

EARLY CAREER FACULTY DEVELOPMENT AT SELECTED MIDWESTERN  
LAND-GRANT COLLEGES OF AGRICULTURE AND RELATED SCIENCES

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In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy

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by  
LUCAS D. MAXWELL  
Dr. Anna L. Ball, Dissertation Supervisor

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The undersigned, appointed by the Dean of the Graduate School, have examined the dissertation entitled

EARLY CAREER FACULTY DEVELOPMENT AT SELECTED MIDWESTERN  
LAND-GRANT COLLEGES OF AGRICULTURE AND RELATED SCIENCES

presented by Lucas D. Maxwell,

a candidate for the degree of Doctor of Philosophy,

and hereby certify that, in their opinion, it is worthy of acceptance.

---

Anna L. Ball, PhD  
Associate Professor and Director of Undergraduate Studies

---

Bryan L. Garton, PhD  
Professor and Associate Dean

---

Robert Terry, Jr., PhD  
Professor and Chair

---

Robert M. Torres, PhD  
Professor and Director of Graduate Studies

---

Joe F. Donaldson, PhD  
Professor and Associate Chair

## DEDICATION

To Dr. Paul R. Vaughn, outstanding teacher, respected scholar, and valued mentor.

While I only knew you briefly, in that short time, you provided me with a glimpse of the person I hope to someday become. You are truly missed, and I dedicate this work to you.

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To my graduate student colleagues, it's been an honor and a pleasure working with each of you. I have learned more from each of you than you will ever know. You have become some of my best friends and I look forward to working with you all in the future.

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Lucas D. Maxwell

Dr. Anna L. Ball, Dissertation Supervisor

ABSTRACT

The purpose of this study was to describe faculty members' perceptions and experiences with early career professional development, and to examine the relationship between personal and professional characteristics and perceptions of professional development. The accepting sample consisted of 51 early career faculty members in colleges of agriculture and related sciences at Iowa State University, the University of Missouri, and the University of Nebraska – Lincoln.

Respondents participated in 0.92 hours of teaching professional development at the departmental level, 4.49 hours at the college level, and 4.70 hours at the university level. An average of 5.15 hours each week was devoted to improving their teaching and 1.07 hours discussing teaching with colleagues.

It was determined that 19% of the variance in how actively faculty seek out teaching professional development can be explained by teaching appointment percentage and sex. Further, 6% of the variance in the number of hours of teaching professional development can be explained by teaching appointment percentage. Finally, 19% of the variance in the number of hours of teaching professional development can be explained by research appointment percentage.

Faculty agree that professional development in the areas of evaluation, teaching methods, advising and working with diverse learners, and developing the teaching

portion of the promotion and tenure dossier would be helpful to their growth as a teacher. It was concluded that respondents were most confident in their ability to perform tasks related the actual act of teaching (i.e., developing learning objectives, using a variety of teaching approaches, developing effective lectures, etc.).

# CHAPTER I

## INTRODUCTION

This chapter provides insight into faculty professional development at postsecondary institutions. Specifically, issues and challenges in regard to early career faculty and their perceived levels of preparedness to fulfill their faculty teaching roles will be addressed. Further, the significance of graduate preparation and professional development opportunities aimed at early career faculty will be described to fully introduce the problem and its significance. Finally, both the conceptual and theoretical base for the study will be introduced along with definitions of terms and the limitations of the study.

### **Background and Setting**

One commonality across institutions of higher education is the tripartite mission of teaching, research, and service (MacKinnon, III, 2003). This tripartite mission can trace its roots to the formation of the land-grant university system. The idea for the land-grant university system developed out of the desire to provide educational opportunities to the sons and daughters of the working class, in particular, those involved in the agricultural and mechanical industries (Campbell, 1998). While the signing of the Morrill Act in 1862 by President Lincoln was historic legislation, it was but the first in a series of events that would shape the mission of the land-grant university. Subsequent passage of the Hatch Act (1887) and the Smith-Lever Act (1914) broadened the purpose of the land-grant university and created the three part mission of teaching, research, and extension/service/outreach.

These three roles, teaching, research, and service, while not always distinctly different, determine how university faculty members allocate their time and resources during their career. It is widely accepted that the PhD is a research degree. As a result, graduate programs are often solely focused on the research component of the three roles that faculty members are expected to fulfill. In fact, “university faculty do not receive much training in effective teaching, nor are they exposed to research in student learning” (Transforming Agricultural Education for a Changing World, 2009, p. 7). While it can be argued that a focus on research helps to best prepare graduate students to complete their doctoral research, future faculty are often left to obtain the needed knowledge and skills to fulfill the remaining two components of their jobs, especially teaching, on their own. Given that “few members of the academic profession are exempted entirely from instructional responsibilities” (Serow, 2000, p.450), this lack of preparation in teaching is especially troubling, considering research has highlighted the incredible complexity of teaching effectively (Ballantnye, Bain, & Packer, 1999; Calderhead, 1996; Clark & Peterson, 1986; Kane, Sandretto, & Heath, 2002).

As a more consumer-driven, business-model of education emerges, higher education faces increasing pressure from stakeholders regarding program quality and a renewed call to return to the original mission of the land-grant university (Transforming Agricultural Education for a Changing World, 2009). Camblin, Jr. and Steger (2000) stated “consumers (e.g., students, parents, employers, etc.) are demanding higher levels of accountability than ever previously encountered” (p. 2). Further underscoring this point is a report from a Commission on the Future of Higher Education formed by former United States Secretary of Education Margaret Spellings which called for a greater level



of accountability and more transparency regarding student success (United States Department of Education, 2006).

Public concern over the quality of teaching in the classrooms and laboratories of American universities has become a driving force in higher education (Kreber, 2007; Camblin, Jr. & Steger, 2000, *Transforming Agricultural Education for a Changing World*, 2009). It has been suggested that “colleges will have to reform their undergraduate curricula and their students’ experiences to meet the needs of a changing world” (*Transforming Agricultural Education for a Changing World*, 2009. p, 13). Not only is the value of the undergraduate curriculum and its ability to meet the needs of an ever evolving society being questioned, teaching quality is coming under increasing scrutiny as well (DiLorenzo & Heppner, 1994; *Transforming Agricultural Education for a Changing World*, 2009). Consequently, much debate is centered on faculty development efforts regarding how best to prepare faculty to meet these societal demands (Steinert, 2000). To meet these demands Steinert further suggested that “faculty development programs will need to broaden their focus, consider diverse training methods and formats, conduct more rigorous program evaluations, and foster new partnerships and collaborations” (p. 44).

### **Statement of the Problem**

According to Camblin, Jr. and Steger (2000), the term development can be defined as “targeted enhancement of an individual or a collective set of individuals to serve better the mission of the organization” (p. 1). In an academic setting, the notion of faculty development encompasses any and all efforts “...designed to improve faculty performance in all aspects of their professional lives” (Nelson, 1983, p. 70). With

increasing pressure on universities to meet the changing needs of society, the need for faculty members to have the necessary skills to complete their job duties is also increasing. As Camblin, Jr. and Steger stated, “Higher educational institutions must redefine themselves and, in essence, that means the faculty must either face obsolescence or continuously be participating in developmental activities” (p. 2).

The notion of professional development in higher education is not new. Riegle (1987) and Schuster (1990) noted that sabbatical leaves for university faculty have been in existence since the early 1800’s in American universities. These sabbatical leaves serve as perhaps the first formal efforts at faculty development. Since the advent of the sabbatical, the aims, goals, and intended outcomes of faculty development programs have changed. Faculty development programs are no longer designed to simply advance one’s knowledge of his or her discipline or increase one’s effectiveness as a teacher (Hubbard & Atkins, 1995). Today, faculty development programs tend to address a broader range of issues aimed at ultimately addressing the long term success of both the faculty member in terms of teaching, scholarship, and service, as well as the institution as a whole (Blackburn & Lawrence, 1995; Iwasiw, Goldenberg, & Andrusyszyn, 2005; Steinert, 2000).

It has been documented that “...at various stages of their lives and careers, [faculty] have different objectives in faculty development which require diverse strategies” (Weldman & Strathe, 1985, as cited in Camblin Jr. & Steger, 2000, p. 5). Acknowledging that “most higher education faculty members arrive at their teaching positions after earning research doctorates” (Transforming Agricultural Education for a Changing World, 2009, p. 36) it is recommended that efforts be made to “promote and

support ongoing faculty development activities...particular attention should be paid to preparing the next generation of faculty by providing appropriate training to graduate students and post-doctoral researchers” (p.7). Given that many new faculty have very little, if any, formal training or education to prepare them for their teaching role it is particularly important that greater opportunities for professional development in teaching be made available to them (Boice 1992; Kane, Sandretto, & Heath, 2002; Transforming Agricultural Education for a Changing World, 2009).

For secondary teachers, professional development is often mandated by the state and is an integral part of meeting the requirements for certification or licensure. At the postsecondary level, teacher educators are provided with opportunities for professional development through membership in various professional organizations. Additionally, universities often provide opportunities for faculty professional development (Jones, 2008; Perna, Lerner, & Yura, 1995; Sands, Parson, & Duane, 1991; Sorcinelli, 1994). While opportunities for professional development exist, little is known about the specific programming that is offered and to what extent faculty members are aware and take advantage of professional development opportunities. Further, little is known in terms of how well early career faculty members feel they were prepared for their faculty roles (Jones, 2008).

If institutions hope to address the issues of accountability in terms of student learning being demanded by consumers, more information is required about faculty needs and perceptions in terms of professional development (Camblin Jr. & Steger, 2000; Transforming Agricultural Education for a Changing World, 2009; United States Department of Education, 2006). Only when a clear understanding of faculty members’

perceived needs and preferences regarding delivery of professional development is obtained, can colleges develop and administer effective faculty professional development programming that will equip faculty members with the knowledge and skills they need to address the quality of instruction in their classrooms. With this in mind, it is imperative that colleges of agriculture and related sciences address issues related to the status of professional development, the levels at which faculty are participating in professional development, and the perceived need for specific topics related to teaching and learning.

### **Need for the Study**

There is little doubt that professional development is considered vital to the continued success and growth of higher education (Gillespie, 2002). “One reality is absolute, if higher education environments are to continue to be relevant, faculty development programs must evolve or faculty will become outdated in the rapidly changing work environment” (Camblin, Jr. & Steger, 2000, p. 4). Several studies have been conducted in regard to career and technical educators and more specifically secondary agriculture teachers’ needs in terms of professional development (Birkenholz & Harbstreet, 1987; Brown, 2002; Edwards & Briers, 1999; Garton & Chung, 1996; Mundt & Connors, 1999; Washburn & Dyer, 2006; Washburn, King, Garton, & Harbstreet, 2001). While these studies provide insight into secondary agriculture teachers needs, they tended to focus on aspects relating specifically to the duties of a secondary teacher (i.e., conducting SAE’s) rather than issues relating to needs in terms of teaching development. At the postsecondary level a body of research exists about faculty development regarding model programs, delivery techniques, and mentor protégé relationships (Camblin Jr. & Steger, 2000; Jones, 2008; Perna, Lerner, & Yura, 1995;

Sands, Parson, & Duane, 1991; Sorcinelli, 1994). However, regarding the status of faculty development programs in colleges of agriculture and related sciences little is known. Given the rapidly evolving field of agriculture, faculty in colleges of agriculture and related sciences, perhaps more than their colleagues in other disciplines, are required to stay abreast of these changes in order to prepare student to enter the workforce. As a result, further study targeted specifically at professional development needs for faculty in agriculture and related sciences is warranted.

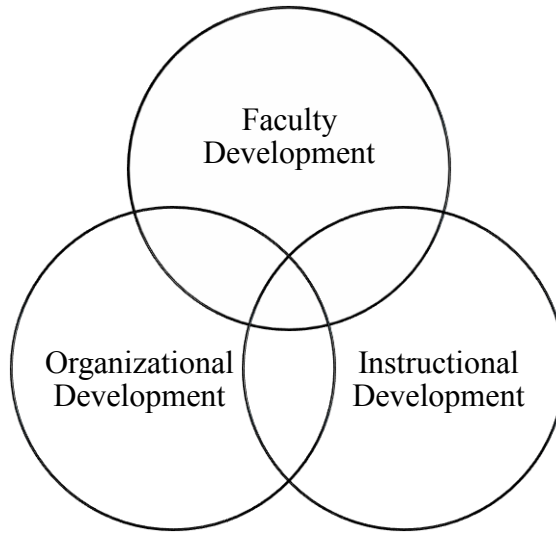
Today, institutions of higher education and more specifically, colleges of agriculture and related sciences, find themselves at a crossroads where years of tradition are clashing with consumer and market demands (Camblin, Jr. & Steger, 2000; DiLorenzo & Heppner, 1994; Kreber, 2007; Transforming Agricultural Education for a Changing World, 2009). Colleges of agriculture and related sciences are uniquely positioned to address many of the pressing issues of our time related to the global food supply, biofuels and the like (Transforming Agricultural Education for a Changing World, 2009). However, in order to face these issues faculty must be prepared to fulfill the roles expected of them. As a result, there has been a call for the further study of, and availability of, professional development opportunities in colleges of agriculture and related sciences (Transforming Agricultural Education for a Changing World, 2009). Additionally, the *National Research Agenda: Agricultural Education and Communication 2007-2010* calls for research that can be used to “enhance the effectiveness of agricultural and life sciences faculty” (Osborne, n.d., p. 7). Further, some have suggested the need for an overall elevation of teaching to a level equal to research, specifically in colleges of agriculture and related sciences (2009). According to

a recent publication, “steps to enhance teaching in early career faculty can enhance the synergy between research and teaching that contributes both to more relevant teaching and to more innovative research” (2009, p. 64). With this thought in mind, it is imperative that a complete and accurate understanding of the status of professional development in colleges of agriculture and related sciences exist in order to understand program strengths and weaknesses and to make recommendations about how to prepare future and current faculty for their roles.

## **Conceptual Framework**

### **Professional Development**

This study was conceptualized through the lens of research on professional development and the different delivery approaches employed to improve teaching and learning. According to Gillespie (2002), there are three main approaches to improving instruction that are employed on college and university campuses. These three approaches, differentiated from each other by their focus, are: faculty development, instructional development, an organizational development. The term professional development loosely refers to some combination of any or all of these three approaches. Figure 1, adapted from Gillespie (2002, p. 7), illustrates the overlap between these approaches and how collectively they encompass what is known as professional development.



*Figure 1.* The overlap among professional development approaches (adapted from Gillespie, 2002, p.7).

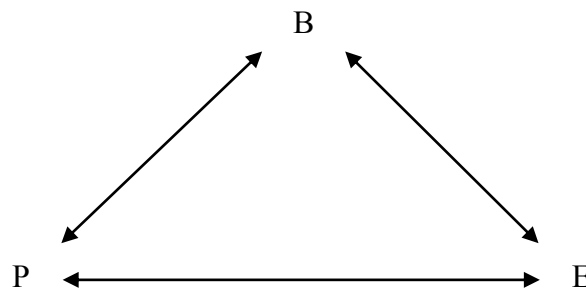
Faculty development focuses efforts on the improvement of faculty teaching abilities (Gillespie, 2002). “Common activities include classroom visits by professional staff, personal consultation, workshops and seminars, and the use of video to analyze teaching styles and techniques” (2002, p. 4). The main goal of all of these efforts is to improve individual faculty member’s teaching effectiveness and overall attitude toward the teaching portion of their appointment. Instructional development shifts its focus from the individual faculty member to the student by improving actual courses and curriculums (2002). With the instructional development approach to professional development, the purpose is to increase the overall experience for students by improving the organization and implementation of courses by focusing specifically on “course and curriculum design, implementation, and evaluation” (2002, p. 4). Organizational development takes yet another approach to professional development by focusing efforts toward issues dealing with the overall structure of a department, college, or institution and its relationship to teaching and learning (2002). The objective of organizational

development would be to identify and address institutional issues dealing with relationships between units and overall unit and institutional goals (2002). While each of these different approaches may have different foci and specific outcomes, the overarching goal across all approaches is the improvement of teaching and learning.

## **Theoretical Framework**

### **Social Cognitive Theory**

Bandura's social cognitive theory (1977a, 1978, 1986) posits that human functioning is "the product of a dynamic interplay of personal, behavioral, and environmental influences" (Pajares, 2002, para. 2). The relationship between these influences is referred to by Bandura (1986) as Triadic Reciprocity. Figure 2, reproduced from Bandura (1986), represents this relationship. In the figure, P represents personal influences; B represents behavioral influences; and E represents environmental influences.



*Figure 2.* Model of Triadic Reciprocity (adapted from Bandura, 1986, p. 24).

This theory builds upon the work of Miller and Dollard (1941) who noted that human behavior was dictated by more than the strictly "...behaviorist notions of associationism" (Pajares, 2002, para. 1) that was popular at the time. According to Bandura (1986) "a theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behavior" (p. 15). An important part

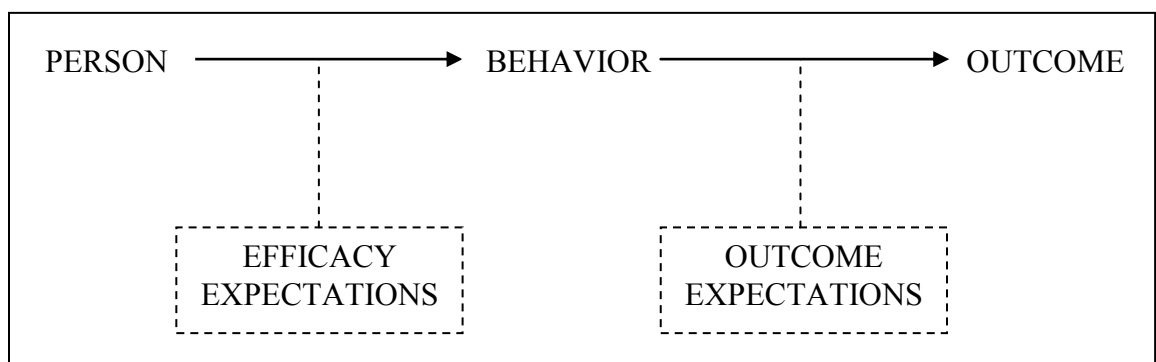


of this triadic reciprocity outlined in social cognitive theory is the notion personal and other cognitive influences, specifically, self efficacy.

### **Self-Efficacy**

The concept of self-efficacy “...refers to personal beliefs about one’s capabilities to learn or perform actions at designated levels” (Schunk, 2004, p. 112). With the introduction of the notion of self-efficacy, Bandura (1977a, 1977b, 1978, 1982, 1986, 1993, 1994, 1995, 1997) posited that an individual’s behavior was governed by more than a simple response to some outside stimuli. How someone behaves is largely a cognitive process where beliefs about one’s perceived abilities as well as the perceived outcomes of a particular behavior are considered. As one’s sense of self-efficacy increases so too does his/her willingness to attempt challenging behaviors (Bandura, 1991, 1993).

Schunk (2004) further pointed out that “...self-efficacy and outcome expectation do not have the same meaning. Self-efficacy refers to perceptions of one’s capabilities to produce actions; outcomes expectations involve beliefs about the anticipated outcomes of those understandings” (p. 112). This distinction is shown graphically in Figure 3, reproduced from Bandura (1977a).



