educational experience. Further research is necessary to determine whether this might be part of the reason why the amount of observation students received during field education had a weak correlation with self-efficacy.

A similar observation can be made about instruction in order to explain its lower correlation. Seminaries typically have whole classes dedicated to instruction in preaching and teaching, evangelizing, counseling, and other professional skills. Seminary classes such as these offer abundant instruction, though they offer very limited opportunities for practice and feedback. Even if students do not receive sufficient instruction during their field education, they may be receiving it elsewhere in the curriculum. More research may be able to determine if this is partly why instruction during field education has a weak correlation with self-efficacy.

Students often have very limited opportunities for practice and feedback outside of their

field education; and perhaps this is why these two components were stronger predictors of self-efficacy. Further research may determine how the total curriculum in ministerial education supports the development of self-efficacy through its various components.

### **The Effectiveness of the Field Education**

In the *Handbook of Accreditation*, all Master of Divinity programs accredited by ATS must include “supervised experiences in ministry ... of sufficient duration and intensity to provide opportunity to gain expertise in the tasks of ministerial leadership within both the congregation and the broader public context” (2010, p. 111). Are students’ supervised experiences sufficient for them to become competent professionals, from their perspective? This study was designed in part to answer that question and to help fill this gap in the literature.

**The insufficiency of the field education.** Across all of the professional skills, only 20% of participants said they had received enough instruction, 25% enough observation of a competent professional at work, 23% enough practice, and 19% enough feedback for them to become competent professionals themselves. This is not as disappointing as Fuller Seminary’s (1991) survey in which only 10% of ministers reported receiving adequate training in seminary to prepare for the demands of the ministry (although Fuller surveyed graduates who were already working and experiencing all the responsibilities difficulties of full-time ministry; this is a survey of seminary students). Nevertheless, by any standard of comparison, these numbers are still low.

Several of the individual results are cause for particular concern among field educators. Only 7% of participants reported having enough supervised practice in counseling and only 12% in evangelism (note that the mean self-efficacy was only 6.89 for counseling and 7.30 for evangelism, on the efficacy scale from 0 to 10). Considering the importance of these skills to the Christian ministry, seminaries may need to make substantial changes to their field education

curriculum. Instructional designers have proposed a variety of systematic approaches to curriculum development which may be useful in making revisions. Instructional systems design “includes the steps of analyzing, designing, developing, implementing, and evaluating instruction,” steps which are often abbreviated as ADDIE. ADDIE has become the “generic ID model” (Gustafson & Branch, 2002, p. xiv), although other steps or components may also be included. To describe each of these five briefly, the *analysis* phase deals with the instructional goal(s), the subordinate skills and entry-behaviors, and the learners and their contexts. The *design* phase deals with performance objectives, assessment instruments, and instructional strategies. The *development* phase is where content is produced. *Implementation* deals with procedures for training teachers and learners. *Evaluation* includes feedback both formative and summative, and connects to each of the previous four phases. In addition, the systems approach to design is outcome-based, “a systematic process in which every component is crucial to successful learning, [including] the instructor, learners, materials, instructional activities, delivery system, and learning and performance environment, [which] interact with each other and work together to bring about the desired student learning outcomes” (Dick, Carey, & Carey, 2005, p. 1). Gustafson and Branch (2002) evaluate several practical systems-oriented models including the popular Dick, Carey, and Carey model, which would be very suitable for making revisions to a field education curriculum.

**The unevenness of the field education.** Perhaps a more disturbing finding from this study is that a large number of participants reported having no practice or feedback in various skills. While the vast majority of participants gained some experience during their field education in teaching (94%) and leading others (92%), 27% of them had no experience in the practice of counseling; and even if they had some practice, 37% of participants received no

feedback. Similarly, 38% of participants had no practice and 40% received no feedback in evangelism; and 23% of participants had no practice “administering / managing a congregation” and 28% received no feedback in this either.

Taking all of the ministry skills together, 19% of participants received “enough” feedback on their performance of a skill and 19% received “none.” The remaining 62% of responses were fairly evenly distributed between these extremes, as is evident by the histogram in Figure 8. Similarly, 23% of participants received “enough” practice in a skill, and 14% received “none,” although the mean practice score (3.88) was somewhat higher than the mean feedback score (3.49).

These averages, however, hide the unevenness of the underlying data. The higher standard deviation values reported in the previous chapter indicate how much variation there was among the mentoring levels in various skills. Individual students reported receiving a thorough education in one skill and none in another. The same student reported high confidence in one skill and low confidence in the next. For example, the data begins with the student who submitted the first survey reporting the first five levels of self-efficacy as follows: preaching – “7,” teaching – “9,” evangelizing – “6,” leading in worship – “9,” and counseling – “4.” This is not only how the data begins but how it continues. The data suggest that many seminary students are receiving a somewhat uneven field education, being mentored in one skill but not the next, and becoming confident in one skill but not in the next.

Dick, Carey, and Carey (2005) have offered some pragmatic reasons that the systems approach previously described is well suited to address this unevenness. First, a systems approach focuses on success. It starts with what learners need to be able to know and to do in a successful outcome, and this streamlines the whole design process. Second, a systems approach

focuses on the means of success, emphasizing using the right instructional strategy targeted to achieve the learning outcome. This has been shown to increase both the efficiency and effectiveness of the educational process. Third, the process is empirical and replicable. It is an evidence-based approach in which “data are collected to determine what part of the instruction is not working, and it is revised until it does work” (p. 9). Gustafson and Branch (2002) also emphasize that a systems approach is practically useful for managing the whole process, allowing designers to communicate, delegate, and integrate their efforts.

These results highlight the importance of incorporating students’ perspectives into needs assessment for ministerial field education. Needs assessment has long been a cornerstone of instructional design (Knirk & Gustafson, 1986; Suarez, 1991). Decisions must be informed by data, and recommendations are the result of analysis. Rossett (2001) stresses the involvement of “key people and bringing in the appropriate data” (p. 143) when performing training needs analysis; and this principle is illustrated by the findings of this study. The students are key people, and they are reporting a perspective on their field education that had not been previously been identified in the literature. As previously mentioned, half of all ATS-accredited Master of Divinity programs are using the PoM instrument (Myers, 2006), which does not collect data from students for the field education component. There appears to be an issue of validity in this component, since the PoM is reporting “uniformly high” field education scores (Dash, Dukes, & Smith, 2005, p. 69), with nearly perfect inter-rater reliability among pastors, field supervisors, and lay members (Lonsway, 2007). This study has shown that students have an important and perhaps overlooked contribution to make in the assessment of their professional skills and the evaluation of their field education programs. Although this study used a survey to gather data from students, Rossett (2001) suggests a variety of tools which may also be used to gather

information, including interviews, observation, and focus groups.

**The lower contribution of the field education to self-efficacy.** One of the more surprising results from this study is that field education only accounts for 7.9% of participants' self-efficacy in the ministerial skills. Given the importance of authentic learning environments and situated learning experiences in supporting learning (Banta, 2001; Brown et al., 1989; Goldman et al., 2005; Hafler, 2011; Lave & Wegner, 1991; Pellegrino, 2004; Richey, Klein, & Tracey, 2010), this level of attribution seems low and suggests that students may not be realizing all of the potential benefits of field education. This conclusion is also supported by the uneven self-efficacy levels previously discussed and the fact that many students reported receiving no mentored practice in various skills.

### **The Effectiveness of the Ministerial Self-Efficacy Survey**

One of the gaps in the literature addressed by this study is that no self-efficacy instrument or survey had been developed for skills in Christian ministry. Many other professions have developed such instruments; and self-efficacy has proven to be a strong predictor of actual performance across a wide variety of behaviors (Holden, 1991; Holden, Moncher, Schinke, & Barker, 1990; O'Leary, 1985; Strecher, DeVellis, Becker, & Rosenstock, 1986), as well as an aid to research in professional education (Leach, Stoltenberg, McNeill, & Eichenfield, 1997; Lent, Him, & Hoffman, 2003).