*Figure 3.* Schematic representation of the differences between efficacy expectations and outcome expectations (adapted from Bandura, 1977a, p. 193).

According to Bandura (1977a), individual's perceptions of their ability to perform a task, coupled with their beliefs about the expected outcomes that a behavior will produce, influences whether or not that they will perform a particular task. The distinction between efficacy expectations and outcome expectation is, as Bandura (1977a) points out, "...individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether they can perform the necessary activities such information does not influence their behavior" (p. 193). While the two concepts have distinct differences, there does appear to be a link between self-efficacy and outcomes. Individuals who tend to excel at particular tasks generally have higher levels of self-efficacy and in general terms are rewarded for their efforts. The influences of these expectations should not be considered to be the only causes of one's behavior however, they are a major factor.

Bandura (1994) identifies four main sources that serve as influences when individuals begin to form their beliefs about their efficacy in a given area. The first, and perhaps most influential, is through what is termed as mastery experiences. When one is successful at a given task, one's perceptions about their self-efficacy for the task is emboldened. Conversely, failure, especially before one has achieved a firm sense of efficacy, tends to diminish feelings of self-efficacy. Secondly, perceptions regarding one's self-efficacy can be increased through observation of others who successfully perform a similar task. Much like mastery experiences these observations can work to either strengthen or weaken one's self efficacy, depending on the success or failure of the individual being observed. A third means of increasing one's self efficacy is through what Bandura (1994) termed social persuasion. Simply stated, individuals who are told

that they possess the skills to complete a given task are likely to have a greater perception of their own efficacy. It should be noted, however, that it is much more challenging to build one's sense of self-efficacy through social persuasion than it is to weaken it. This is due to the fact that increases to one's self-efficacy through this means can be quickly thwarted when an individual encounters less than positive results from their efforts. Finally, self-efficacy can be influenced by one's physical and emotional states. While hard to quantify, physical and emotional reactions to stress can serve as deterrents to an individual's feelings of efficacy for a given task.

While an understanding of these influences on an individual's self-efficacy is important, it should be noted that individuals do not operate in a vacuum; therefore, it is necessary to acknowledge that self-efficacy is more than simply a personal construct but also a social construct (Pajares, 2002). Pajares stated that "schools develop collective beliefs about the capability of their students to learn, of their teachers to teach and otherwise enhance the lives of their students and of their administrators and policymakers to create environments conducive to these tasks" (para. 20). This notion of collective efficacy seems particularly relevant given the social systems that develop in individual university departments and colleges in addition to university wide beliefs.

A great deal of research has been conducted demonstrating the influence of one's perceived self-efficacy on outcomes. As a result of this vast amount of research, Pajares (2002) stated that "in general, researchers have established that self-efficacy beliefs and behavior changes and outcomes are highly correlated and that self-efficacy is an excellent predictor of behavior" (para. 35). Previous research specifically addressing the issue of self-efficacy in academic settings (Bailey, 1999; Landino & Owen, 1988; Schoen &

Winocur, 1988; Pajares, 1996; Prieto & Altmaier, 1994) is discussed in detail in the following chapter. Given the apparent link between self-efficacy and outcomes, it is vitally important that a more in-depth understanding of faculty self-efficacy in terms of their teaching and related practices is developed to more clearly identify what is needed in terms of faculty professional development.

### **Purpose of the Study**

The purpose of this study was to describe faculty members' perceptions of and experiences with early career professional development. Further, the study examined the relationship between early career faculty members' personal and professional characteristics and their perceptions of professional development. The following research objectives were developed to guide the stated purpose.

### **Research Objectives**

1. Describe the personal and professional characteristics of faculty in colleges of agriculture and related sciences at selected Midwestern land-grant universities (sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, years in a tenure track position).
2. Describe early career faculty members' perceptions of the extent to which structured education, unstructured education, and current place of appointment prepared them for their teaching role as faculty members.
3. Describe early career faculty members' preferences regarding faculty development programming.

4. Describe the frequency that early career faculty members have participated in faculty development programming.
5. Describe predictors of the frequency that early career faculty members have participated in faculty development programming by sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, and years in a tenure track position.
6. Describe perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each area.
7. Describe predictors of areas of need for faculty development programming and respondent self-efficacy by early career faculty members' sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, and years in a tenure track position.

### **Definition of Terms**

The following terms and definitions are provided as an aid to the reader. Each is used periodically within the dissertation.

*Colleges of Agriculture and Related Sciences:* Refers collectively to those colleges which offer baccalaureate and graduate degrees to prepare individuals for careers in the global agriculture, food, fiber and natural resource industry.

*Early Career Faculty Members:* Faculty who have completed seven or fewer years of service in a tenure track position.

*Faculty Development:* Encompasses any and all efforts “...designed to improve faculty performance in all aspects of their professional lives” (Nelson, 1983, p. 70).

*Faculty Roles:* “The faculty role generally encompasses three areas of responsibility: Teaching, Research, and Service. ...what proportion of time a faculty member spends (or is expected to spend) in each area varies generally by institution type and more specifically from institution to institution” (Preparing Future Faculty, n.d., para 1).

*Natural Sciences:* “Any of the sciences (as physics, chemistry, or biology) that deal with matter, energy, and their interrelations and transformations or with objectively measurable phenomena” (Natural Science, 2010).

*Professional Development:* According to Camblin, Jr. and Steger (2000) the term development can be defined as “targeted enhancement of an individual or a collective set of individuals to serve better the mission of the organization” (p. 1).

*Promotion:* “An institutional governance mechanism employed to retain, at the junior level, and recruit, at the senior level,...scholars” (Seggie & Griffith, 2009, p. 122).

*Research Appointment:* “Refers to the inquiry and/or discovery activities of the faculty member” (Preparing Future Faculty, n.d., para 3).

*Service Appointment:* “In the context of academia generally refers to service to the institution, the external community, and the larger academic community” (Preparing Future Faculty, n.d., para 4).

*Social Sciences:* “A branch of science that deals with the institutions and functioning of human society and with the interpersonal relationships of individuals as members of society” (Social Sciences, 2010).

*Structured Education:* Includes degree programs (i.e., B.S., M.S., PhD., etc.) and for credit course work.

*Teaching Appointment:* “Generally includes actual in-class time working with students, as well as time spent mentoring and directing research by graduate students and preparing for class” (Preparing Future Faculty, n.d., para 2).

*Tenure:* “Faculty tenure is, at its core, a presumption of competence and continuing service that can be overcome only if specified conditions are met” (AAUP: Informal Glossary of AAUP Terms and Abbreviations, n.d.)

*The Academy:* The academic community or higher education in general.

*Unstructured Education:* Includes professional relationships with faculty and graduate students, and workshops and seminars in one's department, university and greater discipline.

### **Basic Assumptions**

The following assumptions guided this study:

1. The respondents, while faculty at different institutions, were all guided by the same underlying principles of teaching, research, and extension/service/outreach that guide land-grant universities.
2. The instrument used, which was developed based on findings from previous research, accurately measured the variables of interest for early career faculty members.
3. The respondents were capable of recalling their graduate experiences and the professional development activities in which they had participated.
4. Respondents completed the instrument honestly and objectively.
5. The opinions expressed by the respondents accurately reflected their true perceptions of professional development.

### **Limitations of the Study**

The following limitations were recognized and acknowledged by the researcher:

1. Faculty had varied backgrounds in terms of where they obtained their degrees. Differences among graduate preparation, work experience outside of academia, participation in professional development opportunities, and so on could not be controlled.



2. The respective academic programs offices for selected institutions provided information, including names, emails, appointment, and years of service. While this frame was scrutinized for errors and purged of any duplication, the researcher was unable to formally verify accuracy.
3. Data collection was limited to faculty members in their first seven years of service and the institutions participating in the study during the spring semester of 2010. As a result findings of the study should be generalized with caution beyond this specific population and time frame.

## CHAPTER II

### REVIEW OF LITERATURE

#### **Purpose of the Study**

The purpose of this study was to describe faculty members' perceptions of and experiences with early career professional development. Further, the study examined the relationship between early career faculty members' personal and professional characteristics and their perceptions of professional development.

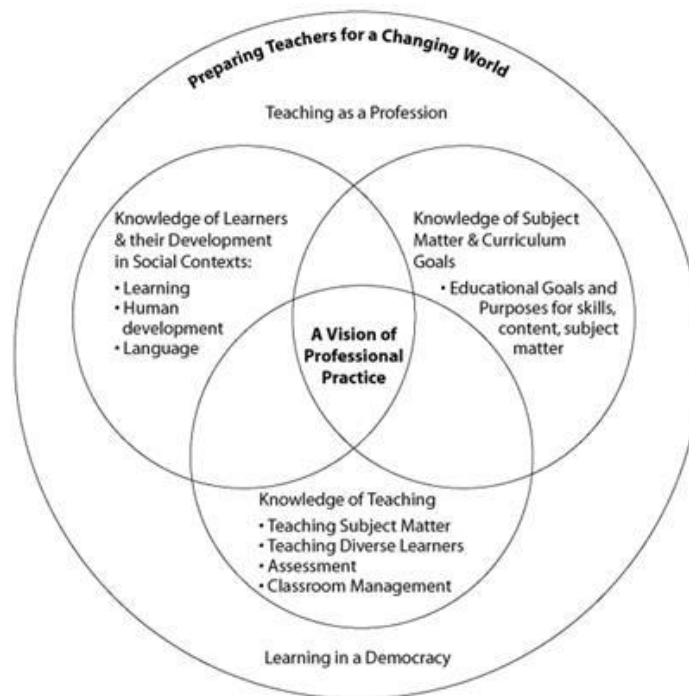
#### **Introduction**

This chapter presents a review of the literature related to faculty development and is divided into five sections to aid the reader's understanding of the various topics addressed. Section one addresses issues related to understanding teaching and learning. Section two addresses literature related to how teachers learn to teach. The third section addresses the role of graduate education in terms of preparing future faculty members. In section four, information regarding common approaches to faculty professional development is discussed. Finally, in section five, faculty self-efficacy and its impact of professional development is addressed. Following these sections the chapter concludes with a brief summary of the literature.

#### **Understanding Teaching and Learning**

Learning to teach is a complex issue. In order to better understand teaching and the act of learning to teach, Bransford, Darling-Hammond, and Lepage (2005) proposed a framework for organizing and understanding teaching and learning. The authors suggested that teachers must possess expertise in three broad areas addressing the teacher's knowledge of the students' development as learners, the teacher's

understanding of the subject being taught, and finally their knowledge of teaching (2005). Figure 4, illustrates this framework. Having earned a doctoral degree, it can be assumed that university faculty have a sound understanding of their discipline, thus addressing the issue of subject matter knowledge. Despite this content knowledge, few faculty members have taken course work or had practical experience in learning psychology or pedagogy, two major components of the framework.



*Figure 4.* Understanding teaching and learning framework (taken from Bransford, Darling-Hammond, & Lepage , 2005, p. 11)

The framework for understanding teaching learning and what is known regarding teaching and learning is supported by four broad research bases in the teacher education literature; research on how people learn, influences of teaching strategies on what and how people learn, research on teacher professional development that influences student learning, and finally research that examines how teachers learn to teach

(Bransford, Darling-Hammond, and Lepage, 2005). It is suggested that perhaps the most recent area of inquiry to emerge is research on how teachers learn.

## **How Teachers Learn to Teach**

### **Problems in Learning to Teach**

Shulman (2004) stated “one never learns to teach once and for all. It is a continuous, ongoing, constantly deepening process” (p. 517). Study of this process has identified three main issues or problems regarding how teachers learn to teach (Hammerness, et al., 2005). The first of these problems deals with the preconceptions that new teachers bring with them as a result of their own experiences as learners. As a result of teachers’ previous experiences, it is first necessary that they acknowledge the need to think about teaching and learning in different ways than they did as learners. Given the years of experience as learners that new teachers possess, this issue is often referred to as the problem of apprenticeship of observation (Lortie, 1975). The second problem has been called the problem of enactment (Kennedy, 1999). This notion of enactment refers to the need of the teacher to have an understanding of the subject but also a firm grasp on the multitude of other issues that a teacher must address (Hammerness, et al., 2005). The third problem area that must be addressed when learning to teach is the problem of complexity (2005). Teachers are generally required to work with several students who have varying backgrounds, ability levels, and outcome expectations. As result, teachers are required to juggle a multitude of issues related to presenting complex material to a diverse group of learners with differing needs and ability level. This is especially true in the college classroom given that the general

culture, needs, and level of preparation of students has changed and as such, students are generally less prepared than their predecessors (Choy, 2002).

### **Developing Adaptive Expertise**

It could be argued that faculty, as teachers, should develop an expertise in a particular topic and/or methodological area and then solidify a core set of abilities they would then spend the remainder of their career refining and becoming more efficient at executing (Bransford, Berliner, & Hammerness, 2005). If faculty at land-grant institutions were only expected to fulfill the research portion of the tripartite mission of teaching, research, and service this notion of routine expertise might be ideal. However, given the many and varied responsibilities that are associated with the remaining roles, especially teaching, it is unrealistic and perhaps counterproductive to advocate this approach to expertise.

Perhaps a more realistic and even more appropriate goal is for faculty to strive to become Adaptive Experts (Hatano & Inagaki, 1986). Hatano and Inagaki explained that while routine experts and adaptive experts both exhibit high level of content knowledge, they differ in how flexible they are in their ability to apply that knowledge. Figure 1, taken from Martin et al. (2006) helps to illustrate the notion of adaptive expertise. It can be reasonably assumed that faculty who are more flexible in the application of their knowledge and skills will be better prepared to address the multitude of dynamic and ever changing issues they will be expected to address related to teaching.

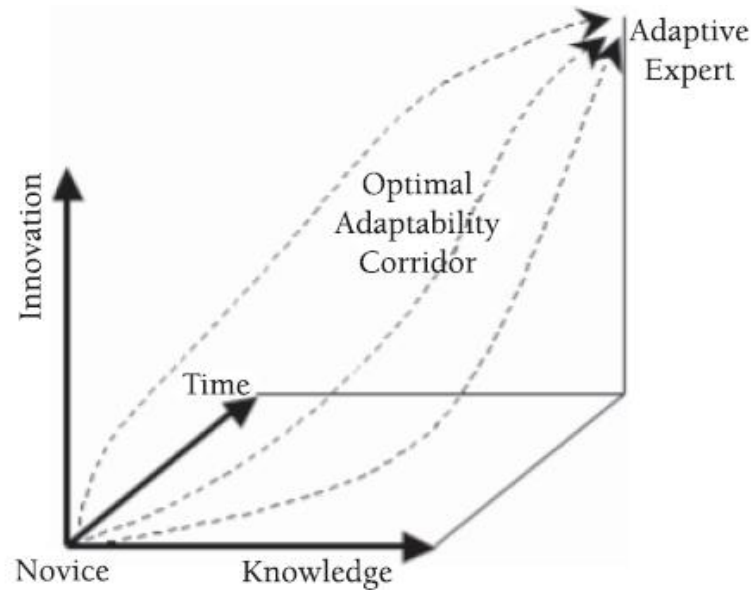


Figure 5. Model of Adaptive Expertise (taken from Martin et al., 2006).

Additional hallmarks of adaptive expertise include monitoring of one’s own knowledge level and actively searching for opportunities to increase said knowledge (Fisher & Peterson, 2001; Wineburg, 1998). According to Martin, Petrosino, Rivale, and Diller (2006) “adaptive expertise is a desirable goal for learners in any field” (p. 35). This is especially true for teachers (Hammerness, et al., 2005).

As adaptive experts faculty members would continually update and expand their knowledge and beliefs in response to changing situations and the requirements of the particular task put before them. While this process requires individuals to continually examine their beliefs and to be willing to be flexible in terms of how they approach problems, in the end they become more efficient and able to adapt to varying situations. This is particularly important in classroom settings where higher order thinking is encouraged from students. This type of thinking can often lead to unexpected answers and thus the need for faculty to be adaptive experts and to be able to apply what they know to new situations becomes crucial. If professional development programming is

aimed at helping faculty become adaptive experts it can be reasonably assumed that they will be better prepared to address the multitude of challenges they will face in the classroom.

### **Principles of Effective and Enduring Learning**

According to Shulman (2004), "...we must employ teacher education approaches in which teachers will be active, reflective, collaborative, impassioned, and communal" (p. 517). The author posits that these five principles are crucial for teacher development and the formation of a community of learners. Like students, teachers learn more deeply when they are actively involved in the learning process. However, given the inherent complexity of teaching, it is imperative that those learning to teach are not only active, but reflective as well. Considering the the effort required to be an active and reflective learner, it is important that Shulmans' third principle of collaboration be addressed. When teachers work together they are able to provide each other support and in the end enhance each others learning. Along these same lines, learning occurs more deeply when the learners are emotionally engaged or impassioned about the topic. Finally, Shulman suggests that effective learning is communal. This is accomplished through "communities of practice" (p. 516). These communities of practice allow learners to take what they have talked about and learned and put them into action (2004).

As stated earlier, learning to teach is a complex issue. To discuss the topic, one must have an understanding of teaching and learning. Bransford, Darling-Hammond, and Lepage (2005), provided a framework for understanding teaching and learning supported by four broad research bases. While each is important in its own right, the research base dealing with how teachers learn to teach is vitally important to any discussion of

professional development in teaching. Those charged with providing professional development in teaching must consider the problems associated with learning to teach, different forms of expertise, and the principles of effective and enduring learning.

### **Graduate Preparation**

According to Golde and Dore (2004) a great deal of attention and study has been focused on doctoral education. A series of notable studies and reports were published (American Association of Universities, 1998; Bowen & Rudenstine, 1992; National Science Board, 1997) addressing issues pertaining to graduate education. Golde and Dore argue that the intense attention paid to the topic of doctoral education was driven in large part by a general decline in the number of tenure track faculty positions that were available. The authors note that “in the past there have been similar flurries of attention at other periods of stress and change, including the early 1970’s and the post-World War II period” (p. 19).

In response to the reports produced during the 1990’s an attempt was made to more deeply address the issue of how well doctoral student were being prepared for faculty careers (Golde & Dore, 2004). The researchers sought to answer the following research questions “Why are doctoral students pursuing the Ph. D.? and How effective are doctoral programs at preparing students for the careers they pursue, especially faculty careers?” (p. 21). This topic is especially important given the fact that according to Golde (2005) “at least 40% of the students who begin a doctoral program fail to complete it” (p. 699). It is further suggested that research on graduate education is needed because very little is currently known about the notion of graduate attrition. Additionally, high levels of attrition may help identify issues in departments and disciplines that might also



impact degree completers, and finally, the great deal of costs realized by both institutions and individuals when a degree is not completed (Golde, 2005).

Golde and Dore (2004) found that generally speaking, students interested in faculty careers were motivated by “a love of teaching, enjoyment of research, and interest in doing service” (p.23). This is particularly interesting and perhaps useful to those interested in faculty professional development given the alignment between these motivations and the tripartite mission of teaching, research, and service that guides land-grant institutions. Not surprisingly, respondents felt that they were best prepared in the area of research. Despite this, fewer than half felt that their programs prepared them to publish and less than one-third indicated that they felt prepared to collaborate on interdisciplinary work (Golde & Dore, 2004). This suggests that a more focused approach to teaching research methods and procedures is needed and perhaps faculty development programs should be developed to address these issues for new faculty members.

According to the Higher Education Research Institute (1999), the greatest amount of faculty members time is spent dealing with the teaching portion of their role. Additionally, more than 80% of respondents indicated that they were motivated by a love of teaching (Golde & Dore, 2004). Despite this, fewer than 50% of graduate students indicated that they were provided with opportunities to take on progressively more responsible roles in teaching. This would seem to suggest a greater need for a focus on teaching in the doctoral program and again, the need for professional development in the area for new faculty members.

The area of service is perhaps the most ambiguous of the three broad roles that faculty members fulfill. According to the findings of the study, more than two-thirds of respondents were interested in working with undergraduate students outside of the classroom and majorities indicating a desire to serve on university committees and participate in community service (Golde and Dore, 2004). Despite this interest respondents overwhelmingly indicated that preparation for this portion of faculty life was nearly absent from their doctoral program, again suggesting a need for further review of doctoral education as well as increased faculty development for new faculty in the area of service.

While a graduate degree can lead to many different outcomes, it can be argued that the process of obtaining a PhD serves as the first introduction to and socialization in an academic career (Austin, 2002). However, Austin found that there appears to be a disconnect between graduate preparation and expectations for new faculty noting that “graduate students typically did not receive systematic opportunities to develop needed skills and abilities” (p. 112). Much like the findings of Golde and Dore (2004) it was found that graduate students indicated they had received intense training in research, yet noted a lack of guidance on issues specifically relating to grant writing and other sources of funding (Austin, 2002). Additionally, Austin reported considerably less instruction and guidance in the area of teaching and almost nonexistent preparation in the area of service which was also consistent with previous research (Golde & Dore, 2004). It can be assumed from these findings that faculty development, especially for early career faculty, in the area of teaching is needed. In fact, studies have documented the desire for

more and greater support in the area of teaching on the part of graduate students and early career faculty (Nyquist, et al., 1999; Sorcinelli, 1994).

### **Professional Development**

Gillespie (2002) identifies three main approaches to improving instruction that are employed on college and university campuses. These three approaches, faculty development, instructional development, an organizational development are differentiated from each other by their focus. The term professional development loosely refers to some combination of any or all of these three approaches.

Faculty development focuses efforts on the improvement of faculty teaching abilities (Gillespie, 2002). “Common activities include classroom visits by professional staff, personal consultation, workshops and seminars, and the use of video to analyze teaching styles and techniques” (p. 4). The main goal of all of these efforts is to improve individual faculty members teaching effectiveness and overall attitude toward the teaching portion of their appointment.

Instructional development shifts its focus from the individual faculty member to the student by improving actual courses and curriculums (Gillespie, 2002). With this approach to professional development, the goal is to increase the overall experience for students by improving the organization and implementation of courses.

Organizational development takes yet another approach to professional development by focusing efforts toward issues dealing with the overall structure of a department, college, or institution and its relationship to teaching and learning (Gillespie, 2002). Here the goals or outcomes would be to identify and address institutional issues dealing with relationships between units and overall unit and institutional goals (2002).

While each of these different approaches may have different foci and specific outcomes, the over arching goal across all approaches is the improvement of teaching and learning.

### **Professional Development and Transformational Change**

Recently, approaches to professional development have sought to bring about transformational change in the teaching profession. Research suggests that teaching is a complex endeavor and the process of learning to teach occurs over one's professional career (Beynon, Geddis, & Onslow, 2001; Slepkov, 2008). Despite this, most professional development for teachers is delivered in short disjointed sessions that call on teachers to take what they have learned back to their classroom and apply it on their own. Research has shown that this method is ineffective and has not lead to large scale change.

Most theories of professional development focus on the actual teacher. Current research suggests that to be successful professional development must be purposeful and relate directly to the teachers perceived needs, be ongoing, and finally be viewed as part of one's professional growth (Guskey, 2000; Slepkov, 2008). This thought is very much in line with traditional views of adult education. Traditional professional development has focused on what Mezirow (1985) called instrumental and dialogic learning. As more and more adult learning theories are applied to teacher professional development, it has become clear that more emphasis needs to be placed on the third kind of adult learning, self-reflective (Slepkov, 2008). It is widely accepted that in order for true transformation to occur teachers must reflect on their experiences as part of their ongoing professional development.

In a study of teachers, respondents were asked to provide answers to five questions that attempted to address why the teachers participated in professional

development, what was their skill level prior to participation, what condition aided or hindered the process, what they feel the outcomes of the development will be and finally, what they see as their next steps (Slepkov, 2008)? The participants' responses to these questions provide useful data for those individuals who plan and provide professional development of teachers. It was concluded from this study that prior to planning and delivering any sort of professional development in teaching several items need to be addressed. Factors such as the needs of the intended audience, delivery methods, assessment techniques, participants' prior knowledge, number of sessions or offerings, and how the particular topic fits into the greater professional growth needs of the audience are just a few of the items that should be addressed (Slepkov, 2008).

According to the Slepkov, "the results of this research affirmed perceptions concerning the importance of applying cognitive theory to the structure and practices of any proposed offerings" (2008, p. 99). It is suggested that these findings serve as a model for others who are in charge of structuring opportunities for professional development and that every effort be made to use current knowledge about the teaching and learning process when developing professional development. Slepkov speculates that using this data "might enhance the likelihood of true constructivist learning and lead to transformation of the teaching profession" (p.100).

### **Mentor Protégé Relationships**

The importance of the relationship between older adults and younger adults, as it relates to professional development has also been a major component of career development theories. Perna, Lerner, and Yura (1995) examined research related to faculty development to draw connections between faculty development theories and

related theories of adult education. Generally speaking, theories on professional development reference, in large part, the importance of relationships between adults such as the mentor/protégé relationship. As adult learners, new faculty make clear their desire to have strong and open relationships with their colleagues and supervisors. In addition, they indicate the desire to receive clear and constructive feedback about their teaching and research activities (Sorcinelli, 1994).

There are many different definitions of the word mentor. According to Sands, Parson, and Duane (1991) the ideal mentor could be described as a “friend, career guide, information source, and intellectual guide” (p. 191). The classical mentoring relationship is one that develops naturally between an older, more experienced mentor and younger, less experienced protégé (Morzinski, Simpson, Bower, & Diehr, 1994). More common in professional and higher education circles is the assigned mentor/protégé. As an alternative to the classic relationship, this approach involves formally pairing a senior faculty member with a junior protégé (Philips-Jones, 1983). While the idea of mentoring is common and widely practiced, the notion of faculty mentoring faculty brings up issues perhaps not always present in other mentoring situations (Sands, et al., 1991). At the departmental level, faculty, regardless of rank, are considered peers. This distinction can create an interesting dynamic when a new faculty member enters into a mentor/protégé relationship with a colleague who will quite possibly be making a decision on their promotion and tenure in the future.

While few would argue the potential effectiveness of the relationships, there is little research based data available that deals directly with faculty development. Based on the data that is available, it appears that mentoring is a common practice most likely to

occur in the early years of one's academic career (Perna, et al., 1995). In a study of tenured or tenure track faculty at a large Midwestern University Sands, et al. found that 72 % of faculty indicated that they had a mentor at sometime during their career. In most cases this mentoring took place during the respondent's graduate career. Only one third of assistant professors indicated they were mentored making it clear that having a mentor when one is a faculty member is not common practice at this university. This study also found that most of the time the mentor/protégé relationship developed on its own rather than the result of a formal departmental assignment. Both men and women were more likely to be mentored by men; however, the researchers posit that this could be the result of the number of available male mentors at the full professor rank. As the literature suggests the age of the protégé does not have an effect of the benefits received through a mentoring relationship (Perna, et al., 1995). The data also suggests that the relationship between mentor and protégé is very complex and one where both parties should be open and upfront about what one expects from the other.

### **New Faculty Professional Development Needs**

New faculty members are faced with several challenges as they begin their careers in the academy. The stress of learning a new institution, teaching new courses, and working to acquire tenure can be overwhelming. Despite this, new faculty members often report being very satisfied with their careers (Sorcinelli, 1994). However, this does not mean that there are not issues associated with being a new faculty member. Sorcinelli lists several common concerns voiced by new faculty as identified by a review of previous studies. Perhaps the most common form of stress identified in most studies of new faculty is the issue of not having enough time to get everything done. Often, new

faculty find it very difficult to balance the different roles that they are asked to play. In addition, collegial relations, or the lack thereof, are a common source of stress. One study showed that when asked for recommendations on how to support new faculty two thirds indicated that more support from colleagues would have been helpful (Sorcinelli, 1994). A third common theme among new faculty is feeling a lack of feedback, recognition, and reward. Many indicated that there seemed to be very little reward for the hard work they were putting in during the first years on the job. Along with this, there was a general feeling that expectations for new faculty are unrealistic. Studies have indicated that much of this stress is self imposed by the new faculty member but is then reinforced by senior faculty members, department chairs, and deans. On top of this, there is a general feeling of not having the necessary resources available to meet expectations. Finally, new faculty members often noted having difficulty balancing their professional lives and their life outside of work.

Sorcinelli (1994) identifies several model programs for new faculty development. In describing these programs it is clear that most address some if not all of the common issues identified by new faculty members. In order to address the needs of faculty at different career points and varying need areas the model programs are organized into three different groups. The first are those aimed at orienting new faculty to an institution. Secondly, Sorcinelli identifies programs dealing with mentoring of new and junior faculty members. Finally, development programs aimed at helping faculty members improve their teaching or research are discussed. The programs vary from three hours to one semester in length, with only a few being mandatory. It seems clear that quality development programs for new faculty are both wanted and needed. In designing these



programs colleges and universities should take into account the common stresses identified by new faculty and develop programs that are appropriate for this unique group of adult learners.

### **Professional Development in Teaching for New Faculty Members**

While previous studies have shown that many faculty members recognize the importance of their role in the classroom “most faculty members are not educated to be teachers” (Jones, 2008, p. 93). Entwistle (2000) notes that while faculty members are often experts in their field this does not mean that they will be able to effectively communicate their knowledge to the students in their classrooms. Based on this, institutions of higher education are forced to provide opportunities for their faculty to learn effective teaching techniques.

In a study by Jones (2008), new faculty were defined as those who were in their first year at a two or four year institution. It is important to note that this article deals specifically with those faculty members who are in fulltime tenure track positions. Research indicates that often times these new teachers focus on their own knowledge as opposed to putting their focus on the students in their classes (Jones, 2008). Further supporting this notion, Kugel (1993) notes that as teachers develop they go through a series of stages with the focus of the first stage being themselves.

While several models for teacher development exist, most involve teachers moving through a series of stages. It is important to note that it not necessary for them to navigate these stages sequentially (Jones, 2008). Regardless of the model, Chism (2004) suggested that in order to support faculty development one must first consider how faculty learn. A cycle where faculty develop a plan, put that plan into action, make

observations about the results of the plan, and finally spend time reflecting on the results in order to create a new action plan is suggested (Jones, 2008).

The institution's role in this process is to create an environment that rewards teaching. To do this there must be a conscience effort made to show that improving ones teaching is worthy of the time and work required (Jones, 2008). This often involves a radical change in the institutions culture. While this may seem like a daunting task, if both faculty and institutions work to improve teaching, the rewards will be beneficial to all parties.

### **Self-efficacy**

#### **Social Cognitive Theory**

Bandura's social cognitive theory (1977a, 1978, 1986) posits that human functioning is "the product of a dynamic interplay of personal, behavioral, and environmental influences" (Pajares, 2002, para. 2). The relationship between these influences is referred to by Bandura (1986) as Triadic Reciprocity. This theory builds upon the work of Miller and Dollard (1941) who believed that human behavior was dictated by more than the strictly "behaviorist notions of associationism" (Pajares, 2002, para. 1) that was popular at the time. According to Bandura (1986) "a theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behavior" (p.15). An important part of this triadic reciprocity outlined in social cognitive theory is the notion of personal and other cognitive influences, specifically, self efficacy.

## **Self-efficacy Explained**

According to Bandura (1977a, 1977b, 1978, 1982, 1986, 1993, 1994, 1995, 1997) behavior is governed by more than a simple response to some outside stimuli, it is largely a cognitive process where beliefs about one's perceived abilities as well as the perceived outcomes of a particular behavior are considered. The concept of self-efficacy "refers to personal beliefs about one's capabilities to learn or perform actions at designated levels" (Schunk, 2004, p. 112). As one's sense of self-efficacy increases so too does their willingness to attempt challenging behaviors (Bandura, 1991, 1993).

Perceptions of one's ability to perform a task, coupled with one's beliefs about the expected outcomes that a behavior will produce, influences whether or not they will perform a particular task. Bandura (1977a) explains the distinction between efficacy expectations and outcome expectations by stating "individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether they can perform the necessary activities such information does not influence their behavior" (p. 193). While the two concepts do have distinct differences, there does appear to be a link between self-efficacy and outcomes. Individuals who tend to excel at particular tasks generally have higher levels of self-efficacy and in general terms are rewarded for their efforts. The influences of these expectations should not be considered to be the only causes of one's behavior however, they are a major factor.

An individual's perceived sense of self-efficacy is governed by four chief agents of influence (Bandura, 1994). When one is successful at a given task, one's perceptions about their self-efficacy for the task is emboldened. Conversely, failure, especially before one has achieved a firm sense of efficacy, tends to diminish feelings of self-

efficacy. Bandura refers to this first source of influence as mastery experiences and indicates that they are perhaps the most influential of the four main sources of influence.

Observation of others who are able to successfully perform tasks serves as yet a second means for increasing ones perceived sense of self-efficacy (Bandura, 1994). Much like mastery experiences these observations can work to either strengthen or weaken one's self efficacy, depending on the success or failure of the individual being observed. Bandura refers to these influences as social models. These social models are important not only because they provide a benchmark to measure one's capabilities against but also because they give observers an opportunity to witness successful techniques that they too may be able to employ (Bandura, 1994).

A third means of increasing one's self efficacy is through what Bandura (1994) termed as social persuasion. Simply stated, individuals who are told that they possess the skills to complete a given task are likely to have a greater perception of their own efficacy. However, it should be noted that it is much more challenging to build one's sense of self-efficacy through social persuasion than it is to weaken it. This is due to the fact that increases to one's self-efficacy through this means can be quickly thwarted when an individual encounters less than positive results from their efforts.

Finally, self-efficacy can be influenced by one's physical and emotional states. While hard to quantify, physical and emotional reactions to stress can serve as deterrents to an individual's feelings of efficacy for a given task. According to Bandura (1994), when one is able to use their physical and emotional reactions to a stress as a means for energizing themselves, they are able to then build their sense of self-efficacy.

## **Self-efficacy in Academic Settings**

Prieto and Meyers (1999) examined graduate teaching assistants in psychology with the goal of determining the impact of training and supervision on one's sense of self-efficacy towards teaching. Based on their review of literature (see Bray & Howard, 1980; Denham & Michael, 1981; Prieto & Altmaier, 1994), the researchers posited that graduate students who received training and supervised experience should possess higher levels of self-efficacy for teaching. Using an adapted form of the previously developed Self-Efficacy Towards Teaching Inventory, the researcher contacted chairs of more than 250 departments of psychology asking them to have graduate students in their department complete the inventory resulting in a total of 176 respondents (Prieto & Meyers, 1999).

In their findings, the authors noted that while it is commonly believed that graduate assistants in psychology were prepared well to teach, nearly 30% of the sample indicated that during their career they had either no training or no supervision from the department (Prieto & Meyers, 1999). Further, it was found that those respondents who had received some form of formal training or supervision possessed higher self-efficacy for teaching when compared to their counterparts who did not receive the same level of support. As Bandura (1994) indicated, perhaps the most effective way to increase one's self-efficacy is through mastery experiences. However, this study found that most respondents indicated spending much more time observing others teach rather than actively teaching themselves (Prieto & Meyers, 1999). While Bandura indicates that this type of experience influences one's perceived self-efficacy, the researchers posit that perhaps implementation of techniques that allow Graduate assistants greater opportunities

to actual teach may provide greater benefits to their self-efficacy for teaching (Prieto & Meyers, 1999).

Schoen and Wincour (1988) investigated the self-efficacy of university faculty. This study utilized responses from 337 academics from ten major universities in Australia. The researchers found that generally speaking, respondents were more confident in their ability to perform tasks related to teaching as opposed to other job related tasks, including research (Schoen & Wincour, 1988). In another study, Landino and Owen (1988) also addressed the issue of academic self-efficacy, paying particular attention to women in higher education. The researchers found that they were unable to explain teaching self-efficacy for female academics but noted that research self-efficacy was lower when the majority of the faculty in a department were woman. Conversely, female faculty research self-efficacy was shown to be higher in women who were young, held a doctoral degree, actively composed research articles, and felt that their work environment was supportive (Landino & Owen, 1988). While differences exist among faculty in terms of self-efficacy for their academic roles, Bailey (1999) suggests there are no practical differences between self-efficacy in academic settings and gender.

### **Collective Self-efficacy in Teaching**

A great deal of research has addressed the issue of teacher efficacy (Bailey, 1999; Landino & Owen, 1988; Schoen & Winocur, 1988; Pajares, 1996; Prieto & Altmaier, 1994). While these studies address the personal construct of teaching efficacy, it should be noted that individuals do not operate in a vacuum, therefore it is necessary to acknowledge that self-efficacy is also a social construct (Pajares, 2002). The notion of self-efficacy as a social construct seems particularly relevant given the social systems that

develop in individual university departments and colleges in addition to university wide beliefs. Pajares states that “schools develop collective beliefs about the capability of their student to learn, of their teachers to teach and otherwise enhance the lives of their students and of their administrators and policymakers to create environments conducive to these tasks” (para. 20). This seems to indicate that in addition to one’s perceived self-efficacy, a sense of departmental, or unit wide efficacy also exists and may have profound influences on one’s actions and behaviors. Figure 4 illustrates what Goddard, Hoy and Hoy (2000) refer to as collective teacher efficacy.