For this study, an eleven-item self-efficacy survey was developed by following the directions of Bandura's *Guide for Constructing Self-Efficacy Scales* (2006). These eleven items corresponded to skills previously identified through three large surveys conducted by ATS over a 30 year period for their widely-used Profiles of Ministry instrument. The result of this work is called the Christian Ministry Self-Efficacy scale (see Appendix A). The self-efficacy survey developed for this study functioned very well in practice. The surveys were 98% complete, with

participants having left only 2% of the items blank. One student offered a criticism that the survey was too long. This study has worked toward the development of a useful instrument; and this survey is now offered in the hope that research in ministerial self-efficacy might advance. The next steps for the survey include research to determine its validity and reliability.

### **Implications for Practice**

This research was conducted in part to help inform both seminaries and churches about the kind of educational experiences their students are receiving during their field education, with a view to improving this part of ministers' development. As previously mentioned, the fact that a high proportion of participants reported receiving an insufficient amount of mentored education (and no mentoring in various essential skills), implies that schools and churches may need to improve the consistency of students' field educational experiences. This section presents some additional implications of this research for the practice of field education in both seminaries and churches.

**Practical implications for seminaries.** The first recommendation is that seminaries incorporate students' perspectives into the learning needs assessment process (Dick, Carey, & Carey, 2005), perhaps through a survey like the one developed for this study. Burton and Merrill (1991) have defined needs assessment as "the process of determining goals, measuring needs, and establishing priorities for action" (p. 35). In general, a need is "a discrepancy or gap between the way things 'ought to be' and the way they 'are'" (p. 21). This study has brought to light a discrepancy that seminaries should further investigate and address, namely, that many students report receiving an uneven field education with inadequate attention being paid by their mentors to the development of essential ministerial skills. Analytical tools are often required to identify problems and develop the most appropriate solutions (Dick & Wager, 1995); and the

survey developed for this study may prove to be a useful tool for this analysis.

A second recommendation concerns the development of a more structured and supported field education curriculum. After further analysis, schools may have to revisit their “selection and organization of teaching and learning experiences; assessment of students’ performance; evaluation of the curriculum; and concordance among these components” for field education (Hafler, 2011, p. 7). The recommended instructional systems design approach to revising the curriculum was discussed earlier in this chapter. Seminaries should also note that Gagné, Briggs, and Wager (1992) discuss several instructional strategies and principles specifically for the “intellectual skills” domain (p. 53). For example, when teaching higher-order problem solving skills, learners should have opportunities to practice applying and combining their skills in situations which are “formally similar” but “physically different” (p. 65).

There are special challenges with the implementation of a field education curriculum, since the education is primarily conducted by off-campus mentors. Are they being adequately trained and supported with scaffolding and mentoring guides (Collins, Brown, & Holum, 1991; Herrington & Oliver, 2000)? Are they being properly oriented to the structure and scope of the field education curriculum and made aware that they are expected to mentor students in the full range of professional skills? A survey like the one developed for this study may help in gap analysis (Rossett, 2001).

Jencks and Riesman (1968) have warned professional schools against a tendency to pay the most attention to classroom education, with the result that “those who educate future professionals ... take a more academic and less practical view of what students need to know” (p. 252). Schools in general have often prioritized knowing over doing (Resnick, 1987; Cole 1990). Have ministerial education programs given more attention to developing their classroom



curricula than their field education curricula? Could this in part explain the unevenness of the results and the lower attribution of field education in developing student efficacy beliefs, as determined in this study? The second recommendation is that following the analysis previously described, schools reevaluate the design, development, and implementation of their field education curricula (Gustafson & Branch, 2002), with special attention to the education and support of off-campus mentors.

The third recommendation concerns student assessment and program evaluation. Reeves (2006) succinctly distinguishes assessment from evaluation in this way:

Although the terms assessment and evaluation are commonly used interchangeably, they have two distinct meanings. Assessment is defined as the activity of measuring student learning and other human characteristics such as aptitude whereas evaluation is focused on judging the effectiveness and worth of educational programmes, practices, and products. It may help to think that people are assessed and things are evaluated. (p. 305)

Learner analysis frequently involves the assessment of students using a pretest “to determine whether they have previously mastered some or all of the skills that are to be included in the instruction. ... Perhaps only a review or a reminder is needed for part of the skills, while time-consuming, direct instruction with examples and rehearsal is required for others” (Dick, Carey, & Carey, 2005, p. 147). Formative assessment is often used during the learning process to provide students and teachers with important feedback on how the process is progressing (Elwood & Klenowski, 2002). There is substantial evidence that unless a skill is being assessed, it is not being learned (Bain, 2004). Assessment is an important component of effective courses and programs, though it is too often neglected or out of alignment with the rest of the curriculum (Reeves & Hedberg, 2003). Gagné and Glaser (1987) have described strategies to match

assessments to particular domains of learning; and Bruner (1986) has provided guidance for conducting assessments in the context of mentored instruction.

Systems-oriented models of instructional design are particularly well suited for developing well-aligned assessments. For example, in the previously mentioned model of Dick, Carey, and Carey (2005), as soon as “performance objectives” are written, the next step is to “develop assessment instruments” (p. 6). Instructional design models such as this can help direct the design of a curriculum that identifies, develops, and implements a series of goal-aligned assessments that track progress toward student competence in the professional skills (Dick, Carey, & Carey, 2005; Tyler, Gagné, & Scriven, 1967, Gustafson & Branch, 2002; Seel & Dijkstra, 2004).

Mentors may not be aware of the specific areas in which each individual student needs to grow. Field educators in the seminary can pretest students on their proficiency in the various skills immediately before they begin their field assignments (Dick, 1986). The results of the pretest can inform the mentors conducting the field education off campus about the specific needs of each student. A pretest in self-efficacy can be useful, with the understanding that the students who indicate on their survey that they have had limited experience may lack sufficient “information to accurately rate their pre-program and program-related abilities” (Nimon, Zigarmi, & Allen, 2011, p. 22), and that inexperienced students may tend toward overconfidence (Bandura, 1997; Bolton, 2011; Cantrell, 2003; Drennan, 2012; Drennan & Hyde, 2008; Holden, Cuzzi, Rutter, Rosenberg, & Chernack, 1996; Holden, Cuzzi, Rutter, Chernack, & Rosenberg, 1997; Holden, Anastas, & Meenaghan, 2003; Sullivan & Haley, 2009; Taylor, 1989).

A survey can also be used as part of the “on-going evaluation” of the effectiveness of a school’s field education program (Harlen, 2007, p. 58). Dick (2002) stresses the role that

formative evaluation has in ensuring effective instruction: “The evaluation processes ... should focus on the objectives that have been stated for the instruction. ... Instruction for objectives for which assessments indicate low performance should be reviewed and revised” (p. 147). For program evaluation purposes, instructional designers have often used questionnaires and posttests (Dick, Carey & Carey, 2005), which are roughly equivalent to Kirkpatrick’s level 1 and 2 assessments (Kirkpatrick, 1996; Kirkpatrick & Kirkpatrick, 2007). Data collected through these means can help to identify areas for improvement in the curriculum (Dick, 2002). A survey like the one developed for this study can be used to help identify gaps in students’ learning experiences, or at least they can be the basis for a regular discussion of whether students are receiving an adequate amount of instruction, observation, practice, and feedback in the various skills.