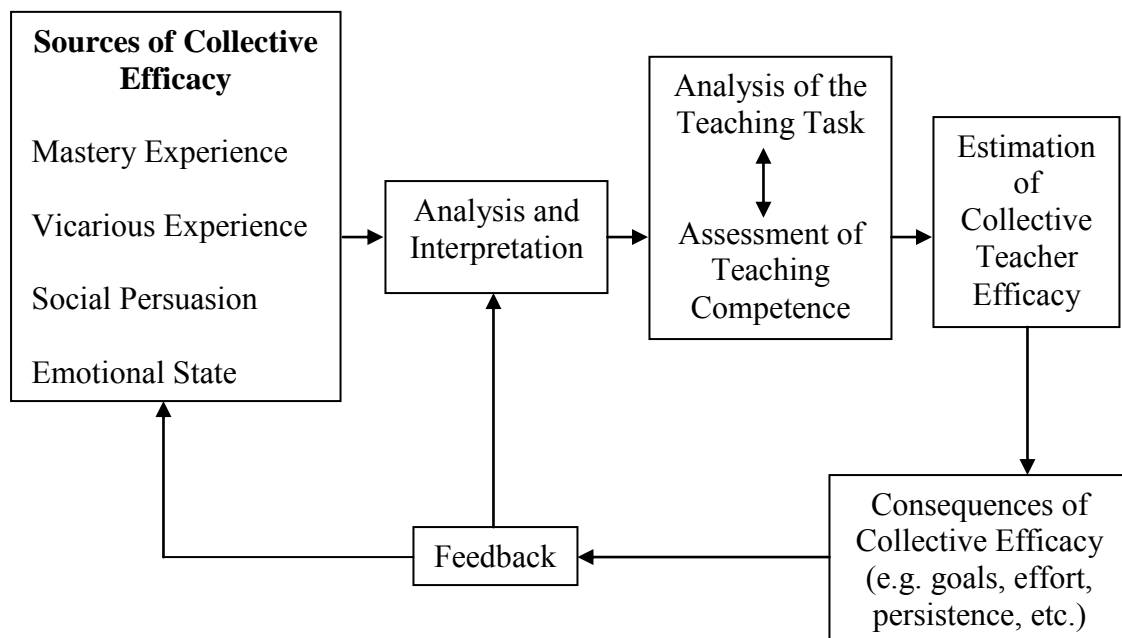


Figure 6. A simplified model of collective teacher efficacy (adapted from Goddard, Hoy, & Hoy, 2000, p.486).

The above model of collective teacher efficacy builds upon the work of Bandura (1997) and Tschannen-Moran, Hoy & Hoy, 1998). Like self-efficacy, collective efficacy is influenced by four main sources of information, Master experience, vicarious experience, social persuasion, and emotional state. Key to the sense of collective efficacy

is the analysis and interpretation of the group's ability to successfully teach given their analysis of difficulty of the task related to the perceived group ability. Collective efficacy is especially important given the findings of one study indicating a positive relationship between collective teacher efficacy and student performance (Goddard, Hoy, and Hoy, 2000). A positive relationship between collective teacher efficacy and student performance suggests that while individual self-efficacy in teaching may play an important role in a faculty members success as a teacher, the collective sense of efficacy that can form in a department or college cannot be ignored.

### **Summary**

This chapter presented a review of the literature related to faculty development and was divided into six sections to aid the readers understanding of the various topics addressed. In section one a framework for understanding teaching and learning was presented. The second section discussed how teachers learn to teach, focusing specifically on issues related to learning to teach, the development of expertise, and principles of effective and enduring learning. The third section discussed the role of graduate education in terms of preparing future faculty members. Common themes from studies on graduate education suggest that graduate programs often neglect the areas of teaching and service, instead focusing the bulk of the programs course work and related activities on research. As a result, it should not be surprising that there is a need for professional development in teaching directed especially at early career faculty members. Section four contained information about common approaches to faculty professional development. Professional development takes on many different forms ranging from the mentor protégé relationship, to structured programs that meet regularly. Finally, in



section five, faculty self-efficacy, both individual and collective, and its impact of professional development was addressed.

## CHAPTER III

### METHODOLOGY

#### **Purpose of the Study**

The purpose of this study was to describe faculty members' perceptions of and experiences with early career professional development. Further, the study examined the relationship between early career faculty members' personal and professional characteristics and their perceptions of professional development. The following research objectives were developed to guide the stated purpose.

#### **Research Objectives**

1. Describe the personal and professional characteristics of faculty in colleges of agriculture and related sciences at Midwestern land-grant universities (sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, years in a tenure track position).
2. Describe early career faculty members' perceptions of the extent to which structured education, unstructured education, and current place of appointment prepared them for their teaching role as faculty members.
3. Describe early career faculty members' preferences regarding faculty development programming.
4. Describe the frequency that early career faculty members have participated in faculty development programming.
5. Describe predictors of the frequency that early career faculty members have participated in faculty development programming by sex, age, teaching

appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, and years in a tenure track position.

6. Describe perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each area.
7. Describe predictors of areas of need for faculty development programming and respondent self-efficacy by early career faculty members' sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, and years in a tenure track position.

### **Research Design**

This study sought to address questions regarding early career faculty members perceptions of and experiences with professional development through use of descriptive-correlational research methodology. Ary, Jacobs, Razavieh, and Sorensen (2006) stated that descriptive research "...asks questions about the nature, incidence, or distribution of variables; it involves describing but not manipulating variables" (p. 632). Through use of these descriptive methods, the researcher sought to describe early career faculty members in terms of several personal and professional characteristics. Additionally, data were collected to describe the extent to which unstructured education, structured education, and respondents' current place of employment prepared them for and support their faculty teaching role. Finally, the researcher sought to describe respondents' perceptions of, participation in, perceived areas of need for faculty development and their self-efficacy for each need area.

Beyond this desire to describe the population of study, the researcher employed correlational methods in an attempt to "...determine the extent and the direction of the relationship between two or more variables" (Ary et al., 2006, p. 631). Specifically, relationships between early career faculty members personal and professional characteristics (sex, age, academic appointment, rank, degree area, and years in a tenure track position) and their preferences, participation in, perceived areas of need for faculty development, and their self-efficacy were determined.

To accomplish these goals, a questionnaire composed of open-ended and closed ended questions was utilized to collect data. By using open and closed ended questions, the researcher is able to explore the what, how, and why of an issue while collecting all data simultaneously (Creswell, 2003; Johnson & Christensen, 2004; Weimer, 2006).

Often it is the goal of research to determine cause-and-effect relationships (Gall, Gall, & Borg, 2003). While this is a noble endeavor, it was not the purpose of this study. Before such cause-and-effect statements can be made there must first exist a body of knowledge to provide an accurate description of a phenomenon. Gall et al. further explained that "some of the most influential calls for reform of the educational system have used the findings of descriptive research" (p. 290).

There were four broad areas that the study addressed: 1) early career faculty members perceived preparedness for their teaching role, 2) their preferences for delivery of faculty development programming, 3) their participation in faculty development programming, and 4) their perceived areas of need in faculty development programming and their self-efficacy for each need area. From these broad areas, the following six summated dependent variables were created: 1) how actively faculty seek out teaching

professional development, 2) hours of teaching professional development in the past 12 months, 3) hours each week devoted to improving teaching, 4) participation in teaching professional development at a professional meeting in the last 12 months, 5) perceived helpfulness of teaching professional development topics, 6) perceived self-efficacy for teaching topics. Additionally, there were seven independent variables. They included: 1) sex, 2) age, 3) teaching appointment percentage, 4) research appointment percentage, 5) service appointment percentage, 6) discipline, and 7) years in a tenure track position.

### **Population**

The target population for this study was early career faculty members in colleges of agriculture and related sciences. For the purposes of this study early career faculty members were defined as those faculty who had completed seven or fewer years of service in a tenure track position. Several measures were taken to determine the accessible population for this study. First, the researcher obtained a list ( $N = 62$ ) of all universities that were members of the Association of American Universities (Association of American Universities, n.d.). From this list, the researcher identified all member institutions that offered programs in agriculture and related sciences ( $N = 16$ ) based on their status as land-grant institutions (Association of Public and Land-Grant Universities, n.d.). From this list of 16 institutions, the researcher selected Iowa State University, the University of Missouri, and the University of Nebraska-Lincoln based on several factors including their relative regional proximity, similarities in program offerings, and membership in the Big 12 athletic conference. These criteria were used in an attempt to ensure that respondents were similar in terms of selected personal and professional characteristics. Additionally, similarities in program offerings and regional proximity

allowed for various comparisons among the respective universities and subgroups based on personal and professional characteristics.

The frame for this study was obtained from the college of agriculture and related sciences academic programs office at the selected universities. The researcher contacted the associate dean for academic programs at each institution requesting a list of names and email addresses for all faculty who had completed seven or fewer years of service in a tenure track position and had at least some appointment in the area of teaching. This request yielded a list of potential participants from each of the respective universities. In an attempt to ensure accuracy and address any potential frame error, each list was checked for error by individuals in the academic programs office who were familiar with faculty members' years of service. Individuals who did not fit the study criteria were purged from the list. Further, all faculty names and email addresses were scrutinized to ensure they were reported correctly and any errors were corrected prior to data collection. Additionally, the data collection instrument was used to confirm the total number of years respondents had spent in a tenure track position allowing for further verification of the frame. As a result, the accessible population ( $N = 63$ ) reflects adjustments made after data collection based on respondent reported data. This accessible population was comprised of 18 faculty from Iowa State University, 25 faculty from the University of Missouri, and 19 faculty from the University of Nebraska-Lincoln.

Due to access to accurate email addresses, it was determined that a web based questionnaire would be appropriate to collect the study data. It is known that email based surveys present unique challenges for some groups. However, Dillman (2007) states:

Certain populations, such as university professors, federal government employees, workers in many companies and corporations, and members of some professional organizations, generally have Internet addresses and access. For these populations, e-mail and Web surveys may have only minor coverage problems (p. 356).

Shannon and Bradshaw (2002) found that faculty members showed an average response rate for email surveys of 32% compared to 47% for postal delivered surveys, despite their access to email and the internet. In spite of this lower response rate the researcher chose to conduct the survey electronically, using multiple contacts, due to budgetary and time constraints.

### **Generalized Causal Inference**

Shadish, Cook, and Campbell (2002) provided an argument for generalized causal inference based on five principles. While random sampling is generally considered the hallmark of inference, these five principles provide a rationale for the application of inferential statistical measures to data obtained through other means. Through the application of these principles the researcher argued for the use of inferential statistical measures to better understand the data from this study and its application in practice. It should be noted that while no one principle is necessary in and of itself, they are not completely independent. Thus, a sound understanding of each principle is warranted.

The first principle deals with the concept of surface similarity. “Scientists generalize by judging the apparent similarities between things that they studied and the target of generalization” (Shadish et al., 2002, p. 353). The underlying rationale is that similarities exist in terms of setting, population, treatment, etc, between the group being studied and the population being generalized to. The authors further argue that in some

instances “...surface similarity is entirely sufficient...” as an argument for inference (p. 360).

The second principle is ruling out irrelevancies. By identifying particular attributes that are irrelevant, researchers can make inferences due to the fact that the attributes have been determined to have no bearing on generalization. This requires consumers of research to acknowledge that certain factors may have no bearing on the findings of research and thus should not be considered relevant when making generalizations.

Often, researchers make specific statements and set certain parameters that limit generalization. The third principle, making discriminations, deals with this concept. Acknowledgments must sometimes be made such as indicating that while something may be true in one setting it will not be true in another.

The fourth principle deals with issues of interpolation and extrapolation. This principle addresses issues dealing with inference regarding time between data points and after the final data collection point. Generally speaking, interpolation and extrapolations that deal with smaller time frames or short gaps in data are easier to justify than those that address large time spans or extreme gaps in the data.

The fifth and final principle is causal explanation. This principle states that “scientists generalize by developing and testing explanatory theories about the target of generalization” (Shadish et al., 2002, p. 354). The authors further explain that this principle refers to “...similarities in the underlying structural relations in different operational instances that give rise to a common concept that characterizes all the instances” (p. 368).



As with all research, any generalization of the findings of this study beyond this population, time, and setting should be made with caution. However, using these principles, it can be argued that the findings from this study can be generalized to early career faculty in colleges of agriculture and related sciences whose personal and professional characteristics closely mirror those in this study.

### **Instrumentation**

Data collection was conducted using an instrument developed by the researcher after a review of related literature. The instrument drew from the work of MacKinnon, III (2003). MacKinnon, III sought to determine the attitudes and perceptions of academic administrators and deans toward faculty development in colleges of pharmacy.

Specifically, the author investigated the following:

“(1) Attitudes towards faculty development programming, (2) the extent that administrators had completed such programming, (3) perceived areas of need for faculty at their institutions, (4) resource allocation to faculty, and (5) specific topics respondent would like to see offered and the types of instructional technologies preferred” (MacKinnon, III, 2003, p. 2).

In designing the instrument, MacKinnon, III consulted with individuals in higher education as well as pharmacy who had an expertise in instrument design. Issues of validity and reliability of the instrument were addressed through expert review and a pilot test of the instrument (MacKinnon, III, 2003). Recognizing the inherent differences between colleges of pharmacy and colleges of agriculture and related sciences the instrument was modified to meet the objectives of this study. While making these modifications the researcher was guided by literature on survey design, teaching

strategies, faculty development and self-efficacy (Bandura, 1977a; Dillman, 2007; Gillespie, 2002; Golde & Dore, 2004; McKeachie & Svinicki, 2006; National Research Council, 2009; Transforming Agricultural Education for a Changing World, 2009).

The researcher developed the instrument for use with an online distribution format. The instrument was delivered to all early career faculty members at Iowa State University, the University of Missouri, and the University of Nebraska-Lincoln (N = 63). While online instruments present certain issues, as discussed earlier, the researcher chose the electronic format due to the relative ease of instrument delivery as well as the substantial cost saving compared to more traditional hard copy instruments that require printing and large investments in postage.

The Assessment of Faculty Development in Agricultural Colleges was created and delivered using the popular online hosting service Hosted Survey™. While several options now exist for this online questionnaire delivery service, the researcher chose to utilize Hosted Survey™ based on previous experiences with other service providers and recommendations from fellow researchers. Additionally, the service appeared to offer superior options for design and layout at a reasonable cost.

The instrument consisted of five sections. Section I included six items that addressed early career faculty members' perceived levels of preparedness for their faculty teaching role. These items used a five point Likert scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. Specifically, respondents were asked to rate how well they were prepared for these roles by their structured education, unstructured education, and their current academic appointment. Section II contained 12 statements designed to capture early career faculty members' preferences toward faculty

development. These items used a five point Likert scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. Section III included seven items that addressed the frequency that early career faculty members have participated in faculty development programming. The first statement used a five point Likert scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. The remaining six items were open ended and asked respondents to enter number for their response. In section IV early career faculty members responded to a series of 25 statements that addressed their perceived areas of need for faculty development programming as well as their self-efficacy for each need area. These items used a five point Likert scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. If respondents felt that the statement did not apply to them they were given the option of selecting a does not apply option. Section V, the final section of the instrument, contained eight items that collected personal and professional characteristics about the respondents. A copy of the instrument can be found in Appendix A.

### **Issues of Validity**

During the month of January 2010, the instrument was reviewed by a panel of experts (N = 7) in the area of faculty development and questionnaire construction. A complete list of the panel can be found in Appendix B. A copy of the email asking individuals to serve on the panel can be found in Appendix C. These experts were charged with evaluating the face and content validity of the instrument. Ary et al. (2006) defined validity as “the extent to which a measure actually taps the underlying concept that it purports to measure” (p. 640). More specifically, face validity is defined as “the extent to which a casual, subjective inspection of a test’s items indicates that they cover

the content that the test is claimed to measure” (Gall et al., 2003, p. 625). Further, content validity, according to Gall et al., refers to “the extent to which inferences from a test’s scores adequately represent the content or conceptual domain that the test is claimed to measure” (p. 621). Suggestions from the panel of experts were reviewed and resulted in the final instrument which was used in the study.

### **Issues of Reliability**

Ary et al. (2006) stated that “the researcher must field test the instrument to identify ambiguities, misunderstandings, or other inadequacies” (p. 432). During the months of February and March 2009, the instrument was sent to a group of 20 faculty members in the agriculture college at the University of Kentucky, who were not a part of the study frame. Data from this field test were used to determine the reliability of the instrument using a percent agreement measure (Huck, 2008). According to Ary, et al., test/retest- measures of reliability assume that “the characteristics being measured are stable over time, so any change in scores from one time to another is caused by random error” (p. 259-260).

Sixteen responses were obtained from the original 20 participants in the field test. One week after the last response was received, the researcher sent the 16 initial respondents an email containing a link to the instrument, requesting that they complete it a second time. This second administration yielded a response from 14 respondents. Based on these data, the researcher calculated the percent agreement between respondents’ answers to each item on the first administration of the instrument and the responses received during the second administration. To calculate the percent agreement, the researcher considered responses that were identical or within one point above or

below to be in agreement. This approach is a common practice when employing percent agreement measures to calculate reliability (Birkimer & Brown, 1979; Walkup, Satriano, Hansell, & Olfson, 1998; Fletcher & Sabo, 2006).

Table 1 displays the results of the percent agreement measures employed. For all items ( $N = 69$ ) 87% ( $n = 60$ ) were between 86-100% agreement; 99% ( $n = 68$ ) were between 71-100% agreement; and 100% ( $N = 69$ ) were between 64-100% agreement. It is generally suggested that a percent agreement of 70% is necessary for an item to be considered reliable (Hartman, 1977; House, House, & Campbell, 1981). Based on these findings, it was determined that the instrument possessed a level of reliability that was acceptable for use in this study. The calculated percent agreement for each test item can be found in appendix D.

Table 1  
*Percent Agreement Measure Reliability (N = 14)*

Percent Agreement	Number of Items
100	24
93	20
86	16
79	6
71	2
64	1

Additionally, items from Parts III and IV of the instrument were summated to obtain data that were used to calculate the stepwise multiple linear regression models utilized for Objectives 5 and 7. The data collected from Part III of the field test instrument, utilized in Objective 5, was not subject to reliability issues (see appendix A) and therefore no reliability score is reported. Data from Part IV of the field test instrument were summated and used to determine the internal consistency. Internal consistency is defined as “an approach to estimating test reliability to examine the extent

to which individuals who respond one way to a test item tend to respond the same way to other items on the test” (Gall et al., 2003, p. 626). Cronbach’s alpha was calculated first for the summated variable, helpfulness of teaching professional development topic to growth as a teacher (alpha = .60) and second for the summated variable, self-efficacy for teaching topics (alpha = .92). According to Nunnally (1978), a reliability score for instruments used in basic research should yield a reliability estimate of .70 or better. However, Rudner and Schafer (2002) suggested that a reliability estimate as low as .50 may be acceptable. Based on the calculated reliability estimates, it was determined that all the items possessed a level of reliability that was acceptable for use in this study.

### **Institutional Review Board**

The researcher completed an application for exempt status from the University of Missouri Institutional Review Board (IRB). This application (project #1153881) outlined potential risks and rewards for participation in the study as well as the intended methods of data collection, analysis, and dissemination. After review, the researcher was granted exempt status on November 18<sup>th</sup>, 2009 and given permission from the IRB to proceed with the study. Additionally, upon request from the Iowa State University IRB, a copy of the approval from the University of Missouri IRB was submitted and the researcher obtained permission to collect data from faculty at that institution. No such request was made from the University of Nebraska-Lincoln.

### **Data Collection**

The researcher chose to administer the questionnaire using the online service Hosted Survey™. In-depth study on the methods and approaches to instrument delivery has indicated that a multiple contact strategy provides the greatest potential for increasing

response rates (Scott, 1961; Linsky, 1975; Dillman, 1991, 2007). Schaefer and Dillman (1998) found that this multiple contact strategy is equally as effective when instruments are delivered in an electronic format. Based on these findings, the researcher chose to deliver the instrument electronically using a slightly modified version of Dillman's (2007) four contact email strategy. Due to the option of inserting a direct link to the online questionnaire into the body of the email message delivered to respondents, the researcher chose to include a link to the instrument in each of the four contacts.