**Practical implications for churches.** This research has been conducted in part to help inform churches of the quality of field education they are providing, and to help them understand the educational needs of the students whose total education they are overseeing. Churches, presbyteries, diocese and other church bodies often officially take students under care while they are pursuing their degrees in divinity. In so doing, these church bodies commit themselves to a measure of oversight and responsibility for students’ preparation for the ministry. For example, the *Manual of Procedure* of First Presbytery in the Associate Reformed Presbyterian Church describes the Presbytery’s responsibility to students under its care:

[The Presbytery] shall appoint a Minister-Sponsor for the students under care of the Presbytery, who shall keep in touch with the students. ... The Minister-Sponsor should discuss with the student of theology the student’s progress, problems, needs, plans, and any other matters which could either help or hinder the student’s preparation to be a

minister of the gospel. ... The Minister-Sponsor will present a report in writing to the Minister and His Work Committee at each regular Spring Meeting of First Presbytery. ... [Presbytery] shall cooperate with the Seminary's Director of Field Work in seeking field work for the students during the summer months. (First Presbytery, 2011, p. 14)

A survey like the one developed for this study may be useful to presbyteries and the various other church bodies as they seek to evaluate their students' educational progress and to identify particular areas for growth (Angelo & Cross, 1993).

Such a survey can also be useful for evaluating the strengths and weakness of field education sites. Some sites will naturally be better than others in developing students' confidence and competence in certain skills. If one field site cannot provide students with the full range of educational experiences required to develop the 11 ministry skills, churches may need to work together and adopt the clinical rotation approach used by medical schools (Kern, 2009), providing a variety of sites and moving students from place to place so that they may receive the full range of educational experiences necessary.

Finally, a survey like the one used in this study may be useful in promoting closer cooperation between churches and seminaries. Clearly, field education is an area where both must work together to make improvements, and the results of this survey can help make the issues clearer to both sides. Harris (2003) has suggested that churches appoint a "Ministry Advisory Board of informed laypeople and pastors" to conduct surveys and to "recommend curricular, pedagogical, and total experience changes" to seminaries (p. 134). Dash, Dukes, and Smith (2005) similarly encourage theological schools to pursue a closer working relationship with churches in developing students' practical ministry skills since an increasingly high percentage of faculty have "no professional experience" in Christian ministry (p. 71).

“Theological schools, and especially the faculty, will only be able to accomplish their mission if they work closely with church agencies in the formation of curriculum and in the actual process of pastoral formation” (p. 73). For program accreditation, ATS requires that schools conduct a thorough ongoing program evaluation and continually implement changes based upon the results. There is therefore plenty of opportunity for churches and other church bodies to participate in the “assessment loop” process and help improve ministerial field education (Myers, 2006, p. 7). The models and strategies of instructional design have much to offer for the development of a curriculum that supports effective field education.

### **The Limitations of the Study and Areas for Future Research**

**The small number of more homogenous research sites.** This self-efficacy study was the first of its kind in ministerial field education, and it was designed and conducted with the hope of making a humble beginning for empirical research in ministerial self-efficacy. The most obvious limitation of this research is the relatively small number of schools under study. Only seven evangelical seminaries were selected from among the 261 schools accredited by ATS. Although the sites selected for this study are perhaps in some ways representative of a number of evangelical seminaries, these seven sites were chosen out of convenience. The findings in this study are therefore not statistically generalizable to other schools and students. Educators in similar evangelical and reformed institutions may cautiously apply these results in their own contexts through a process of naturalistic rather than statistical generalization (Stake, 1995). There is still need to conduct ministerial self-efficacy research on a much wider scale. Would the results be the same in schools that had other theological and denominational commitments?

The self-efficacy survey in this study was developed in the hope that it would be useful for future field educational research in a variety of settings; but in this study, the survey was

tested only in evangelical seminaries. It was not customized in any way for these particular research sites. It was designed rather to be useful to every school accredited by ATS. Any school that adopts an approach to field education similar to the one ATS requires should find the survey useful. However, given the relative homogeneity of the schools under study, future researchers may need to pilot test the survey before using it in other contexts.

**The untested reliability and validity of the survey.** The survey for this study was developed following the pattern and specific instructions of Bandura (2006) and using the language and constructs of ATS (2010). However, neither the validity nor the reliability of this survey has been tested. McMillan (2011) defines validity as “an overall evaluation of the extent to which theory and empirical evidence support interpretations that are implied in given uses of the scores” (p. 144); and he defines reliability as “the extent to which participant and/or rater scores are free from error” (p. 149). Reliability is necessary for validity, and both are important for conducting and evaluating educational research. This study has worked toward the development of a useful instrument, and the next steps include testing and validation.

**The lower scores for the four mentoring components.** One of the limitations of this study of self-efficacy is that most of the participants reported receiving an insufficient education. This would suggest caution in interpreting the unexpected results. For example, of the four components of mentoring measured in this study, observation had the weakest correlation with self-efficacy; whereas Bandura (1997) had determined that vicarious experience and social modeling is the strongest contributor to self-efficacy next to mastery experiences. It is possible that this study simply illustrates the effect of an insufficient education on self-efficacy. Perhaps if participants received a higher level of mentored field education, the findings may have been more in line with Bandura’s research.

This limitation is also an opportunity for further research. Does observation during field education affect self-efficacy differently under certain circumstances? Do the other opportunities that students have to observe professionals in practice outside of field education play a more substantial role? Is observation perhaps a weaker support of self-efficacy in certain kinds of professional skills? Does the significance of observation decline precipitously when other aspects of field education are wanting, as was the case in this study? Is there an underlying hierarchy of mentoring components in which certain ones necessarily support others? These are questions for future research.

**The difference between field education and first work experiences.** Will students' perceptions of their field education change after they enter into full-time work? In Mark Chaves's research at the University of Arizona, "Four Key Findings from the National Congregations Study" (2001), he notes that most seminary graduates discover that their field education experience is very different from their first work experience. In particular, their duties as students are often far less demanding than what they experience when they graduate and are called to pastor their first churches. It seems that in many cases, field education has been designed for success. Chaves stressed that seminary students need to be provided with internship experiences that are similar to what they will experience upon graduation.

In the future, researchers may wish to conduct a follow up study, gathering similar data from graduates six months or a year out of seminary. Did they actually receive "enough" field education experience as they had previously thought? Were they overconfident in their professional skills before graduation? Such a study would help to determine the internal validity of seminary student self-efficacy measurements. It may also give a more realistic picture of how well ministerial field education prepares professionals for practice.

## Conclusion

This study has examined the relationship between mentored ministerial field education's four components and student efficacy beliefs in 11 professional skills; and it has sought to determine the extent to which students believe they have become competent practitioners and whether they have received sufficient mentored field education in order for them to do so. A new self-efficacy and field-education survey was developed, and 102 students from seven evangelical seminaries participated.

In the analysis, mentored practice during field education accounted for 7.9% of the variance in ministerial self-efficacy, after controlling for participants' prior skill levels (22.6%). However, the other three components of the mentored ministry field education model, observation, instruction, and feedback, were not significant predictors of self-efficacy in the regression analysis. These three components also showed weaker correlations with self-efficacy. Participants' self-efficacy in the various skills (on the scale from 0="I cannot do at all" to 10="Highly certain I can do") ranged from 6.89 in "doing pastoral counseling" to 8.98 in "using and interpreting Scripture," and there were other indications that participants had received a somewhat uneven field education in the skills of ministry. Only 23% of participants reported receiving sufficient practice and only 19% reported sufficient feedback for them to become competent professionals.

While high field ratings in ATS's Profiles of Ministry instrument have encouraged some to conclude that "seminary education is achieving some of its most cherished goals," and that their "graduates experienced growth in pastoral skills" (Dash, Dukes, & Smith, 2005, p. 69), the results of this survey present more of a mixed picture. By taking into account the perspectives of ministerial students, there appears to be an opportunity to improve the effectiveness of field



education; and toward that end, this study offers implications for future practice in both schools and churches, including the application of the models and strategies of instructional design for the revision of field education curricula. Specific suggestions were offered to address needs assessment, learner analysis, formative assessment, and program evaluation.