Early career faculty respondents in the study ( $N = 63$ ) were contacted and asked to complete the study on Thursday, March 25, 2010. Respondents were asked to complete the instrument by Wednesday, April 7, 2010. A copy of the initial email that was delivered is included in Appendix E. Following this initial request, those individuals who had not responded received a follow-up email with a link to the questionnaire asking them to participate in the survey. Copies of all follow up emails are included in Appendices F, G, and H. These follow-up emails were sent on the following dates: April 1, 2010; April 11, 2010; and April 15, 2010. This study yielded a response rate of 85.48% ( $n = 53$ ) early career faculty members. Specifically, 18 of 18 respondents responded from Iowa State University, 20 of 25 respondents responded from the University of Missouri and 16 of 19 respondents responded from the University of Nebraska-Lincoln. It was found that two of the respondents did not provide usable data resulting in the final accepting sample of  $n = 51$ . Based on the study response rate it must be acknowledged that non-response error is present, however, according to Linder, Murphy, and Briers (2001) additional methods to control for non-response are not needed when a response rate of 85% is achieved.

## **Data Analysis**

This study used descriptive statistics such as means, frequencies and standard deviations to describe early career faculty members perceptions of their preparedness for faculty roles, preferences for delivery, participation in, perceived areas of need for faculty professional development programming, and faculty self-efficacy for each need area. Additionally, stepwise multiple linear regressions were used to help describe predictors of the studies dependent variables using the following summated variables (how actively faculty seek out teaching professional development, hours of teaching professional development in the past 12 months, hours each week devoted to improving teaching, participation in teaching professional development at a professional meeting in the last 12 months, perceived helpfulness of teaching professional development topics, perceived self-efficacy for teaching topics) based on selected independent variables (sex, age, teaching appointment percentage, research appointment percentage, service appointment percentage, discipline, and years in a tenure track position).

Stepwise linear regression was utilized because based on available literature there was no reason to rank the variables used in the analysis. According to Agresti and Finlay (1997) this method should be used with caution but is appropriate when “the goal is not to examine theoretically specified relationships but simply to find a good set of predictors” (p. 533). It should be noted that, as stated earlier, respondents were given the option of selecting does not apply for each of the 25 items on the instrument that were used for objectives five and six of this study. As a result the two summated variables 1) helpfulness of teaching professional development topic to growth as a teacher and 2) self-efficacy for teaching topics are based on differing numbers of items. For example, if a



respondent selected does not apply for two of the statements their summated score was calculated using an  $n$  of 23 items versus 25. Finally, Cohen's  $d$  (1988) was calculated for each of the descriptors and using Cohen's descriptors, effect sizes were noted.

Quantitative data were entered into and analyzed using version 17.0 of the SPSS Statistics program. The following measures were utilized due to their appropriateness given the scales of measurement:

Research Objective One: Means, frequencies, percentages, standard deviations, and ranges were used to describe early career faculty members' personal and professional characteristics including their sex, age, academic appointment, rank, degree area, and years in a tenure track position.

Research Objective Two: Means, standard deviations, and ranges were used to describe the extent to which early career faculty members felt that their structured education, unstructured education, and current place of employment prepared them for their faculty teaching role.

Research Objective Three: Means, standard deviations, and ranges were used to describe early career faculty members' preferences regarding faculty development programming.

Research Objective Four: Means, standard deviations, and ranges were used to describe the frequency that early career faculty members have participated in faculty development programming.

Research Objective Five: Stepwise multiple linear regression was used to describe predictors of the relationship between the frequency that early career faculty members have participated in faculty development and personal and professional characteristics

(sex, age, academic appointment, rank, degree area, and years in a tenure track faculty position).

Research Objective Six: Means, standard deviations, and ranges were used to describe the perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each area.

Research Objective Seven: Stepwise multiple linear regression was used to describe predictors of the relationship between perceived areas of need for faculty development programming and their perceived self-efficacy for each area and personal and professional characteristics (sex, age, academic appointment, rank, degree area and years in a tenure track position).

### **Summary**

This chapter provided an overview of the methodological procedures followed throughout this study. The population (N = 63) for this study consisted of early career faculty members at three large Midwestern land-grant institutions. Through the use of survey methods this descriptive correlational study sought to provide a clearer understanding of how well early career faculty members feel they were prepared for their faculty teaching role. Additionally, this study provides insight to early career faculty members perceptions of, participation in, perceived areas of need for faculty development. Further, the relationships between these three broad areas and selected personal and professional characteristics were examined to determine predictor variables.

## CHAPTER IV

### FINDINGS

#### **Purpose of the Study**

The purpose of this study was to describe faculty members' perceptions of and experiences with early career professional development. Further, the study examined the relationship between early career faculty members' personal and professional characteristics and their perceptions of professional development. To guide the stated purpose the following research objectives were developed.

#### **Findings**

##### **Research Objective One – Personal and Professional Characteristics**

Objective One of the study was to describe the personal and professional characteristics of faculty in colleges of agriculture and related sciences at Selected Midwestern land-grant universities (sex, age, academic appointment, rank, discipline, years in a tenure track position). Table 2 displays selected personal and professional characteristics of early career faculty members. Of the 51 respondents, two thirds were male ( $n = 34$ ; 66.70%). The greatest number of respondents were in the 36-40 years of age range ( $n = 24$ ; 47.10%), followed by 41-45 years ( $n = 11$ ; 21.60%), 31-35 years ( $n = 10$ ; 19.60%), 46-50 years ( $n = 4$ ; 7.80%), 51-55 years ( $n = 1$ ; 2.00%) and no age reported ( $n = 1$ ; 2.00%). The vast majority of respondents held the rank of assistant professor ( $n = 48$ ; 94.10%), while the remaining 5.90% held the rank of associate professor ( $n = 3$ ). Regarding respondents discipline, a majority of respondents worked in the natural sciences ( $n = 39$ ; 76.5%) with the remaining respondents working in the social sciences ( $n = 12$ ; 23.5%). The greatest number of respondents ( $n = 13$ ; 25.50%) had been in a

tenure track position for three years, followed by four years ( $n = 10$ ; 19.60%), two years ( $n = 9$ ; 17.60%), six years ( $n = 8$ ; 15.70%), five years ( $n = 7$ ; 13.70%), seven years ( $n = 3$ ; 5.90%), and one year ( $n = 1$ ; 2.00%).

Table 2  
*Early Career Faculty Respondents Sex, Age, Rank, Discipline, and Years in a Tenure Track Position (n = 51)*

Characteristic	<i>f</i>	%
<b>Sex</b>		
Male	34	66.70
Female	17	33.30
<b>Age</b>		
31-35 Years	10	19.60
36-40 Years	24	47.10
41-45 Years	11	21.60
46-50 Years	4	7.80
51-55 Years	1	2.00
Not reported	1	2.00
<b>Rank</b>		
Assistant Professor	48	94.10
Associate Professor	3	5.90
<b>Discipline</b>		
Natural Science	39	76.50
Social Science	12	23.50
<b>Years in a Tenure Track Position</b>		
1 Year	1	2.00
2 Years	9	17.60
3 Years	13	25.50
4 Years	10	19.60
5 Years	7	13.70
6 Years	8	15.70
7 Years	3	5.90

Means and standard deviations for selected personal and professional characteristics of early career faculty respondents are presented in Table 3. The average percentage of academic appointment in teaching was 37.80% ( $SD = 15.07$ ). Respondents reported an average research appointment of 52.55% ( $SD = 21.24$ ). Additionally, the

average percentage of academic appointment devoted to extension/service/outreach was 7.88% ( $SD = 14.54$ ). Finally, respondents had an average of 3.96 years ( $SD = 1.57$ ) of service in a tenure track position.

Table 3  
*Early Career Faculty Respondents Academic Appointment and Years in a Tenure Track Position (n = 51)*

Characteristic	<i>M</i>	<i>SD</i>	<i>Range</i>
Academic Appointment			
Teaching Percentage	37.80	15.07	68
Research Percentage	52.55	21.24	80
Extension/Service/Outreach Percentage	7.88	14.54	75
Years in a Tenure Track Position	3.96	1.57	6

**Research Objective Two – Impact of Structured Education, Unstructured Education, and Current Place of Employment on Teaching**

The second objective of the study was to describe the respondents perceptions of the extent to which structured education, unstructured education, and current place of appointment prepared them for their teaching role as a faculty member. Table 4 displays the mean responses of respondents regarding their perceptions of how well their structured and unstructured education prepared them for their teaching role.

Additionally, respondents’ perceptions regarding how well their current place of employment supports their teaching were reported. Data were collected using a five point Likert type scale. To aid in data interpretation it should be noted that strongly disagree = 1.00 - 1.50, disagree = 1.51 – 2.50, neutral = 2.51 – 3.50, agree = 3.51 – 4.50, strongly agree = 4.51 – 5.00. The mean response when asked how well structured education prepared respondents for how they teach was 3.22 ( $SD = 1.35$ ). In terms of how well structured education prepared respondents for the content that they teach the mean response was 4.33 ( $SD = 0.86$ ). In terms of how well unstructured education

prepared respondents for how they teach, the mean response was 3.59 ( $SD = 1.13$ ). Further, the mean response in terms of how well unstructured education helped prepare respondents for the content that they teach was 3.59 ( $SD = 1.25$ ). When asked if respondents' current place of employment provided adequate support in terms of professional development related to how respondents teach the mean response was 3.86 ( $SD = 1.10$ ) and 3.24 ( $SD = 1.03$ ) regarding professional development focused on the content that they teach.

Table 4  
*Perceptions of How Structured Education, Unstructured Education, and Current Place of Employment Prepared/Supports Respondents for Their Teaching Role (n = 51)*

Statement	<i>M</i>	<i>SD</i>	<i>Range</i>
Structured Education			
Prepared Me for How I Teach	3.22	1.35	4
Prepared Me for the Content I Teach	4.33	0.86	3
Unstructured Education			
Prepared Me for How I Teach	3.59	1.13	4
Prepared Me for the Content I Teach	3.59	1.25	4
Current Place of Employment			
Provides Support Related to How I Teach	3.86	1.10	4
Provides Support Related to Content I Teach	3.24	1.03	4

*Note.* Coded: Strongly Disagree = 1.00 - 1.50, Disagree = 1.51 – 2.50, Neutral = 2.51 – 3.50, Agree = 3.51 – 4.50, Strongly Agree = 4.51 – 5.00.

### **Research Objective Three – Preferences Regarding Professional Development**

Objective Three sought to describe early career faculty members' preferences regarding faculty development programming. Table 5 contains mean responses and standard deviations for the respondents regarding their responses to 12 statements related to faculty development. Data were collected using a five point Likert type scale. To aid in data interpretation it should be noted that strongly disagree = 1.00 - 1.50, disagree = 1.51 – 2.50, neutral = 2.51 – 3.50, agree = 3.51 – 4.50, strongly agree = 4.51 – 5.00.

When asked if they would or do participate in faculty development in teaching for early career faculty members, the respondents mean response was 4.14 ( $SD = 1.02$ ). As to whether they do or would participate in faculty development in teaching for all faculty, regardless of rank or years of service, the mean response was 4.20 ( $SD = 1.00$ ). Next, respondents were asked if they would like to see more faculty development in teaching made available and their mean response was 3.53 ( $SD = 1.08$ ). When asked if the level of faculty development in teaching is adequate at the respondents current place of employment their mean response was 3.67 ( $SD = 0.99$ ). In regard to their interest in working one-on-one with someone to improve their teaching, respondents mean response was 3.39 ( $SD = 1.10$ ). A series of three statements dealt with whether or not early career faculty would participate in faculty development in teaching. The mean response for a one day long program was ( $M = 3.80$ ;  $SD = 1.06$ ), the mean response for meeting one night a week for a semester was ( $M = 2.86$ ;  $SD = 1.28$ ), and the mean response for a week long program was ( $M = 2.69$ ;  $SD = 1.30$ ). The following three statements asked respondents if they preferred that faculty development in teaching be offered at the department level ( $M = 2.78$ ;  $SD = 1.29$ ), college level ( $M = 3.24$ ;  $SD = 0.97$ ), or university level ( $M = 3.37$ ;  $SD = 1.25$ ). Finally, respondents were asked if their disciplines' professional organization meeting was an appropriate place for professional development in teaching. The mean response for this item was 3.39 ( $SD = 1.09$ ).

Table 5  
*Preferences Regarding Faculty Development in Teaching (n = 51)*

Statement	<i>M</i>	<i>SD</i>	<i>Range</i>
I would or do participate in faculty development in teaching for all faculty regardless of rank or years of service	4.20	1.00	4
I would or do participate in faculty development in teaching for early career faculty members	4.14	1.02	4
I would prefer or do participate in one day long faculty development to improve my teaching	3.80	1.06	4
The level of faculty development in teaching is adequate at my current place of employment	3.67	0.99	4
I would like to see more faculty development in teaching made available to me.	3.53	1.08	4
I would prefer or do work one-on-one with someone to improve my teaching	3.39	1.10	4
My disciplines professional organization meeting is an appropriate place for faculty development in teaching	3.39	1.09	4
I would prefer faculty development in teaching be offered at the university level	3.37	1.25	4
I would prefer faculty development in teaching be offered at the college level	3.24	0.97	4
I would or do participate in faculty development in teaching that meets one time a week during the semester	2.86	1.28	4
I would prefer faculty development in teaching be offered at the departmental level	2.78	1.29	4
I would or do participate in a week long faculty development program to improve my teaching	2.69	1.30	4

*Note.* Coded: Strongly Disagree = 1.00 - 1.50, Disagree = 1.51 – 2.50, Neutral = 2.51 – 3.50, Agree = 3.51 – 4.50, Strongly Agree = 4.51 – 5.00.



#### **Research Objective Four – Participation in Professional Development**

Objective Four was to describe the frequency that early career faculty members have participated in faculty development programming. Table 6 displays respondents' responses to seven questions addressing their participation in teaching faculty development. Data for the first statement were collected using a five point Likert type scale. To aid in data interpretation it should be noted that strongly disagree = 1.00 - 1.50, disagree = 1.51 – 2.50, neutral = 2.51 – 3.50, agree = 3.51 – 4.50, strongly agree = 4.51 – 5.00. All other values are raw data reported by the study respondents. Respondents were neutral ( $M = 3.39$ ;  $SD = 1.12$ ) regarding a statement addressing if they actively seek out professional development in teaching. When asked how many hours of professional development related to teaching the respondents had participated in during the last 12 months, it was found that an average of 0.92 hours ( $SD = 2.14$ ) were completed at the departmental level, 4.49 hours ( $SD = 7.02$ ) at the college level, and 4.70 hours ( $SD = 8.08$ ) at the university level. Respondents indicated that they spent an average of 5.15 hours ( $SD = 6.37$ ) devoted to improving their teaching and 1.07 hours ( $SD = 1.12$ ) discussing their teaching with colleagues. Finally, it was found that in the last 12 months respondents had attended 0.59 sessions ( $SD = 1.08$ ) devoted to improving teaching at a professional organization meeting.

Table 6

*Early Career Faculty Participation in Teaching Faculty Development (n = 51)*

Statement	<i>M</i>	<i>SD</i>	<i>Range</i>
I actively seek out faculty development in teaching <sup>a</sup>	3.39	1.12	4
Hours of department sponsored faculty development in the last 12 months?	0.92	2.14	10
Hours of college sponsored faculty development in the last 12 months?	5.49	7.02	30
Hours of university sponsored faculty development in the last 12 months?	4.70	8.08	40
Hours each week devoted to improving teaching?	5.15	6.37	30
Hours each week discussing teaching with colleagues?	1.07	1.12	5
Teaching improvement sessions at a professional organization meeting attended in the last 12 months?	0.59	1.08	6

<sup>a</sup> Coded: Strongly Disagree = 1.00 - 1.50, Disagree = 1.51 – 2.50, Neutral = 2.51 – 3.50, Agree = 3.51 – 4.50, Strongly Agree = 4.51 – 5.00.

### **Research Objective Five – Predictors of Participation in Professional Development**

Objective Five was to describe predictors of the frequency that early career faculty members have participated in faculty development programming. Table 7 presents the results of a stepwise multiple linear regression procedure of how actively faculty seek out teaching professional development on teaching appointment percentage, sex, and discipline. Basic assumptions were tested by calculating correlations and collinearity statistics. Independent variables that did not have a minimum correlation of  $r = .10$  were excluded from the model (Cohen, 1988). When testing for collinearity, tolerance values less than .30 suggest variables may be correlated, while a value of 1 equals independence. Collinearity statistics were calculated and based on the tolerance levels, no collinearity issues were identified. It should be noted that due to the small sample used in this study the assumption regarding the ratio of independent variables to

cases has been violated. As a result, findings should be applied with caution. Based on this model, 19% (Adjusted  $R^2 = .19$ ) of the variance in how actively faculty seek out teaching professional development can be explained by teaching appointment percentage and sex. Two significant ( $p \leq .05$ ) predictor variables, teaching appointment percentage ( $\beta = .36$ ;  $p = .01$ ) and sex ( $\beta = .27$ ;  $p = .04$ ; Coded: Male = 0; Female = 1) were entered into the model. Cohen's  $d$  was calculated to determine effect sizes for each of the predictor variables with descriptors from Cohen (1988) used. The independent variable teaching appointment percentage ( $d = 0.79$ ) was found to have a large effect while sex ( $d = 0.59$ ) had a medium effect. The  $F$  value of 6.94 was found to be significant with a  $p$ -value of .01. The independent variable discipline ( $t = -0.48$ ;  $p = .63$ ; Coded: Natural Science = 0, Social Science = 1) was not significant and therefore was not entered into the model.

Table 7  
*Regression of How Actively Faculty Seek out Teaching Professional Development on Teaching Appointment Percentage, Sex, and Discipline (n = 51)*

Variable(s) in Model	$R$	$R^2$	$b$	$\beta$	$t$	$p$	$d$
Characteristic	.47	.22					
Teaching Appointment Percentage			0.03	.36	2.79	.01*	0.79
Sex <sup>a</sup>			0.63	.27	2.08	.04*	0.59
(Constant)			2.18		5.66	.01*	
Variable(s) Excluded							
Discipline <sup>b</sup>					-0.48	.63	

*Note.* Adjusted  $R^2 = .19$ ; For Model  $F(2,50) = 6.94$ ;  $p \leq .05$

<sup>a</sup>Coded: Male = 0, Female = 1; <sup>b</sup>Coded: Natural Science = 0, Social Science = 1

\* $p \leq .05$

In Table 8, the results of a stepwise multiple linear regression of the number of hours of teaching professional development on teaching appointment percentage, research appointment percentage, discipline, and years in a tenure track position are presented. Basic assumptions were tested for calculating correlations and collinearity

statistics. Independent variables that did not have a minimum correlation of  $r = .10$  were excluded from the model (Cohen, 1988). When testing for collinearity, tolerance values less than .30 suggest variables may be correlated, while a value of 1 equals independence. Collinearity statistics were calculated and based on the tolerance levels, no collinearity issues were identified. It should be noted that due to the small sample used in this study the assumption regarding the ratio of independent variables to cases has been violated. As a result, findings should be applied with caution. Based on this model, 6% (Adjusted  $R^2 = .06$ ) of the variance in the number of hours of teaching professional development can be explained by teaching appointment percentage ( $\beta = .29$ ;  $p = .04$ ). Cohen's  $d$  was calculated to determine effect sizes for the predictor variable with descriptors from Cohen (1988) used. The independent variable teaching appointment percentage ( $d = 0.59$ ) was found to have a medium effect. The  $F$  value of 4.36 was found to be significant with a  $p$ -value of .04. The independent variables sex ( $t = 1.48$ ;  $p = .14$ ; Coded: Male = 0; Female = 1), research appointment percentage ( $t = -0.22$ ;  $p = .83$ ), discipline ( $t = 0.71$ ;  $p = .48$ ; Coded: Natural Science = 0, Social Science = 1), and years in a tenure track position ( $t = 0.84$ ;  $p = .40$ ) were not significant and therefore were not entered into the model.