### References

- Aleshire, D. O., & Schuller, D. S. (2005). *Profiles of ministry advisor's manual* (rev. ed.). Pittsburgh, PA: self.
- Aleshire, D. O., Schuller, D. S., & Williams, D. L. (2005). *Profiles of ministry: Interpretive manual stage II*. Pittsburgh, PA: The Association of Theological Schools in the United States and Canada.
- Anderson, R. N., Greene, M. L., & Loewen, P. S. (1988). Relationships among teachers' and students' thinking skills, sense of efficacy, and student achievement. *Alberta Journal of Educational Research*, 34(2), 148-165.
- Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques*. San Francisco, CA: Jossey-Bass Publishers.
- Association of Theological Schools in United States and Canada. (2010). *Handbook of accreditation*. Pittsburgh, PA.
- Association of Theological Schools in United States and Canada. (2012). *Graduate student questionnaire*. Pittsburgh, PA: The Association of Theological Schools in the United States and Canada.
- Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard Univ Press.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122-147.
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, 4(3), 359-373.

- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Upper Saddle River, NJ: Prentice-Hall, Inc.
- Bandura, A. (1990). Reflections on notability determinants of competence. In R. J. Sternberg & J. E. Kolligian (Eds.), *Competence considered*. New Haven, CT: Yale University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. P. T. Urdan (Ed.), *Self-efficacy beliefs of adolescents* (Vol. 5, pp. 307-337). Greenwich, CT: Information Age Publishing.
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38(1), 9-44.
- Bandura, A., Adams, N. E., Hardy, A. B., & Howells, G. N. (1980). Tests of the generality of self-efficacy theory. *Cognitive Therapy and Research*, 4(1), 39-66.
- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development*, 72(1), 187-206.
- Bandura, A., & Cervone, D. (1986). Differential engagement of self-reactive influences in cognitive motivation. *Organizational Behavior and Human Decision Processes*, 38(1), 92-113.
- Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology*, 41(3), 586.
- Banta, T. W. (2001). Assessing competence in higher education. In C. A. Palomba & T. W. Banta (Eds.), *Assessing student competence in accredited disciplines: Pioneering*

- approaches to assessment in higher education* (pp. 1-12). Sterling, VA: Stylus Publishing, LLC.
- Bishop, R. M., & Bieschke, K. J. (1998). Applying social cognitive theory to interest in research among counseling psychology doctoral students: A path analysis. *Journal of Counseling Psychology, 45*(2), 182-188.
- Bodenhorn, N., & Skaggs, G. (2005). Development of the school counselor self-efficacy scale. *Measurement and Evaluation in Counseling and Development, 38*(1), 59-63.
- Bolton, K. M. (2011). *Effects of an online education program on self-efficacy and knowledge of the clinical teacher role*. Master of Science, Queen's University, Kingston, Ontario, Canada.
- Bong, M., & Clark, R. E. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist, 34*(3), 139-153.
- Bouffard-Bouchard, T. (1990). Influence of self-efficacy on performance in a cognitive task. *The Journal of Social Psychology, 130*(3), 353-363.
- Bouffard-Bouchard, T., Parent, S., & Larivée, S. (1991). Capacité cognitive, sentiment d'auto-efficacité et autorégulation. *European Journal of Psychology of Education, 5*(3), 355-364.
- Bradley, C., & Fiorini, J. (1999). Evaluation of counseling practicum: National study of programs accredited by CACREP. *Counselor Education and Supervision, 39*(2), 110-119.
- Brekke, M., Schuller, D., & Strommen, M. (1976). Readiness for ministry: Report on the research. *Theological Education, 13*(1), 22-30.
- Brill, J., Kim, B., & Galloway, C. (2001). Cognitive apprenticeships as an instructional model.

- Emerging perspectives on learning, teaching, and technology*. Retrieved from [http://projects.coe.uga.edu/epltt/index.php?title=Cognitive\\_Apprenticeship](http://projects.coe.uga.edu/epltt/index.php?title=Cognitive_Apprenticeship)
- Brown, I., & Inouye, D. K. (1978). Learned helplessness through modeling: The role of perceived similarity in competence. *Journal of Personality and Social Psychology, 36*(8), 900.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18*(1), 32.
- Bruner, J. S. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Burton, J. K., & Merrill, P. F. (1991). Needs assessment: Goals, needs, and priorities. In L. Briggs, K. L. Gustafson & M. Tillman (Eds.), *Instructional design: Principles and applications* (pp. 17-43). Englewood Cliffs, NJ: Educational Technology Publications, Inc.
- Can, G. (2010). Development of the elementary school counselor self-efficacy scale. *Procedia-Social and Behavioral Sciences, 9*, 1158-1161.
- Cantrell, P. (2003). Traditional vs. retrospective pretests for measuring science teaching efficacy beliefs in preservice teachers. *School Science and Mathematics, 103*(4), 177-185.
- Caprara, G. V., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G. M., Barbaranelli, C., & Bandura, A. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology, 100*(3), 525.
- Carroll, J. B. (1993). Theory to practice: Self-efficacy related to transfer of learning as an example of theory-based instructional design. *Journal of adult education, 22*(1), 37-43.
- Chaves, M. (2001, January). *Four key findings from the national congregational study*. Paper

- presented at the Theological School Programs for Strengthening Congregational Leadership, University of Arizona.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cole, N. (1990). Conceptions of educational achievement. *Educational Researcher*, 19(3), 2-7.
- Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6-11, 38-46.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications, Inc.
- Dash, M. I. N., Dukes, J., & Smith, G. T. (2005). Learning from the first years: Noteworthy conclusions from the parish experience of recent graduates of ATS schools. *Theological Education*, 40(2), 65-77.
- Davis, W. D., Fedor, D. B., Parsons, C. K., & Herold, D. M. (2000). The development of self-efficacy during aviation training. *Journal of Organizational Behavior*, 21(8), 857-871.
- Dick, W. (1986). The function of the pretest in the instructional design process. *Performance and Instruction*, 25(4), 6-7.
- Dick, W. (2002). Evaluation in instructional design: The impact of Kirkpatrick's four-level model. In R. Reiser & J. Dempsey (Eds.), *Trends and issues in instructional design and technology* (pp. 145-153). Upper Saddle River, NJ: Prentice Hall.
- Dick, W., Carey, L., & Carey, J. O. (2005). *The systematic design of instruction* (5th ed.). Pearson: New York, NY.
- Dick, W., & Wager, W. (1995). Preparing performance technologists: The role of a university. *Performance Improvement Quarterly*, 8(4), 34-42.

- DiIorio, C., & Price, M. E. (2001). Description and use of the neuroscience nursing self-efficacy scale. *Journal of Neuroscience Nursing, 33*(3), 130-135.
- Dittes, J. E. (1962). Research on clergymen: Factors influencing decisions for religious service and effectiveness in the vocation. *Religious Education, 57*, 141-165.
- Drennan, J. (2012). Masters in nursing degrees: An evaluation of management and leadership outcomes using a retrospective pre-test design. *Journal of Nursing Management, 20*, 102-112.
- Drennan, J., & Hyde, A. (2008). Controlling response shift bias: The use of the retrospective pre-test design in the evaluation of a master's programme. *Assessment & Evaluation in Higher Education, 33*(6), 699-709.
- Driscoll, M. P. (2005). *Psychology of learning for instruction* (3rd ed.). Boston: Allyn & Bacon.
- Elwood, J., & Klenowski, V. (2002). Creating communities of shared practice: The challenges of assessment use in learning and teaching. *Assessment & Evaluation in Higher Education, 27*(3), 243-256.
- Erdem, E., & Demirel, O. (2007). Teacher self-efficacy belief. *Social Behavior and Personality, 35*(5), 573-586.
- Etringer, B. D., Hillerbrand, E., & Claiborn, C. D. (1995). The transition from novice to expert counselor. *Counselor Education and Supervision, 35*(1), 4-17.
- Feltz, D. L., Chow, G. M., & Hepler, T. J. (2008). Path analysis of self-efficacy and diving performance revisited. *Journal of Sport & Exercise Psychology, 30*(3), 401-411.
- Finch, C. R., & Crunkilton, J. R. (1993). *Curriculum development in vocational and technical education*. Needham Heights, MA: Allyn and Bacon.
- First Presbytery of the Associate Reformed Presbyterian Church. (2011). *Manual of procedure*.

Greenville, SC: ARP Publications.

Fong, M. L., Borders, L. D., Ethington, C. A., & Pitts, J. H. (1997). Becoming a counselor: A longitudinal study of student cognitive development. *Counselor Education and Supervision, 37*(2), 100-114.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. (2011). *How to design and evaluate research in education* (8th ed.). New York: McGraw-Hill.

Fukuyama, Y. (1972). *The ministry in transition: A case study of theological education*. University Park, PA: Pennsylvania State University Press.

Fuller Institute of Church Growth. (1991). *1991 survey of pastors*. Pasadena, CA: Fuller Theological Seminary.

Gagné, R. M. (1970). *The conditions of learning*. New York, NY: Holt, Rinehart and Winston.

Gagné, R. M. (1985). *The conditions of learning* (4th ed.). New York, NY: Holt, Rinehart and Winston.

Gagné, R. M., Briggs, L. W., & Wager, W. (1992). *Principles of instructional design* (4th ed.). New York, NY: Harcourt Brace Jovanovich.

Gagné, R. M., & Glaser, R. (1987). Foundations in learning research. In R. M. Gagné (Ed.), *Instructional technology: Foundations* (pp. 49-84). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Goldman, S. R. (1999). *Technology for teaching and learning with understanding: A primer*. Boston: Houghton Mifflin Co.

Goldman, S. R., Lawless, K., Pellegrino, J. W., & Plants, R. (2005). Technology for teaching and learning with understanding. In J. M. Cooper (Ed.), *Classroom teaching skills* (pp. 185-234). Boston: Houghton Mifflin.



- Gottlieb, N. H., Mullen, P. D., & McAlister, A. L. (1987). Patients' substance abuse and the primary care physician: Patterns of practice. *Addictive Behaviors, 12*(1), 23-32.
- Grimm, N. (2008). Field education and vocational discernment. In G. M. Hillman (Ed.), *Preparing for ministry: A practical guide to theological field education* (pp. 9-12). Grand Rapids, MI: Kregel Academic & Professional.
- Gully, S. M., Incalcaterra, K. A., Joshi, A., & Beaubien, J. M. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and level of analysis as moderators of observed relationships. *Journal of Applied Psychology, 87*(5), 819-832.
- Guskey, T. R. (2003). Professional development that works: What makes professional development effective? *Phi Delta Kappan, 84*, 17-52.
- Gustafson, K. L., & Branch, R. (2002). Survey of instructional development models (4th ed.). Syracuse, NY: ERIC Clearinghouse on Information Resources, Syracuse University.
- Hafler, J. P. (2011). *Extraordinary learning in the workplace* (Vol. 6). New York: Springer Verlag Publications.
- Harlen, W. (2007). *Assessment of learning*. Thousand Oaks, CA: Sage Publications Ltd.
- Harris, I. B. (1993). New expectations for professional competence. In L. W. Curry, J. (Ed.), *Educating professionals: Responding to new expectations for competence and accountability* (pp. 17-52). San Francisco, CA: Jossey Bass.
- Harris, I. B. (2011). Conceptual perspectives and the formal curriculum. In J. P. Hafler (Ed.), *Extraordinary learning in the workplace* (pp. 3-16). Los Angeles, CA: Springer.
- Harris, J. (2003). Assessment of ministry preparation to increase understanding. *Theological Education, 39*(2), 117-136.
- Harvey, V., & McMurray, N. (1994). Self-efficacy: A means of identifying problems in nursing

- education and career progress. *International Journal of Nursing Studies*, 31(5), 471-485.
- Hatano, G., & Inagaki, K. (1991). Sharing cognition through collective comprehension activity. In L. B. Resnick, J. M. Levine & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 331-348). Washington, DC: American Psychological Association.
- Hechter, R. P. (2011). Changes in preservice elementary teachers' personal science teaching efficacy and science teaching outcome expectancies: The influence of context. *Journal of Science Teacher Education*, 22(2), 187-202.
- Henson, R. K. (2001). *Teacher self-efficacy: Substantive implications and measurement dilemmas*. Paper presented at the Annual Meeting of the Educational Research Exchange, College Station, TX.
- Heppner, M. J., Multon, K. D., Gysbers, N. C., Ellis, C. A., & Zook, C. E. (1998). The relationship of trainee self-efficacy to the process and outcome of career counseling. *Journal of Counseling Psychology*, 45, 393-402.
- Herrington, J., & Oliver, R. (2000). An instructional design framework for authentic learning environments. *Educational Technology Research and Development*, 48(3), 23-48.
- Hillman, G. M. (2008). Preface. In G. M. Hillman (Ed.), *Preparing for ministry: A practical guide to theological field education* (pp. 9-12). Grand Rapids, MI: Kregel Academic & Professional.
- Hoachlander, E. G. (1991). *Systems of performance standards and accountability for vocational education: Guidelines for development*. Macomb, IL: National Center for Research in Vocational Education.
- Holden, G. (1991). The relationship of self-efficacy appraisals to subsequent health related outcomes: A meta-analysis. *Social Work in Health Care*, 16, 53-93.

- Holden, G., Anastas, J., & Meenaghan, T. (2003). Determining attainment of the EPAS foundation program objectives: Evidence for the use of self-efficacy as an outcome. *Journal of Social Work Education, 39*(3), 425-442.
- Holden, G., Barker, K., Meenaghan, T., & Rosenberg, G. (1999). Research self-efficacy: A new possibility for educational outcomes assessment. *Journal of Social Work Education, 35*(3), 463-478.
- Holden, G., Cuzzi, L., Rutter, S., Chernack, P., & Rosenberg, G. (1997). The hospital social work self-efficacy scale: A replication. *Research on Social Work Practice, 7*(4), 490-499.
- Holden, G., Cuzzi, L., Rutter, S., Rosenberg, G., & Chernack, P. (1996). The hospital social work self-efficacy scale: Initial development. *Research on Social Work Practice, 6*(3), 353-365.
- Holden, G., Cuzzi, L., Spitzer, W., Rutter, S., Chernack, P., & Rosenberg, G. (1997). The hospital social work self-efficacy scale: A partial replication and extension. *Health & Social Work, 22*(4), 256-263.
- Holden, G., Meenaghan, T., Anastas, J., & Metrey, G. (2002). Outcomes of social work education: The case for social work self-efficacy. *Journal of Social Work Education, 38*(1), 115-134.
- Holden, G., Moncher, M. S., Schinke, S. P., & Barker, K. M. (1990). Self-efficacy of children and adolescents: A meta-analysis. *Psychological Reports, 66*(3), 1044-1046.
- Jencks, C., & Riesman, D. (1968). *The academic revolution*. New York: Doubleday.
- Joo, Y. J., Bong, M., & Choi, H. J. (2000). Self-efficacy for self-regulated learning, academic self-efficacy, and Internet self-efficacy in Web-based instruction. *Educational Technology Research and Development, 48*(2), 5-17.