Table 8

*Regression of Hours of Teaching Professional Development in the Past 12 Months on Teaching Appointment Percentage, Research Appointment Percentage, Discipline, and Years in a Tenure Track Position (n = 51)*

Variable(s) in Model	<i>R</i>	<i>R</i> <sup>2</sup>	<i>b</i>	$\beta$	<i>t</i>	<i>p</i>	<i>d</i>
Characteristic	.29	.08					
Teaching Appointment Percentage			0.16	.29	2.09	.04*	0.59
(Constant)			1.86		0.61	.55	
Variable(s) Excluded							
Sex <sup>a</sup>					1.48	.14	
Research Appointment Percentage					0.22	.83	
Discipline <sup>b</sup>					0.71	.48	
Years in a Tenure Track Position					0.84	.40	

*Note.* Adjusted  $R^2 = .06$ ; For Model  $F(1,50) = 4.36$ ;  $p \leq .05$

<sup>a</sup>Coded: Male = 0, Female = 1; <sup>b</sup>Coded: Natural Science = 0, Social Science = 1

\* $p \leq .05$

A stepwise multiple linear regression was utilized to determine predictor variables for the dependent variable participation in teaching professional development at a professional meeting in the last 12 months. Table 9 displays the results from the regression with the dependent variables research appointment percentage, age, teaching appointment percentage, service appointment percentage, discipline, and years in a tenure track position. Basic assumptions were tested for by calculating correlations and collinearity statistics. Independent variables that did not have a minimum correlation of  $r = .10$  were excluded from the model (Cohen, 1988). When testing for collinearity, tolerance values less than .30 suggest variables may be correlated, while a value of 1 equals independence. Collinearity statistics were calculated and based on the tolerance levels, no collinearity issues were identified. It should be noted that due to the small sample used in this study the assumption regarding the ratio of independent variables to cases has been violated. As a result, findings should be applied with caution. Based on this model, 19% (Adjusted  $R^2 = .19$ ) of the variance in the number of hours of teaching professional development can be explained by research appointment percentage ( $\beta = -$

.45;  $p = .01$ ). Cohen's  $d$  was calculated to determine effect sizes for the predictor variable with descriptors from Cohen (1988) used. The independent variable research appointment percentage ( $d = -0.99$ ) was found to have a large effect. The  $F$  value of 12.32 was found to be significant with a  $p$ -value of .01. The independent variables age ( $t = 1.16$ ;  $p = .25$ ; Coded: 31-35 Years = 1, 36-40 Years = 2, 41-45 Years = 3, 46-50 Years = 4, 51-55 Years = 5), teaching appointment percentage ( $t = 1.49$ ;  $p = .14$ ), service appointment percentage ( $t = 0.73$ ;  $p = .47$ ), discipline ( $t = 0.57$ ;  $p = .57$ ; Coded: Natural Science = 0, Social Science = 1), and years in a tenure track position ( $t = 1.63$ ;  $p = .11$ ) were not significant and therefore were not entered into the model.

Table 9  
*Regression of Participation in Teaching Professional Development at a Professional Meeting in the Last 12 Months on Age, Teaching Appointment Percentage, Research Appointment Percentage, Service Appointment Percentage, Discipline, and Years in a Tenure Track Position (n = 51)*

Variable(s) in Model	$R$	$R^2$	$b$	$\beta$	$t$	$p$	$d$
Characteristic	.45	.20					
Research Appointment Percentage			-0.03	-.45	-3.51	.01*	-0.99
(Constant)			1.90		4.74	.01*	
Variable(s) Excluded							
Age <sup>a</sup>					1.16	.25	
Teaching Appointment Percentage					1.49	.14	
Service Appointment Percentage					0.73	.47	
Discipline <sup>b</sup>					0.57	.57	
Years in a tenure Track Position					1.63	.11	

Note. Adjusted  $R^2 = .19$ ; For Model  $F(1,50) = 12.32$ ;  $p \leq .05$

<sup>a</sup>Coded: 31-35 Years = 1, 36-40 Years = 2, 41-45 Years = 3, 46-50 Years = 4, 51-55 Years = 5; <sup>b</sup>Coded: Natural Science = 0, Social Science = 1

\* $p \leq .05$

### **Research Objective Six – Areas of Need for Professional Development and Self-efficacy**

Objective Six was to describe perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each

area. Tables 10 and 11 contain faculty responses to 25 topic areas for professional development in teaching. In Table 10, means, standard deviations, and ranges are presented for faculty responses in regard to how helpful the topic area would be for their growth as a teacher. Table 11 displays means, standard deviations, and ranges for faculty responses in regard to how confident they are in their current ability level for the topic area. Data were collected using a five point Likert type scale. To aid in data interpretation, it should be noted that strongly disagree = 1.00 - 1.50, disagree = 1.51 - 2.50, neutral = 2.51 - 3.50, agree = 3.51 - 4.50, strongly agree = 4.51 - 5.00. Respondents agreed that 17 of the topic areas would be helpful to their growth as a teacher. In regard to the remaining eight topic areas, respondents were neutral in their perception of how helpful the topic would be to their growth as a teacher. In terms of self-efficacy for the topics areas, respondents agreed that they were confident in their ability levels for 13 of the items. Respondents were neutral toward 11 of the topic areas. For the item, Delivering Distance Education, respondents disagreed that they were confident in their current ability level.

For the area of need Using a Variety of Teaching Approaches, respondents agreed ( $M = 4.25$ ;  $SD = 0.66$ ) that the topic would be useful to their growth as a teacher and they agreed ( $M = 3.57$ ;  $SD = 0.76$ ) that they were confident in their current level of ability. Regarding the topic of Developing Non-traditional Evaluation Methods, respondents agreed ( $M = 4.18$ ;  $SD = 0.87$ ) that the topic would be helpful and were neutral ( $M = 2.73$ ;  $SD = 1.02$ ) in regard to being confident in their current ability level. When presented with the topic of Evaluating Learning, respondents agreed ( $M = 4.14$ ;  $SD = 0.83$ ) that the

topic area would be helpful and were neutral ( $M = 3.37$ ;  $SD = 0.82$ ) in regard to being confident in their current ability level.

Respondents agreed ( $M = 4.04$ ;  $SD = 1.04$ ) that Understanding Learning Styles would be helpful and they were neutral ( $M = 3.43$ ;  $SD = 0.92$ ) in terms of being confident in their level of ability. In regard to Developing a Teaching Dossier, respondents agreed ( $M = 3.98$ ;  $SD = 0.91$ ) that the topic would be helpful and were neutral ( $M = 3.33$ ;  $SD = 0.82$ ) in terms of their confidence in their current ability level. Overall, respondents agreed ( $M = 3.94$ ;  $SD = 1.01$ ) that Developing Effective Lectures would be helpful to their growth as a teacher and agreed ( $M = 3.75$ ;  $SD = 0.85$ ) that they were confident in their level of ability. When presented with the topic Designing Visual Aids to Enhance Learning, respondents agreed ( $M = 3.94$ ;  $SD = 0.93$ ) that the topic would be helpful and agreed ( $M = 3.63$ ;  $SD = 0.89$ ) that they were confident in their ability level.

Regarding Conducting Peer Evaluations of Teaching, respondents agreed ( $M = 3.88$ ;  $SD = 1.01$ ) that the topic would be helpful to their growth as a teacher and were neutral ( $M = 2.90$ ;  $SD = 1.15$ ) in terms of their confidence in their level of ability. Respondents agreed ( $M = 3.86$ ;  $SD = 1.15$ ) that the topic of Mentoring Graduate Students would be helpful and agreed ( $M = 3.94$ ;  $SD = 0.65$ ) that they were confident in their level of ability. In regard to Developing a Teaching Philosophy, respondents agreed ( $M = 3.86$ ;  $SD = 1.13$ ) that the topic would be helpful and agreed ( $M = 3.69$ ;  $SD = 0.79$ ) that they were confident in their ability.

When presented with the topic Developing Non-traditional Teaching Approaches, respondents agreed ( $M = 3.86$ ;  $SD = 1.06$ ) that the topic would be helpful and were neutral ( $M = 2.75$ ;  $SD = 1.13$ ) in terms of how confident they were in their ability level.



Respondents agreed ( $M = 3.84$ ;  $SD = 0.97$ ) that the topic, Developing Test Questions, would be helpful and agreed ( $M = 3.59$ ;  $SD = 0.90$ ) that they were confident in their current level of ability. Regarding Improving the Instructor/Student Relationship, respondents agreed ( $M = 3.80$ ;  $SD = 1.13$ ) that the topic would be helpful and agreed ( $M = 3.92$ ;  $SD = 0.82$ ) that they were confident in their level of ability.

Respondents agreed ( $M = 3.78$ ;  $SD = 0.90$ ) that the topic, Assessing Educational Resources, would be helpful and were neutral ( $M = 3.16$ ;  $SD = 0.95$ ) in terms of their confidence in their current ability level. When presented with the topic Developing Learning Objectives, respondents agreed ( $M = 3.76$ ;  $SD = 1.07$ ) that the topic would be helpful to their growth as a teacher and agreed ( $M = 3.73$ ;  $SD = 0.85$ ) that they were confident in their level of ability. For the area of need, Addressing Classroom Incivilities, respondents agreed ( $M = 3.61$ ;  $SD = 1.15$ ) that they topic would be helpful and were neutral ( $M = 3.29$ ;  $SD = 1.05$ ) in regard to their confidence in their current level of ability.

Regarding the topic of Understanding the Roles of an Academic Advisor, respondents agree ( $M = 3.53$ ;  $SD = 1.27$ ) that the topic would be helpful and were neutral ( $M = 3.37$ ;  $SD = 1.20$ ) in terms of their confidence in their current ability level. Respondents were neutral ( $M = 3.45$ ;  $SD = 1.14$ ) in terms of how helpful the topic, Designing Course Content, would be to their growth as a teacher and agreed ( $M = 4.22$ ;  $SD = 0.64$ ) that they were confident in their current level of ability. When presented with the topic area, Teaching in Non-traditional Settings, respondents were neutral ( $M = 3.27$ ;  $SD = 1.27$ ) regarding how helpful the topic would be and neutral ( $M = 3.06$ ;  $SD = 1.17$ ) in terms of their current level of ability.

For the topic area, Meeting a Class for the First Time, respondents were neutral ( $M = 3.22$ ;  $SD = 1.25$ ) regarding how helpful the topic would be and agreed ( $M = 3.80$ ;  $SD = 0.98$ ) that they were confident in their current level of ability. Regarding the topic of Advising Undergraduate Student Organizations, respondents were neutral ( $M = 3.20$ ;  $SD = 1.27$ ) in terms of how helpful the topic would be to their growth as a teacher and neutral ( $M = 2.90$ ;  $SD = 1.33$ ) regarding their confidence in their current level of ability. When presented with the topic area, Developing Course Syllabi, respondents were neutral ( $M = 3.14$ ;  $SD = 1.20$ ) in regard to how helpful the topic would be and agreed ( $M = 4.14$ ;  $SD = 0.72$ ) that they were confident in their current level of ability.

Respondents were neutral ( $M = 3.08$ ;  $SD = 1.29$ ) regarding Using Internet Courseware such as Blackboard and agreed ( $M = 3.73$ ;  $SD = 0.96$ ) that they were confident in their current ability level. Regarding Planning for Laboratory Instruction, respondents were neutral ( $M = 3.00$ ;  $SD = 1.82$ ) in regard to how helpful the topic would be and neutral ( $M = 2.73$ ;  $SD = 1.65$ ) regarding their current level of ability. Finally, when presented with the topic, Delivering Distance Education, respondents were neutral ( $M = 2.92$ ;  $SD = 1.59$ ) in regard to how helpful the topic would be to their growth as a teacher and disagreed ( $M = 2.08$ ;  $SD = 1.16$ ) that they were confident in their current level of ability.

Table 10  
*Respondents Perceived Areas of Need for Faculty Development (n = 51)*

Area of Need	<i>M</i>	<i>SD</i>	<i>Range</i>
Using a Variety of Teaching Approaches	4.25	0.66	2
Developing Non-Traditional Evaluation Methods	4.18	0.87	4
Evaluating Learning	4.14	0.83	3
Understanding Learning Styles	4.04	1.04	4
Developing a Teaching Dossier	3.98	0.91	4
Developing Effective Lectures	3.94	1.01	4
Designing Visual Aids to Enhance Learning	3.94	0.93	4
Conducting Peer Evaluations of Teaching	3.88	1.01	4
Mentoring Graduate Students	3.86	1.15	4
Developing a Teaching Philosophy	3.86	1.13	4
Developing Non-Traditional Instructional Approaches	3.86	1.06	4
Developing Test Questions	3.84	0.97	4
Improving the Instructor/Student Relationship	3.80	1.13	4
Assessing Educational Resources	3.78	0.90	4
Developing Learning Objectives	3.76	1.07	4
Addressing Classroom Incivilities	3.61	1.15	4
Understanding the Roles of an Academic Advisor	3.53	1.27	4
Designing Course Content	3.45	1.14	4
Teaching in Non-Traditional Settings	3.27	1.27	4
Meeting a Class for the First Time	3.22	1.25	4
Advising Undergraduate Student Organizations	3.20	1.27	4
Developing Course Syllabi	3.14	1.20	4
Using Internet Courseware such as Blackboard	3.08	1.29	4
Planning for Laboratory Instruction	3.00	1.82	4
Delivering Distance Education	2.92	1.59	4

*Note.* Coded: Strongly Disagree = 1.00 - 1.50, Disagree = 1.51 – 2.50, Neutral = 2.51 – 3.50, Agree = 3.51 – 4.50, Strongly Agree = 4.51 – 5.00.

Table 11  
*Respondents Self-efficacy for Teaching Topics (n = 51)*

Area of Need	<i>M</i>	<i>SD</i>	<i>Range</i>
Designing Course Content	4.22	0.64	1
Developing Course Syllabi	4.14	0.72	3
Mentoring Graduate Students	3.94	0.65	3
Improving the Instructor/Student Relationship	3.92	0.82	4
Meeting a Class for the First Time	3.80	0.98	4
Developing Effective Lectures	3.75	0.85	4
Developing Learning Objectives	3.73	0.85	4
Using Internet Courseware such as Blackboard	3.73	0.96	4
Developing a Teaching Philosophy	3.69	0.79	3
Designing Visual Aids to Enhance Learning	3.63	0.89	4
Developing Test Questions	3.59	0.90	4
Using a Variety of Teaching Approaches	3.57	0.76	3
Understanding Learning Styles	3.43	0.92	3
Evaluating Learning	3.37	0.82	4
Understanding the Roles of an Academic Advisor	3.37	1.20	4
Developing a Teaching Dossier	3.33	0.82	3
Addressing Classroom Incivilities	3.29	1.05	4
Assessing Educational Resources	3.16	0.95	4
Teaching in Non-Traditional Settings	3.06	1.17	4
Conducting Peer Evaluations of Teaching	2.90	1.15	4
Advising Undergraduate Student Organizations	2.90	1.33	4
Developing Non-Traditional Instructional Approaches	2.75	1.13	4
Developing Non-Traditional Evaluation Methods	2.73	1.02	4
Planning for Laboratory Instruction	2.73	1.65	4
Delivering Distance Education	2.08	1.16	4

*Note.* Coded: Strongly Disagree = 1.00 - 1.50, Disagree = 1.51 – 2.50, Neutral = 2.51 – 3.50, Agree = 3.51 – 4.50, Strongly Agree = 4.51 – 5.00.

## **Research Objective Seven – Predictors of Areas of Need for Professional Development**

The goal of Objective Seven was to describe predictors of areas of need for faculty development programming and respondent self-efficacy by early career faculty members' sex, age, appointment, rank, degree area, and years in a tenure track position. In Table 12, the results of a stepwise multiple linear regression of perceived helpfulness of teaching professional development topics on sex, age, teaching appointment percentage, research appointment percentage, service appointment percentage, and years in a tenure track position are presented. Basic assumptions were tested for by calculating correlations and collinearity statistics. Independent variables that did not have a minimum correlation of  $r = .10$  were excluded from the model (Cohen, 1988). When testing for collinearity, tolerance values less than  $.30$  suggest variables may be correlated, while a value of 1 equals independence. Collinearity statistics were calculated and based on the tolerance levels, no collinearity issues were identified. It should be noted that due to the small sample used in this study the assumption regarding the ratio of independent variables to cases has been violated. As a result, findings should be applied with caution. Based on this model, 7% (Adjusted  $R^2 = .07$ ) of the variance in the perceived helpfulness of teaching professional development topics can be explained by service appointment percentage ( $\beta = -.30$ ;  $p = .03$ ). Cohen's  $d$  was calculated to determine effect sizes for the predictor variable with descriptors from Cohen (1988) used. The independent variable service appointment percentage ( $d = -0.62$ ) was found to have a medium effect. The  $F$  value of 4.82 was found to be significant with a  $p$ -value of  $.03$ . The independent variables sex ( $t = 1.10$ ;  $p = .28$ ; Coded: Male = 0; Female = 1), age ( $t = 0.61$ ;  $p = .54$ ;

Coded: 31-35 Years = 1, 36-40 Years = 2, 41-45 Years = 3, 46-50 Years = 4, 51-55 Years = 5), teaching appointment, percentage ( $t = 1.59$ ;  $p = .12$ ), research appointment percentage ( $t = -0.20$ ;  $p = .84$ ), and years in a tenure track position ( $t = -1.63$ ;  $p = .11$ ) were not significant and therefore were not entered into the model.

Table 12

*Regression of Perceived Helpfulness of Teaching Professional Development Topics on Sex, Age, Teaching Appointment Percentage, Research Appointment Percentage, Service Appointment Percentage, and Years in a Tenure Track Position (n = 51)*

Variable(s) in Model	<i>R</i>	<i>R</i> <sup>2</sup>	<i>b</i>	$\beta$	<i>t</i>	<i>p</i>	<i>d</i>
Characteristic	.30	.09					
Service Appointment Percentage			-0.01	-.30	-2.20	.03*	-0.62
(Constant)			3.85		39.31	.01*	
Variable(s) Excluded							
Sex <sup>a</sup>					1.10	.28	
Age <sup>b</sup>					0.61	.54	
Teaching Appointment Percentage					1.59	.12	
Research Appointment Percentage					-0.20	.84	
Years in a Tenure Track Position					-1.63	.11	

*Note.* Adjusted  $R^2 = .07$  ; For Model  $F(1,50) = 4.82$ ;  $p \leq .05$

<sup>a</sup>Coded: Male = 0, Female = 1; <sup>b</sup>Coded: 31-35 Years = 1, 36-40 Years = 2, 41-45 Years = 3, 46-50 Years = 4, 51-55 Years = 5

\* $p \leq .05$

### Summary

This chapter presented findings based on data collected from early career faculty members at Iowa State University, the University of Missouri, and the University of Nebraska-Lincoln. It was found that there were more males than females holding tenure track faculty positions. A majority of respondents worked in the natural sciences with the remaining respondents working in the social sciences. Early career faculty were neutral or in agreement that their structured education, unstructured education, and current place of employment prepared them for the content that they teach and how they teach it. Respondents agreed that they would or already do participate in faculty development in teaching yet were neutral when asked if they actively seek our professional development

in teaching. In general, early career faculty agreed that professional development in teaching would be helpful to their growth as a teacher and were neutral to positive regarding their own efficacy in teaching. Chapter five presents conclusions, implications, and recommendations based on these findings.

CHAPTER V  
SUMMARY, CONCLUSIONS, IMPLICATIONS, &  
RECOMMENDATIONS

**Purpose of the Study**

The purpose of this study was to describe faculty members' perceptions of and experiences with early career professional development. Further, the study examined the relationship between early career faculty members' personal and professional characteristics and their perceptions of professional development. The following research objectives were developed to guide the stated purpose.

**Research Objectives**

1. Describe the personal and professional characteristics of faculty in colleges of agriculture and related sciences at Midwestern land-grant universities (sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, years in a tenure track position).
2. Describe early career faculty members' perceptions of the extent to which structured education, unstructured education, and current place of appointment prepared them for their teaching role as faculty members.
3. Describe early career faculty members' preferences regarding faculty development programming.
4. Describe the frequency that early career faculty members have participated in faculty development programming.



5. Describe predictors of the frequency that early career faculty members have participated in faculty development programming by sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, and years in a tenure track position.
6. Describe perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each area.
7. Describe predictors of areas of need for faculty development programming and respondent self-efficacy by early career faculty members' sex, age, teaching appointment percentage, research appointment percentage, extension/service/outreach appointment percentage, rank, discipline, and years in a tenure track position.

### **Limitations of the Study**

Faculty respondents have varied backgrounds and therefore differences among graduate preparation, work experience outside of academia, participation in professional development opportunities, and so forth could not be controlled. Additionally, the respective academic programs offices for selected institutions provided information, including names, emails, appointment, and years of service of early career faculty members. While this frame was scrutinized for errors and purged of any duplication, the researcher was unable to formally verify accuracy. Finally, Data collection was limited to faculty members in their first seven years of service and the institutions participating in the study during the spring semester of 2010. As a result findings of the study should be generalized with caution beyond this specific population and time frame.

## **Research Design**

This study sought to address questions regarding early career faculty members perceptions of and experiences with professional development through use of mixed method descriptive-correlational research methodology. Through use of these descriptive methods the researcher sought to describe early career faculty members in terms of several personal and professional characteristics. Additionally, data were collected to describe the extent to which unstructured education, structured education, and respondents' current place of employment prepared them for and support their faculty teaching role. Finally, the researcher sought to describe respondents' perceptions of, participation in, perceived areas of need for faculty development and their self-efficacy for each need area.

Beyond this desire to describe the population of study the researcher employed correlational methods in an attempt to "...determine the extent and the direction of the relationship between two or more variables" (Ary et al., 2006, p. 631). Specifically, relationships between early career faculty members personal and professional characteristics (sex, age, teaching appointment percentage, research appointment percentage, service/extension/outreach percentage appointment, discipline, and years in a tenure track position) and their preferences, participation in, and perceived areas of need for faculty development, and their self-efficacy were determined.

There were four broad areas that the study addressed: 1) early career faculty members perceived preparedness for their teaching role, 2) their preferences for delivery of faculty development programming, 3) their participation in faculty development programming, and 4) their perceived areas of need in faculty development programming

and their self-efficacy for each need area. From these broad areas, the following six summated dependent variables were created: 1) how actively faculty seek out teaching professional development, 2) hours of teaching professional development in the past 12 months, 3) hours each week devoted to improving teaching, 4) participation in teaching professional development at a professional meeting in the last 12 months, 5) perceived helpfulness of teaching professional development topics, 6) perceived self-efficacy for teaching topics. Additionally, there were seven independent variables. They included: 1) sex, 2) age, 3) teaching appointment percentage, 4) research appointment percentage, 5) service appointment percentage, 6) discipline, and 7) years in a tenure track position.

### **Population**

The target population for this study consisted of early career faculty members in colleges of agriculture and related sciences. For the purposes of this study early career faculty members were defined as those faculty who had completed seven or fewer years of service in a tenure track position. Faculty at Iowa State University, the University of Missouri, and the University of Nebraska-Lincoln were selected for this study based on several factors including their status as land-grant institutions, AAU membership, relative regional proximity, similarities in program offerings, and participation in the Big 12 athletic conference.

### **Instrumentation**

Data collection was conducted using an online instrument that was developed by the researcher after a review of related literature. The instrument drew from the work of MacKinnon, III (2003). Additionally, the researcher was guided by literature on survey design, teaching strategies, faculty development and self-efficacy (Bandura, 1977a;

Dillman, 2007; Golde & Dore, 2004; McKeachie & Svinicki, 2006; National Research Council, 2009; Transforming Agricultural Education for a Changing World, 2009).

The instrument consisted of five sections. Section I included six items that addressed early career faculty members perceived levels of preparedness for their faculty teaching role. Specifically, respondents were asked to rate how well they were prepared for these roles by their structured education, unstructured education, and their current academic appointment. Section II contained 12 statements designed to capture early career faculty members' preferences toward faculty development. Section III included seven items that addressed the frequency that early career faculty members have participated in faculty development programming. In section IV early career faculty members responded to a series of 25 statements that addressed their perceived areas of need for faculty development programming as well as their self-efficacy for each need area. Section V, the final section of the instrument, contained eight items that collected personal and professional characteristics about the respondents.

### **Data Collection**

Early career faculty respondents in the study ( $N = 63$ ) were contacted and asked to complete the study on Thursday, March 25<sup>th</sup>. Respondents were asked to complete the instrument by Wednesday, April 7, 2010. A copy of the initial email that was delivered is included in appendix E. Following this initial request, those individuals who had not responded received a follow-up email with a link to the questionnaire asking them to participate in the survey. Copies of all follow up emails are included in appendices F, G, and H. These follow-up emails were sent on the following dates: April 1, 2010; April 11, 2010; and April 15, 2010. The study had a response rate of 85.48% with a total of 53

early career faculty members completing the questionnaire. Two of the respondents provided unusable data therefore the remaining 51 respondents served as the accepting sample.

### **Data Analysis**

This study used descriptive statistics such as means, frequencies and standard deviations to describe early career faculty members perceptions of their preparedness for faculty roles, preferences for delivery, participation in, perceived areas of need for faculty professional development programming, and faculty self-efficacy for each need area. Additionally, stepwise multiple linear regressions were used to help describe predictors of the studies dependent variables based on selected independent variables. Further, Cohen's *d* (1988) was calculated for each of the descriptors and using Cohen's descriptors, effect sizes were noted.

Quantitative data were entered into and analyzed using version 17.0 of the SPSS Statistics program. The following measures were utilized due to their appropriateness given the scales of measurement:

Research Objective One: Means, frequencies, percentages, standard deviations, and ranges were used to describe early career faculty members' personal and professional characteristics including their sex, age, academic appointment, rank, degree area, and years in a tenure track position.

Research Objective Two: Means, standard deviations, and ranges were used to describe the extent to which early career faculty members felt that their structured education, unstructured education, and current place of employment prepared them for their faculty teaching role.

Research Objective Three: Means, standard deviations, and ranges were used to describe early career faculty members' preferences regarding faculty development programming.

Research Objective Four: Means, standard deviations, and ranges were used to describe the frequency that early career faculty members have participated in faculty development programming.

Research Objective Five: Stepwise multiple linear regression was used to describe predictors of the relationship between the frequency that early career faculty members have participated in faculty development and personal and professional characteristics (sex, age, academic appointment, rank, degree area, and years in a tenure track faculty position).

Research Objective Six: Means, standard deviations, and ranges were used to describe the perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each area.

Research Objective Seven: Stepwise multiple linear regression was used to describe predictors of the relationship between perceived areas of need for faculty development programming and their perceived self-efficacy for each area and personal and professional characteristics (sex, age, academic appointment, rank, degree area and years in a tenure track position).

### **Research Objective One – Personal and Professional Characteristics**

#### **Summary of Findings**

In a sample of 51, it was found that there were more males ( $n = 34$ ; 66.70%) than females ( $n = 17$ ; 33.30%). In terms of age the greatest number of respondents were in the

36-40 years of age range ( $n = 24$ ; 47.10%), followed by 41-45 years ( $n = 11$ ; 21.60%), 31-35 years ( $n = 10$ ; 19.60%), 46-50 years ( $n = 4$ ; 7.80%), 51-55 years ( $n = 1$ ; 2.00%) and no age reported ( $n = 1$ ; 2.00%). A majority of respondents held the rank of Assistant Professor ( $n = 48$ ; 94.10%), versus Associate Professor ( $n = 3$ ; 5.90%). Regarding respondents discipline, a majority of respondents worked in the natural sciences ( $n = 39$ ; 76.5%) with the remaining respondents working in the social sciences ( $n = 12$ ; 23.5%). Respondents had an average of 3.96 ( $SD = 1.57$ ) years of service in a tenure track position. The greatest number of respondents ( $n = 13$ ; 25.50%) had been in a tenure track position for three years, followed by four years ( $n = 10$ ; 19.60%), two years ( $n = 9$ ; 17.60%), six years ( $n = 8$ ; 15.70%), five years ( $n = 7$ ; 13.70%), seven years ( $n = 3$ ; 5.90%), and one year ( $n = 1$ ; 2.00%). The average percentage of academic appointment in teaching was 37.80% ( $SD = 15.07$ ). Respondents reported an average research appointment of 52.55% ( $SD = 21.24$ ). Additionally, the average percentage of academic appointment devoted to extension/service/outreach was 7.88% ( $SD = 14.54$ ).

## **Conclusions**

The first objective of the study was to describe selected personal and professional characteristics of early career faculty in colleges of agriculture and related sciences at Midwestern land-grant universities. From the findings of the study it is concluded that more men (66.70 %) are in the academy than women (33.30%). This conclusion is consistent with data regarding the sex of fulltime instructional faculty in agriculture and home economics compiled by the National Center for Education Statistics (2009) that indicates more men (64.60%) than women (35.40%) are in fulltime instructional faculty positions. Further, it was concluded that on average faculty have a roughly 50%

appointment in research and nearly a 40% appointment in teaching. However, a great deal of variability exists in individual faculty appointments. Finally, with an 85% response rate it can be reasonably concluded that the topic of professional development is important to early career faculty in colleges of agriculture and related sciences given that previous study has indicated much lower response rates from faculty (Shannon & Bradshaw, 2002).

### **Implications**

The conclusions of Objective One imply that the respondents in this study are representative of the population. While the respondents are representative, this conclusion implies that perhaps barriers exist that inhibit females from pursuing tenure track faculty positions and land-grant universities. Previous study has indicated a lack of female mentors for early career faculty who are female (Sands, Parson, & Duane, 1991). It is reasonable to assume that because of the lack of female in tenure track faculty positions, perhaps, females at the undergraduate and graduate level do not receive the same support and encouragement to pursue tenure track faculty position. Further, these conclusions imply that there is very little uniformity in terms of the percentage of early career faculty members' appointments that are allocated to teaching, research, and extension/service/outreach. This may suggest that disciplines have varying degrees of value for teaching. Finally, the respondents in this study differed from prior research on faculty in terms of the number of respondents to the questionnaire (Shannon & Bradshaw, 2002). This finding implies that early career faculty are interested in the topic of professional development related to teaching and are receptive to programs designed to help them improve their teaching. This further implies that faculty are responsive to



recent calls for greater quality in terms of teaching and learning on college campuses (Camblin Jr. & Steger, 2000; Transforming Agricultural Education for a Changing World, 2009; United States Department of Education, 2006).

## **Research Objective Two – Impact of Structured Education, Unstructured Education, and Current Place of Employment on Teaching**

### **Summary of Findings**

Data were collected using a five point scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. The mean response when asked how well structured education prepared respondents for how they teach was 3.22 ( $SD = 1.35$ ). In terms of how well structured education prepared respondents for the content that they teach the mean response was 4.33 ( $SD = 0.86$ ). In terms of how well unstructured education prepared respondents for how they teach, the mean response was 3.59 ( $SD = 1.13$ ). Further, the mean response in terms of how well unstructured education helped prepare respondents for the content that they teach was 3.59 ( $SD = 1.25$ ). When asked if respondents' current place of employment provided adequate support in terms of professional development related to how respondents teach the mean response was 3.86 ( $SD = 1.10$ ) and 3.24 ( $SD = 1.03$ ) regarding professional development focused on the content that they teach.

### **Conclusions**

Objective Two sought to describe respondents' perceptions of the extent to which structured education, unstructured education and current place of employment prepared early career faculty for their teaching role. Based on the findings it is concluded that respondents structured education programs prepared them for the content that they teach.

Structured education includes degree programs (i.e. B.S., M.S., PhD, etc.) and for credit course work. This should not be surprising given the emphasis that most graduate programs place on research, thereby providing graduate students ample opportunities to broaden the depth and breadth of their knowledge of their respective degree area (Transforming Agricultural Education for a Changing World, 2009). While faculty feel their structured education prepared them in terms of the content that they teach, it is concluded that they are not provided opportunities to explore the science and art behind how they teach. Given that few, if any, faculty members are excused entirely from teaching this conclusion is particularly alarming (Serow, 2000).

The findings from Objective Two support the conclusion that the unstructured portion of graduate student preparation helps to prepare future faculty for both the content that they teach and how they will teach it. Unstructured education includes professional relationships with faculty and graduate students, and workshops and seminars in one's department, university and greater discipline. It is further concluded that colleges of agriculture and related sciences provide support for early career faculty in terms of how they teach. However, faculty are neutral regarding the support they are provided regarding the content they teach. This finding leads to the conclusion that faculty development programming in colleges of agriculture and related sciences is generally not content specific and is focused on helping faculty grow as teachers rather than broadening their content knowledge.

### **Implications**

It is implied from these conclusions that formal course work adequately prepares future faculty in terms of content; however, graduate programs seem to be lacking course

work aimed at preparing future faculty to be teachers. Given the increasing pressure in terms of accountability it is implied that the structure of graduate preparation has not responded to the numerous calls for the improvement of teaching on college campuses (Camblin, Jr, & Steger, 2000; Transforming Agricultural Education for a Changing World, 2009; United States Department of Education, 2006). It is further implied that while teaching accounts for nearly 40% of early career faculty members' appointments, faculty are neutral regarding the impact of structured education on their preparation for teaching. This seems to imply that those charged with preparing future faculty members do not value teaching at the same level that they value research.

The results from this study also indicate that perhaps the unstructured portion of graduate education plays the greatest role in terms of the overall development of future faculty related to the content that they teach and how they teach it. As a result, it is implied that the relationships that are forged between graduate students and faculty as well as graduate students and their colleagues are very important to the development of teaching skills in future faculty. Further, because early career faculty agree that their unstructured education prepared them for the content that they teach and how they teach it is implied that graduate programs in agriculture and related sciences do a good job of creating opportunities for graduate students to discuss teaching in informal settings.

Finally, it is implied that colleges of agriculture and related sciences are providing support for early career faculty members regarding how they teach. This seems to suggest that while graduate programs do not appear to be responsive to calls for improved instruction, colleges recognize the need to support faculty and are providing opportunities for professional development on the topic of teaching. It would appear that colleges are

beginning to head the calls for change outlined in Transforming Agricultural Education for a Changing World (2009) publication.

### **Research Objective Three – Preferences Regarding Professional Development**

#### **Summary of Findings**

Data were collected using a five point scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. When asked if they would or do participate in faculty development in teaching for early career faculty members the respondents mean response was 4.14 ( $SD = 1.02$ ). Regarding the statement to whether respondents do or would participate in faculty development in teaching for all faculty, regardless of rank or years of service the mean response was 4.20 ( $SD = 1.00$ ). Next, respondents were asked if they would like to see more faculty development in teaching made available and their mean response was 3.53 ( $SD = 1.08$ ). When asked if the level of faculty development in teaching is adequate at the respondents current place of employment their mean response was 3.67 ( $SD = 0.99$ ). Regarding the statement, I would or do work one-on-one with someone to improve my teaching respondents mean response was 3.39 ( $SD = 1.10$ ). A series of three statements dealt with whether or not early career faculty would participate in faculty development in teaching if it was a one day long program ( $M = 3.80$ ;  $SD = 1.06$ ), if it met one night a week for a semester ( $M = 2.86$ ;  $SD = 1.28$ ), and if it was a week long program ( $M = 2.69$ ;  $SD = 1.30$ ). The following three statements asked respondents if they preferred that faculty development in teaching be offered at the department level ( $M = 2.78$ ;  $SD = 1.29$ ), college level ( $M = 3.24$ ;  $SD = 0.97$ ), or university level ( $M = 3.37$ ;  $SD = 1.25$ ). Finally, respondents were

asked if their disciplines professional organization meeting was an appropriate place for professional development in teaching with a mean response of 3.39 ( $SD = 1.09$ ).

## **Conclusions**

The goal of Objective Three was to describe early career faculty members' preferences regarding faculty development programming. Based on the findings, it is concluded that early career faculty members' value professional development in teaching and faculty perceive themselves as being actively engaged in faculty development aimed at teaching. Further, faculty do not have strong feelings about whether or not faculty development should be aimed at specific audiences (i.e. early career faculty members) or simply made available to all faculty, regardless of rank or years of service. This conclusion contradicts previous studies that have indicated that faculty at various stages of their careers have differing needs (Weldman & Strathe, 1985; Camblin, Jr & Steger, 2000). Additionally, it is concluded that while faculty believe that the level of faculty development programming is adequate at their current place of employment, they are interested in improving their teaching and therefore would like to see more opportunities made available to them.

In terms of the structure of faculty development in teaching, early career faculty prefer programs that are one day long in length. This conclusion should come as no surprise given that often, one of the biggest barriers to participation in professional development is the perceived lack of time when considering the many and varied responsibilities of faculty members (Sorcinelli, 1994). However, it was concluded that opportunities exist to build support for other delivery structures and program lengths given that faculty did not hold strong opinions regarding programs that meet weekly

during a semester or week long meetings focus on teaching. Finally, it was concluded that early career faculty members do not have strong opinions regarding who should be responsible for providing professional development in teaching.