- Kaufman, R. A. (1996). Visions, strategic planning, and quality—more than hype. *Educational Technology, 36*(5), 60-62.
- Kaufman, R. A., Rojas, A. M., & Mayer, H. (1993). *Needs assessment: A user's guide*. Englewood Cliffs, NJ: Educational Technology Publications.
- Kelly, A. V. (2004). *The curriculum: Theory and practice*. Thousand Oaks, CA: Sage Publications Ltd.
- Kern, D. E. (2009). *Curriculum development for medical education: A six-step approach*. Baltimore, MD: Johns Hopkins University Press.
- Kesner, R. (1995). Vocational discernment. In W. T. Pyle & M. A. Seals (Eds.), *Experiencing ministry supervision: A field-based approach* (pp. 33-48). Nashville, TN: Broadman & Holman.
- Kirkpatrick, D. (1996). *Enhancing training programs: The four levels*. San Francisco, CA: Berrett-Koehler.
- Kirkpatrick, D. L., & Kirkpatrick, J. D. (2007). *Implementing the four levels: A practical guide for effective evaluation of training programs*. San Francisco, CA: Berrett-Koehler.
- Kling, F. R. (1958). A study of testing as related to the ministry. *Religious Education, 53*(3), 243-248.
- Knirk, F. G., & Gustafson, K. L. (1985). *Instructional technology: A systematic approach to education*. Austin, TX: Holt, Rinehart, and Winston.
- Kutner, M. H., Nachtsheim, C. J., & Neter, J. (2004). *Applied linear regression models* (4th ed.). Chicago, IL: McGraw-Hill Irwin.
- Kyte, K. (2008). Covenant and goal development. In G. M. Hillman (Ed.), *Preparing for ministry: A practical guide to theological field education* (pp. 127-138). Grand Rapids,

MI: Kregel Academic & Professional.

Larson, L. M., & Daniels, J. A. (1998). Review of the counseling self-efficacy literature. *The Counseling Psychologist, 26*(2), 179-218.

Laschinger, H. K. S., & Tresolini, C. P. (1999). An exploratory study of nursing and medical students health promotion counselling self-efficacy. *Nurse Education Today, 19*(5), 408-418.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, U.K.: Cambridge University Press.

Leach, M. M., Stoltenberg, C. D., McNeill, B. W., & Eichenfield, G. A. (1997). Self-efficacy and counselor development: Testing the Integrated Developmental Model. *Counselor Education and Supervision, 37*, 115-124.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1986). Self-efficacy in the prediction of academic performance and perceived career options. *Journal of Counseling Psychology, 33*(3), 265-269.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1987). Comparison of three theoretically derived variables in predicting career and academic behavior: Self-efficacy, interest congruence, and consequence thinking. *Journal of Counseling Psychology, 34*(3), 293.

Lent, R. W., Hill, C. E., & Hoffman, M. A. (2003). Development and validation of the counselor activity self-efficacy scales. *Journal of Counseling Psychology, 50*, 97-108.

Lenzen, D. (1971). An "eductive" strategy for curriculum construction. In H. Blankertz (Ed.), *Curriculumforschung Strategien, Strukturierung, Konstruktion* (pp. 118-150). Essen, Germany: Nene Deutsche Schule Verlagsgesellschaft.

Lincoln, T. D. (2009). *The seminary experience: Conceptual worlds of first-career and second-*

- career seminarians*. Ph.D. Dissertation, University of Texas at Austin.
- Lonsway, F. A. (2006). The churches and the preparation of candidates for ministry. *Theological Education*, 41(1), 125-143.
- Lonsway, F. A. (2007). What's in an instrument? *Theological Education*, 42(2), 141-154.
- Malony, H. N. (1984). Ministerial effectiveness: A review of recent research. *Pastoral Psychology*, 33(2), 96-104.
- Matsui, T., Matsui, K., & Ohnishi, R. (1990). Mechanisms underlying math self-efficacy learning of college students. *Journal of Vocational Behavior*, 37(2), 225-238.
- Maurer, T. J., & Andrews, K. D. (2000). Traditional, Likert, and simplified measures of self-efficacy. *Educational and Psychological Measurement*, 60(6), 965-973.
- McGaghie, W. C. (1991). Professional competence evaluation. *Educational Researcher*, 20(1), 3.
- McMillan, J. H. (2011). *Educational research: Fundamentals for the consumer* (6th ed.). Boston, MA: Pearson.
- Menges, R. J. (1975). Assessing readiness for professional practice. *Review of Educational Research*, 45(2), 173-207.
- Midgley, C., Feldlaufer, H., & Eccles, J. S. (1989). Student/teacher relations and attitudes toward mathematics before and after the transition to junior high school. *Child Development*, 60(4), 981-992.
- Millerson, G. (1964). *The qualifying associations: A study in professionalization*. London: Routledge & Paul.
- Moore, W. P., & Esselman, M. E. (1992). *Teacher efficacy, empowerment, and a focused instructional climate: Does student achievement benefit?* Paper presented at the Annual Conference of the American Educational Research Association, San Francisco, CA.

- Moritz, S. E., Feltz, D. L., Fahrbach, K. R., & Mack, D. E. (2000). The relation of self-efficacy measures to sport performance: A meta-analytic review. *Research Quarterly for Exercise and Sport, 71*(3), 280-294.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology, 38*(1), 30.
- Murdock, T. B., Wendler, A. M., & Nilsson, J. E. (2005). Addiction counseling self-efficacy scale (ACSES): Development and initial validation. *Journal of Substance Abuse Treatment, 29*(1), 55-64.
- Murphy, C. A., & Kraft, L. A. (1993). Development and validation of the perinatal nursing self-efficacy scale. *Research and Theory for Nursing Practice, 7*(2), 95-106.
- Myers, W. R. (2006). *Closing the assessment loop: Nurturing healthy, on-going self-evaluation in theological schools* Chicago, IL: Chicago Theological Seminary dba Exploration Press.
- Nauss, A. (1994). Ministerial effectiveness in ten functions. *Review of Religious Research, 36*(1), 58-69.
- Nauss, A. (1996). Assessing ministerial effectiveness: A review of measures and their use. *Research in the Social Scientific Study of Religion, 7*, 221-252.
- Nesbitt, P. D. (1995). First and second-career clergy: Influences of age and gender on the career-stage paradigm. *Journal for the Scientific Study of Religion, 34*(2), 152-171.
- Newton, R. R., & Rudestam, K. E. (1999). *Your statistical consultant: Answers to your data analysis questions*. Thousand Oaks, CA: Sage Publications, Inc.
- Nimon, K., Zigarmi, D., & Allen, J. (2011). Measures of program effectiveness based on retrospective pretest data: Are all created equal? *American Journal of Evaluation, 32*(1),

8-28.

O'Leary, A. (1985). Self-efficacy and health. *Behaviour Research and Therapy*, 23(4), 437-451.

Pajares, F., & Johnson, M. J. (1994). Confidence and competence in writing: The role of self-efficacy, outcome expectancy, and apprehension. *Research in the Teaching of English*, 313-331.

Pajares, F., & Johnson, M. J. (1996). Self-efficacy beliefs and the writing performance of entering high school students. *Psychology in the Schools*, 33(2), 163-175.

Pajares, F., & Kranzler, J. (1995). Self-efficacy beliefs and general mental ability in mathematical problem-solving. *Contemporary Educational Psychology*, 20(4), 426-443.

Pajares, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of Educational Psychology*, 86(2), 193-203.

Pajares, F., & Miller, M. D. (1995). Mathematics self-efficacy and mathematics performances: The need for specificity of assessment. *Journal of Counseling Psychology*, 42(2), 190-198.

Pajares, F., & Valiante, G. (1997). Influence of self-efficacy on elementary students' writing. *The Journal of Educational Research*, 90(6), 353-360.

Palomba, C. A. (2001). Implementing effective assessment. In C. A. Palomba & T. W. Banta (Eds.), *Assessing student competence in accredited disciplines: Pioneering approaches to assessment in higher education*. Sterling, VA: Stylus Publishing, LLC.

Parry, S. B. (1996). Just what is a competency? (And why should you care?). *Training*, 6(35), 58-64.

Payne, D. (2008). Field education and theological reflection in an evangelical tradition. In G. M.



- Hillman (Ed.), *Preparing for ministry: A practical guide to theological field education* (pp. 55-72). Grand Rapids, MI: Kregel Academic & Professional.
- Pellegrino, J. W. (2004). *Complex learning environments: Connecting learning theory, instructional design, and technology*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Perkins, D. N., & Salomon, G. (1996). Learning transfer. In A. C. Tuijnman (Ed.), *International encyclopedia of adult education and training* (2nd ed., pp. 422-447). Tarrytown, NY: Pergamon Press.
- Plaza, C. M., Draugalis, J., Retterer, J., & Herrier, R. N. (2002). Curricular evaluation using self-efficacy measurements. *American Journal of Pharmaceutical Education*, 66(1), 51-54.
- Preston, R. H. (1976). The education of clergy and ministers. In J. D. Turner (Ed.), *Education for the professions*. Manchester: Manchester Univ Pr.
- Rea, L. M., & Parker, R. A. (2005). *Designing and conducting survey research* (3rd ed.). San Francisco, CA: Jossey-Bass Publishers.
- Reeves, T. C. (2000). Alternative assessment approaches for online learning environments in higher education. *Journal of Educational Computing Research*, 23(1), 101-111.
- Reeves, T. C. (2006). How do you know they are learning? The importance of alignment in higher education. *International Journal of Learning Technology*, 2(4), 294-309.
- Reeves, T. C., & Hedberg, J. G. (2003). *Interactive learning systems evaluation*. Englewood Cliffs, NJ: Educational Technology Publications.
- Relich, J. (1984). Learned helplessness in arithmetic: An attributional approach to increased self-efficacy and division skills. In B. Southwell, M. Cooper, J. Conroy & K. Collis (Eds.), *Proceedings of the eighth international conference for the psychology of mathematics*

- education* (pp. 487-503). Sydney, Australia: International Group for the Psychology of Mathematics Education.
- Resnick, L. B. (1987). Learning in school and out. *Educational Researcher*, 16(9), 13-20.
- Richey, R. C., Klein, J. D., & Tracey, M. W. (2010). *The instructional design knowledge base: Theory, research, and practice*. New York, NY: Routledge.
- Riggs, I. M., & Enochs, L. G. (1990). Toward the development of an elementary teacher's science teaching efficacy belief instrument. *Science Education*, 74(6), 625-637.
- Ross, J. A. (1992). Teacher efficacy and the effects of coaching on student achievement. *Canadian Journal of Education*, 17(1), 51-65.
- Rossett, A. (2001). Analysis for human performance technology. In H. D. Stolovitch & E. J. Keeps (Eds.), *Handbook of human performance technology* (2nd ed.). San Francisco: Josey-Bass/Pfeiffer.
- Russ-Eft, D., & Preskill, H. (2009). *Evaluation in organizations: A systematic approach to enhancing learning, performance, and change*. New York, NY: Basic Books.
- Saks, A. M. (1994). Moderating effects of self-efficacy for the relationship between training method and anxiety and stress reactions of newcomers. *Journal of Organizational Behavior*, 15(7), 639-654.
- Saks, A. M. (1995). Longitudinal field investigation of the moderating and mediating effects of self-efficacy on the relationship between training and newcomer adjustment. *Journal of Applied Psychology*, 80(2), 211-225.
- Savin-Baden, M. (2008). *A practical guide to problem-based learning online*. New York: Taylor & Francis.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York,

NY: Basic Books.

- Schunk, D. H. (1981). Modeling and attributional effects on children's achievement: A self-efficacy analysis. *Journal of Educational Psychology, 73*(1), 93-105.
- Schunk, D. H. (1982). Effects of effort attributional feedback on children's perceived self-efficacy and achievement. *Journal of Educational Psychology, 74*(4), 548-566.
- Schunk, D. H. (1983). Ability versus effort attributional feedback: Differential effects on self-efficacy and achievement. *Journal of Educational Psychology, 75*(6), 848-856.
- Schunk, D. H. (1983). Progress self-monitoring: Effects on children's self-efficacy and achievement. *The Journal of Experimental Educational, 51*(2), 89-93.
- Schunk, D. H. (1984). Sequential attributional feedback and children's achievement behaviors. *Journal of Educational Psychology, 76*(6), 1159-1169.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*(3-4), 207-231.
- Schunk, D. H., & Hanson, A. R. (1985). Peer models: Influence on children's self-efficacy and achievement. *Journal of Educational Psychology, 77*(3), 313-322.
- Schunk, D. H., & Zimmerman, B. J. (2003). Self-regulation and learning. In W. M. Reynolds (Ed.), *Handbook of psychology* (Vol. 7, pp. 58-78). Hoboken, NJ: John Wiley & Sons.
- Scriven, M. (1967). The methodology of evaluation. In R. W. Tyler, R. M. Gagné & M. Scriven (Eds.), *Perspectives of curriculum evaluation* (pp. 39-83). Chicago: Rand-McNally.
- Seals, M. A. (1995). Evaluation in the supervisory experience. In W. T. Pyle & M. A. Seals (Eds.), *Experiencing ministry supervision: A field-based approach* (pp. 33-48). Nashville, TN: Broadman & Holman.
- Seel, N. M. (2004). Curriculum development, instructional design, and information technology.

- In N. M. Seel & S. Dijkstra (Eds.), *Curriculum, plans, and processes in instructional design: International perspectives*. Mahwah, NJ: Lawrence Erlbaum.
- Seo, M., & Ilies, R. (2009). The role of self-efficacy, goal, and affect in dynamic motivational self-regulation. *Organizational Behavior and Human Decision Processes*, 109(2), 120-133.
- Shelton, S. H. (1990). Developing the construct of general self-efficacy. *Psychological Reports*, 66(3), 987-994.
- Shorter Oxford English dictionary*. (1935). Oxford: Oxford University Press.
- Shulman, L. S. (2004). Theory, practice, and the education of professionals. In L. S. W. Shulman, S.M. & P. Hutchings (Eds.), *The wisdom of practice: Essays on teaching, learning, and learning to teach*. San Francisco, CA: Jossey-Bass
- Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus*, 134(3), 52-59.
- Shulman, L. S. (2007). Response to comments: Practical wisdom in the service of professional practice. *Educational Researcher*, 36(9), 560.
- Skaalvik, E. M., & Skaalvik, S. (2009). Does school context matter? Relations with teacher burnout and job satisfaction. *Teaching and Teacher Education*, 25(3), 518-524.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124(2), 240-261.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications, Inc.
- Sternberg, R. J., & Kolligian, J. E. (1990). *Competence considered*. New Haven, CT: Yale University Press.
- Strecher, V. J., DeVellis, B. M. E., Becker, M. H., & Rosenstock, I. M. (1986). The role of self-efficacy in achieving health behavior change. *Health Education & Behavior*, 13(1), 73-

92.

- Suarez, T. M. (1991). Needs assessment studies. In C. A. Kridel (Ed.), *Encyclopedia of curriculum studies* (Vol. 2). Thousand Oaks, CA: Sage Publications, Inc.
- Sullivan, L. G., & Haley, K. J. (2009). Using a retrospective pretest to measure learning in professional development programs. *Community College Journal of Research and Practice*, 33(3-4), 346-362.
- Taylor, S. E. (1989). *Positive illusions: Creative self-deception and the healthy mind*. New York: Basic Books.
- Tennyson, R. D., & Barron, A. E. (1995). *Automating instructional design: computer-based development and delivery tools*. New York, NY: Springer Verlag.
- Tessmer, M., & Richey, R. C. (1997). The role of context in learning and instructional design. *Educational technology research and development*, 45(2), 85-115.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805.
- Tyler, R. W., Gagné, R. M., & Scriven, M. (1967). *Perspectives of curriculum evaluation*. Chicago: Rand-McNally.
- Veblen, T. (1918). *The higher learning in America: A memorandum on the conduct of universities by business men*. New York: BW Huebsch.
- Vygotsky, L. (1978). Interaction between learning and development. In M. Gauvain & M. Cole (Eds.), *Mind and society* (pp. 79-91). Cambridge, MA: Harvard University Press.
- Whitehead, A. N. (1920). *The concept of nature: Tarner lectures delivered in Trinity College, November, 1919*. Cambridge, U.K.: Cambridge University Press.
- Witmer, T. (2008). Field education and ministry skill competence. In G. M. Hillman Jr. (Ed.),

- Preparing for ministry: A practical guide to theological field education* (pp. 35-54).  
Grand Rapids, MI: Kregel Academic & Professional.
- Wood, R. E., & Locke, E. A. (1987). The relation of self-efficacy and grade goals to academic performance. *Educational and Psychological measurement*, 47(4), 1013-1024.
- Wooldridge, J. M. (2009). *Introductory econometrics: A modern approach* (4th ed.).  
Independence, KY: Cengage Learning.
- Woolfolk, A. E., Rosoff, B., & Hoy, W. K. (1990). Teachers' sense of efficacy and their beliefs about managing students. *Teaching and Teacher Education*, 6(2), 137-148.
- Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25(1), 82-91.
- Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31(4), 845-862.
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663-676.
- Zimmerman, B. J., & Kitsantas, A. (2005). Homework practices and academic achievement: The mediating role of self-efficacy and perceived responsibility beliefs. *Contemporary Educational Psychology*, 30(4), 397-417.

**Appendix A: Field Education Survey**

*All of the demographic information on this page is optional,  
and all information you provide in this survey will be kept strictly confidential.*

*Only the researchers will know your identity. To uphold your confidentiality, you will be assigned a numeric identifier. Please see the informed consent form for complete details.*

**Name:**

**Seminary / location:**

**Email address:**

**Age:**

**Gender:**

**Marital status:**

**Number of children:**

*Did you have any formal or informal ministry experience before entering seminary?*

<b>Ministry experience before enrolling in seminary</b>	<b>Number of years</b>





B. Next, we would like to know about your **field education experience** specifically. You can think of mentored field education as having four components:

- you receive **instruction** on how to perform certain skills from competent practitioner(s),
- you get to **observe** practitioner(s) demonstrating the competent performance of these skills,
- you get to **practice** these skills under the supervision of competent practitioner(s), and
- you receive useful **feedback** from practitioner(s) on your performance of these skills.

Use the following scale to evaluate whether you received enough instruction, observation, practice and feedback for you now to be a competent practitioner of each ministry skill:

1	2	3	4	5	6
I received <b>none</b>		I received <b>some</b>			I received <b>enough</b> for me to become a <b>competent</b> practitioner

	<i>Instruction</i>	<i>Observation</i>	<i>Practice</i>	<i>Feedback</i>
	I received <b>no instruction</b> in this skill.	I <b>observed no</b> demonstration of this skill.	I had <b>no</b> supervised <b>practice</b> in this skill.	I got <b>no feedback</b> about my performance of this.
	I received <b>some instruction</b> in this skill.	I <b>observed enough</b> demonstration of this skill.	I had <b>some</b> supervised <b>practice</b> in this skill.	I got <b>some feedback</b> about my performance of this.
	I received <b>enough instruction</b> in this skill.	I <b>observed enough</b> demonstration of this skill.	I had <b>enough</b> supervised <b>practice</b> in this skill.	I got <b>enough feedback</b> about my performance of this.
1. Preaching	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
2. Teaching	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
3. Evangelizing	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
4. Conducting worship / liturgy	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
5. Doing pastoral counseling	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
6. Leading others	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
7. Administering / managing a congregation	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
8. Giving spiritual direction	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
9. Relating social issues to faith	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
10. Thinking theologically	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
11. Using and interpreting Scripture	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6





**Appendix B: Email Soliciting Students to Participate in the Survey**

You are invited to participate in a research study designed to investigate how field education relates to seminary students' confidence in their ministerial skills. Your participation will contribute to research which may help to increase the quality and effectiveness of field education in the coming years.

This survey is open to all students enrolled in a Masters of Divinity program who have completed their field education / internship requirements. Participation is voluntary. Participating or not participating will not impact your grades in any way. Your name and all identifying information will be kept strictly confidential by the researcher, and data collected from you will never be associated with your name to ensure the utmost confidentiality.

The survey should take no longer than 15 minutes. Please consider being a part of this study. If you are willing to participate, you can complete the survey at this time. Thank you for your time and consideration!

Here is the online survey: <http://filebox.vt.edu/users/dev/public/survey.htm>

**Appendix C: Email Response Rate by School and Campus Location**

Seminary	Campus Location	Recipients	Respondents
Reformed Theological Seminary	Charlotte, NC	37	16
	Jackson, MS	54	4
	Orlando, FL	24	7
Gordon-Conwell Theological Seminary	Boston, MA	36	3
	Charlotte, NC	16	1
Erskine Theological Seminary	Due West, SC	34	19
Dallas Theological Seminary	Dallas, TX	214	17
Fuller Theological Seminary	Pasadena, CA	53	10
Reformed Presbyterian Theological Seminary	Pittsburgh, PA	45	10
Beeson Divinity School	Birmingham, AL	20	5
Not reported			10
Total		533	102

## **Appendix D: IRB Consent Form**

**Title of Project:** Self-efficacy and Ministerial Field Education

**Investigator(s):** Rev. David Vance, doctoral candidate  
Dr. Jennifer Brill, Associate Professor, Virginia Tech

### **I. Purpose of this Research/Project**

The purpose of this study is to examine the relationship between mentored ministerial field education and student efficacy beliefs in 11 skills, controlling for the students' prior level of skill upon entering the program, for students at several evangelical seminaries in the United States who have completed their field education.

### **II. Procedures**

In this survey we will ask questions about your field education and certain ministry skills. This survey should take no longer than 15 minutes to complete.

### **III. Risks**

There are no known risks associated with this study.

### **IV. Benefits**

This study has the potential of benefiting field education programs in five ways. First, the survey may provide seminaries with a simple and standard method of measuring students' level of confidence in essential skills, which can help schools to evaluate and improve the quality of their programs. Second, this study may help these seminaries to evaluate the quality of the students' field assignments, helping them to evaluate the effectiveness of various sites. Third, this study may help field educators to understand, by empirical evidence, the effects of sufficient and insufficient mentoring experiences upon their students, thus highlighting the importance of proper mentoring to ministerial education and identifying opportunities for improvement. Fourth, this study may empirically test the four components of the model of mentored field education, which may lead to an improved mentoring model. Lastly, this research has the potential to benefit other professional disciplines by contributing to the larger knowledge base on field education.

### **V. Extent of Anonymity and Confidentiality**

The information provided by you will remain confidential. Only the researchers will know the identity of the participants. To uphold confidentiality, each participant will immediately be assigned a numeric identifier. Paper copies of this survey will be stored under lock and key, or when applicable, data will be stored on the secure web server. It is possible that the Institutional Review Board (IRB) may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research. The only time confidentiality may be broken is if a participant is believed to be a threat to herself/himself or others, in which case the investigator will notify the appropriate authorities.

**VI. Compensation**

There will be no compensation for participating in this study. Any expenses accrued will be the responsibility of the subject and not that of the research project, research team, or Virginia Tech.

**VII. Freedom to Withdraw**

Participants are free to withdraw from a study at any time without penalty. Participants are free not to answer any questions that they choose without penalty. There may be circumstances under which the investigator may determine that a participant should not continue as a participant.

**VIII. Participant's Responsibilities**

I voluntarily agree to participate in this study. I have the following responsibilities: To respond to any and all questions honestly and fully.

**IX. Participant's Permission**

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent through completion of the survey.

Should I have any pertinent questions about this research, human subject protection questions or concerns, and whom to contact in the event of a research-related injury to the subject, I may contact:

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