### **Implications**

The implications from the conclusions of objective three seem to suggest that ample opportunities exist to work with early career faculty in terms of professional development aimed at improving their teaching. This may stem from the fact that, as graduate students, early career faculty received little to no preparation in teaching (Golde & Dore, 2004). This further seems to suggest that early career faculty members recognize the importance of teaching and are interested in improving their knowledge and skills on the topic. Additionally, these conclusions imply that perhaps those charged with providing professional development in teaching need not target their programming to specific faculty groups, rather making the programming available to all faculty, regardless of rank or years of service. This seems to imply that faculty welcome the opportunity to learn with and from colleagues with varying levels of experience. This is consistent with research that indicates a desire to receive clear and constructive feedback about teaching activities (Sorcinelli, 1994).

In terms of the structure of faculty development programming in teaching and who is responsible for providing it faculty were largely neutral, not holding strong opinions one way or another. Perhaps this is a result of truly having no opinion on the matter or perhaps it is a result of no one entity or group taking responsibility for providing professional development in teaching. If this is the case it would seem to imply that faculty may perceive efforts to improve their teaching as being disjointed and

unorganized. Further, because faculty are neutral regarding whether or not their professional organization meetings are appropriate places for faculty development in teaching, it is implied that opportunities exist to build support and recognition for teaching and learning into existing structures in professional organizations across disciplines.

#### **Research Objective Four – Participation in Professional Development**

##### **Summary of Findings**

Respondents were neutral ( $M = 3.39$ ;  $SD = 1.12$ ) regarding a statement addressing if they actively seek out professional development in teaching. When asked how many hours of professional development in teaching the respondents had participated in during the last 12 months it was found that on average 0.92 hours ( $SD = 2.14$ ) were completed at the departmental level, 4.49 hours ( $SD = 7.02$ ) at the college level, and 4.70 hours ( $SD = 8.08$ ) at the university level. Respondents indicated that they spent an average of 5.15 hours ( $SD = 6.37$ ) devoted to improving their teaching and 1.07 hours ( $SD = 1.12$ ) discussing their teaching with colleagues. Finally, it was found that in the last 12 months respondents had attended 0.59 sessions ( $SD = 1.08$ ) devoted to improving teaching at a professional organization meeting.

##### **Conclusions**

Objective four sought to describe the frequency that early career faculty members' participate in faculty professional development. It is concluded that while early career faculty members seem to recognize the importance of professional development in teaching and value opportunities to improve their skills, they are not actively engaged in seeking out professional opportunities. Further, it is concluded that

faculty in colleges of agriculture and related sciences are more engaged at the college level in terms of participation in faculty professional development; however, a great deal of variation exists among individual faculty. Additionally, it was concluded from the findings that faculty devote about six hours (15 %) of a 40 hour work week to improving their teaching or discussing teaching with colleagues while on average teaching accounts for 40% of early career faculty members' academic appointment. It can be concluded from this finding that while early career faculty view teaching as important, it ultimately does not have the time devoted to it that other aspects of the faculty workload are given. Again, this may be because early career faculty are overwhelmed and feel lack sufficient time to accomplish what is expected of them (Sorcinelli, 1994). Finally, it was concluded that faculty are not actively participating in professional development in teaching at professional organization meetings.

### **Implications**

The conclusions from this objective seem to imply that greater efforts to increase the importance of the teaching portion of the faculty appointment are needed. It appears that in spite of repeated calls for improvements in the quality of teaching on college campuses (Camblin, Jr, 78 Steger, 2000; Transforming Agricultural Education for a Changing World, 2009; United States Department of Education, 2006), perhaps faculty do not see the return on the investment in time that it would take to participate in professional development in teaching. This lack of being rewarded for their efforts is a common feeling among early career faculty (Sorcinelli, 1994). Based on the finding that early career faculty are participating in the greatest number of hours of professional development at the college level it is implied that, generally speaking, colleges of



agriculture and related sciences acknowledge the needs of faculty in the area of teaching and are providing opportunities for professional development. Finally, these conclusions suggest that either professional organizations across disciplines are not providing opportunities for professional development in teaching, or faculty do not generally view these meetings as times to discuss the topic of teaching and learning.

### **Research Objective Five – Predictors of Participation in Professional Development**

#### **Summary of Findings**

A stepwise multiple linear regression of how actively faculty seek out teaching professional development on teaching appointment percentage, sex, and discipline was utilized to produce a model where 19% (Adjusted  $R^2 = .19$ ) of the variance in how actively faculty seek out teaching professional development can be explained by teaching appointment percentage and sex. Two significant ( $p \leq .05$ ) predictor variables, teaching appointment percentage ( $\beta = .36$ ;  $p = .01$ ) and sex ( $\beta = .27$ ;  $p = .04$ ; Coded: Male = 0; Female = 1) were entered into the model. The independent variable teaching appointment percentage ( $d = 0.79$ ) was found to have a large effect while sex ( $d = 0.59$ ) had a medium effect. The  $F$  value of 6.94 was found to be significant with a  $p$ -value of .01.

A second stepwise multiple linear regression of the number of hours of teaching professional development on teaching appointment percentage, research appointment percentage, discipline, and years in a tenure track position was calculated to produce a model where 6% (Adjusted  $R^2 = .06$ ) of the variance in the number of hours of teaching professional development can be explained by teaching appointment percentage ( $\beta = .29$ ;  $p = .04$ ). The independent variable teaching appointment percentage ( $d = 0.59$ ) was

found to have a medium effect. The  $F$  value of 4.36 was found to be significant with a  $p$ -value of .04.

Finally, a stepwise multiple linear regression was utilized to determine predictor variables for the dependent variable participation in teaching professional development at a professional meeting in the last 12 months. Based on the calculated model, 19% (Adjusted  $R^2 = .19$ ) of the variance in the number of hours of teaching professional development can be explained by research appointment percentage ( $\beta = -.45$ ;  $p = .01$ ). The independent variable research appointment percentage ( $d = -0.99$ ) was found to have a large effect. The  $F$  value of 12.32 was found to be significant with a  $p$ -value of .01.

### **Conclusions**

The fifth objective of this study was to describe predictors of the frequency that early career faculty members have participated in faculty professional development. It was concluded from the findings of this study that the independent variables teaching appointment percentage and sex were statistically significant predictors of how actively faculty seek out professional development in teaching. More specifically, it is concluded that as the teaching appointment percentage of an early career faculty member increases, the more likely they are to actively seek out professional development in teaching. Additionally, it is concluded that females are more likely than males to actively seek out teaching professional development. Finally it was concluded that a significant relationship does not exist between how actively faculty seek out professional development in teaching and their discipline, therefore it is not an accurate predictor variable.

Regarding the number of hours of teaching professional development that early career faculty members had participated in during the last 12 months it was concluded that the independent variable teaching appointment percentage is a statistically significant predictor of involvement. Specifically, it was included that the greater the percentage of one's appointment in teaching, the greater the number of hours of professional development they are likely to have participated in. As a result it was concluded that faculty who are given larger appointments in teaching are more likely to value teaching and work to improve the quality of their instruction. Further, it was concluded that while a linear relationship does exist between the independent variables sex, research appointment percentage, discipline, and years in a tenure track position, they are not significant predictors of participation in professional development in teaching.

Finally, from a stepwise multiple linear regression of participation in teaching professional development at a professional meeting it was concluded that a statistically significant relationship exists between the participation in the last 12 months and research appointment percentage. More specifically it was found that the greater ones research appointment percentage the less likely they were to have participated in teaching professional development at a professional meeting. As a result it was concluded that faculty who have larger percentages of their appointments in research were less engaged in teaching and therefore less likely to participate in programs aimed at improving their teaching.

### **Implications**

The implications of these conclusions are that while the majority of tenure track faculty are male, they are less likely to actively seek out opportunities to improve their

teaching. This suggests that greater efforts are needed to engage male faculty in professional development in teaching. Additionally, this implies that female faculty are more interested in improving their teaching. These findings further imply that perhaps the most effective way to influence faculty in terms of increasing how actively they seek out professional development and the rate at which they participate in professional development is to allocate a greater percentage of their appointment to teaching. Finally, it is implied that because discipline was not a significant predictor, perhaps long held notions regarding the inherent differences between the natural sciences and social sciences do not apply to the topic of teaching.

### **Research Objective Six – Areas of Need for Professional Development and Self-efficacy**

#### **Summary of Findings**

Respondents were asked to respond to statements regarding 25 topic areas for teaching professional development. First, means and standard deviations were calculated for faculty responses in regard to how help the topic area would be for their growth as a teacher. Second, means and standard deviations were calculated for faculty responses in regard to how confident they are in their current ability level for the topic area.

Respondents agreed that 17 of the topic areas would be helpful to their growth as a teacher. In regard to the remaining eight topic areas respondents were neutral in regard to how helpful the topic would be to their growth as a teacher. In terms of self-efficacy for the topics areas respondents agreed that they were confident in their ability levels for 13 of the items. Respondents were neutral toward 11 of the topic areas. For the single item,

delivering distance education, respondents disagreed that they were confident in their current ability level.

## **Conclusions**

It was the goal of the sixth objective to describe perceived areas of need for faculty development programming for early career faculty members and their perceived self-efficacy for each area. It can be concluded from the findings of this study that early career faculty members generally feel that professional development covering numerous topics related to teaching would be helpful to their growth as a teacher. Specifically it was concluded that faculty agree that professional development in the areas of evaluation, teaching methods, advising and working with diverse learners, and developing the teaching portion of the promotion and tenure dossier would be particularly helpful to their growth as a teacher. Regarding all 25 topic areas faculty were either neutral or agreed that the topic areas would be helpful to their growth as a teacher so it can be concluded that overall faculty are receptive to professional development in teaching.

In terms of respondents self-efficacy it was concluded that respondents were most confident in their abilities to design course content and put together their course syllabi. Given the very focused nature of graduate study it should not be surprising that faculty are confident in identifying content that they believe is appropriate for their courses. Generally speaking, it was concluded that respondents were most confident in their ability to perform tasks related the actual act of teaching (i.e., developing learning objectives, using a variety of teaching approaches, developing effective lectures, etc.). Finally, it was concluded that faculty are confident in their ability to mentor graduate students. Regarding all 25 topic areas it was concluded that faculty are generally neutral

or agreed that they were confident in their abilities with the exception of delivering distance education. As a result it was concluded that faculty, while not confident in their ability to deliver distance education are unsure as to the relative importance of the topic.

### **Implications**

The implications of the conclusions from this objective suggest that ample opportunities exist to provide professional development in teaching that is targeted at specific need areas as identified by early career faculty. Additionally, it is implied that faculty view teaching as a growth process and they believe that continued professional development, even in areas that they are confident in their ability level, will continue to help them become a better teacher. Finally, it is implied that although faculty generally have received little formal education in teaching, they are neutral to positive about their ability levels suggesting that they are finding other means to build their skill and feelings of self-efficacy regarding teaching.

## **Research Objective Seven – Predictors of Areas of Need for Professional Development**

### **Summary of Findings**

A stepwise multiple linear regression of perceived helpfulness of teaching professional development topics on sex, age, teaching appointment percentage, research appointment percentage, service appointment percentage, and years in a tenure track position was calculated and produced a model where 7% (Adjusted  $R^2 = .07$ ) of the variance in the perceived helpfulness of teaching professional development topics can be explained by service appointment percentage ( $\beta = -.30$ ;  $p = .03$ ). The independent

variable service appointment percentage ( $d = -0.62$ ) was found to have a medium effect. The  $F$  value of 4.82 was found to be significant with a  $p$ -value of .03.

### **Conclusions**

Objective seven sought to describe predictors of perceived helpfulness of faculty development programming in teaching and respondent self-efficacy. It was concluded that service appointment percentage was a statistically significant predictor of the perceived helpfulness of teaching professional development topics. Specifically, as one's appointment in extension/service/outreach increases how helpful they perceive selected topic for teaching professional development to be, decreases. It was concluded that while a statistically significant relationship does exist, no practical conclusions can be drawn from this finding. Further, it was concluded that there is no relationship between the independent variables in this study and the respondents' self-efficacy therefore no regression model was produced.

### **Implications**

The implications for these conclusions are that perhaps variables beyond the scope of this study are at play that influence how early career faculty members perceive the relative helpfulness of topics related to professional development in teaching. Additionally, it is implied that faculty self-efficacy in teaching is a complex construct and perhaps not easily explained by common personal and professional characteristics. Finally, these findings may imply that the instrument used to assess faculty perceptions regarding their efficacy for teaching did not accurately measure the construct.

## **Recommendations**

### **Recommendation One**

While consistent with national figures regarding the breakdown of men versus women in fulltime faculty position, further research on gender issues in terms of faculty in colleges of agriculture and related sciences should be explored. Specifically, researchers should seek to determine what motivates males and females to pursue graduate education and what differences exist between the two. Further, study should focus on the relationship between individuals who earn graduate degrees and obtain tenure track faculty positions versus those who seek employment in their respective disciplines private sector. Finally, recruitment efforts should be targeted toward women in an effort to encourage more women to pursue tenure track faculty positions.

### **Recommendation Two**

Results of this study suggest that early career faculty members feel that they were prepared by their structured education for the content that they teach, however they were neutral in terms of the impact on how they teach. Further study should be directed at examining the structure of graduate education across disciplines in colleges of agriculture and related sciences. Specifically, researchers should seek to identify opportunities for integration of coursework in teaching and learning. Additionally, research should seek to better define the nature of professional development programming in colleges of agriculture and related sciences both for graduate students and faculty across ranks and years of service.



### **Recommendation Three**

Respondents in this study indicated that their unstructured education helped prepare them for both the content that they teach and how they teach it. As a result, graduate educators should seek out ways to facilitate interaction between graduate students and faculty in the department, across disciplines, and at professional meetings and seminars. Additionally, professional development for current faculty aimed at helping them mentor graduate students in the area of teaching should be made available. Finally, seminars and workshops aimed specifically at graduate students where they can discuss topics related to teaching and learning with colleagues across disciplines should be organized.

### **Recommendation Four**

Based on the findings of this study it is recommended that those who are charged with providing professional development focus on providing structured, one day long programs, that help faculty improve their teaching. Additionally, more in depth study into the nature of teaching professional development programming that early career faculty members indicate they are participating in or are willing to participate in should be explored. Finally, further research should seek to better quantify what opportunities exist at professional organization meetings across disciplines regarding professional development in teaching.

### **Recommendation Five**

The findings of this study indicate that faculty are generally neutral when asked if they actively seek out professional development in teaching. It is recommended that faculty development programming seek to help highlight opportunities for faculty

members to link their teaching and research (Transforming Agricultural Education for a Changing World, 2009). Research on how best to make faculty aware of opportunities for professional development in teaching should be conducted. Further, more informal opportunities for faculty across disciplines to discuss teaching and learning should be made available. Additionally, it is recommended that greater efforts be made to promote teaching as a scholarly endeavor and to improve the status of teaching in terms of promotion and tenure to help provide greater rewards to faculty for their efforts in teaching improvement. This notion of providing greater reward is consistent with research where new faculty have indicated a general feeling of no reward for their effort (Sorcinelli, 1994).

#### **Recommendation Six**

The findings of this study indicate that in addition to faculty members teaching percentage appointment, sex is a significant predictor variable with females being more likely than males to actively seek out professional development. It is recommended that further study be directed toward what motivates female faculty members to pursue professional development in teaching. Additionally, study should focus on potential barriers for male faculty in terms of participation in professional development in teaching.

#### **Recommendation Seven**

It was concluded from this study that early career faculty are neutral regarding whether or not their disciplines professional organization meeting is an appropriate place for professional development in teaching. Further, faculty indicated that on average they had attended less than one session on teaching professional development at a professional

meeting in the last 12 months. Additional research should seek to identify what motivates faculty members to participate in professional development to improve teaching. Specifically, factors that influence faculty to attend professional meetings and conferences that focus on teaching and learning should be explored. Further, faculty in agricultural education should be encouraged to seek opportunities to facilitate sessions on teaching and learning at professional meetings across disciplines.

### **Recommendation Eight**

Based on the findings from objective six it can be concluded that faculty members generally agree that professional development on topic areas specifically related to teaching would be helpful to their growth as teachers. It is recommended that those charged with providing faculty development in teaching use these findings as a guide to developing future programming to meet the needs of early career faculty members in colleges of agriculture and related sciences. However, while these findings are useful it is recommended that further research be conducted to gain a more in depth understanding of what faculty need in terms of teaching professional development.

### **Recommendation Nine**

While only one of the 25 topic areas included in this study, it was found that early career faculty members are not confident in their ability to deliver distance education. Further, they are neutral in terms of their perceptions of how helpful professional development in this area would be to their growth as teachers. It is recommended that research be conducted to more clearly explain early career faculty members' perceptions of their self-efficacy for this topic area and their overall perceptions of its role in higher education.

## **Recommendation Ten**

While this study begins to explore the notion of faculty self-efficacy in teaching it is recommended that further study focus on more clearly defining the impact that self-efficacy has on faculty teaching performance. Additionally, future research should attempt to identify specific characteristics that might be predictors of faculty self efficacy in teaching. Finally, it is recommended that efforts be made to allow faculty member opportunities to observe other faculty member who are known to be effective teachers to aid in the building of self-efficacy in teaching. Additionally, more opportunities for observation from administrators and peers should be made available.

## **Summary**

This study sought to describe the professional development in teaching through the lens of early career faculty at land-grant universities. It was concluded that early career faculty respondents were similar to national statistics regarding the sex of faculty in agriculture and related sciences. Overall, early career faculty are actively engaged in professional development in teaching. Additionally, they view topics related to teaching as helpful to their growth as a teacher and are receptive to more opportunities for professional development being made available to them. As with all research, any generalization of the findings of this study beyond this population, time, and setting should be made with caution. It is hoped that these findings will provide insight to those charged with providing professional development to early career faculty members. Further, these findings can serve as a spring board for further study on this important topic.

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## APPENDICES

APPENDIX A  
ASSESSMENT OF EARLY CAREER FACULTY DEVELOPMENT  
IN AGRICULTURAL COLLEGES





### Assessment of Early Career Faculty Development in Agricultural Colleges

The purpose of this instrument is to gather information regarding early career faculty members' preparation for their teaching roles and their experiences with faculty development programming. It consists of five parts.

Part one contains six statements addressing your perceived level of preparedness for your faculty teaching role.

Part two contains 12 statements addressing your preferences in terms of faculty development.

Part three contains seven questions addressing your level of participation in faculty development programming.

Part four addresses perceived areas of need and your self-efficacy by asking you to respond to 25 topic areas.

The final section contains eight items dealing with personal and professional characteristics.

Please complete each section honestly and completely.

The instrument should take you about 15 minutes to complete and is best viewed in full screen mode.

If you need assistance or have questions while participating in this survey, please contact:

Lucas D. Maxwell  
[ldmaxwell@mail.mizzou.edu](mailto:ldmaxwell@mail.mizzou.edu)  
573-882-2200

#### **PREVIEW / TEST MODE**

**Your Responses Will Not Be Permanently Saved.**

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

Begin Survey

## Part 1: Perceived Level of Preparedness for Faculty Teaching Role

**Instructions:** Please respond to each of the following statements by clicking the number that most accurately indicates your level of agreement.

For the purpose of responding to the following items some definitions might be helpful.

- **Structured Education** includes degree programs (i.e. B.S., M.S., PhD., etc.) and for credit course work.
- **Unstructured Education** includes professional relationships with faculty and graduate students, and workshops and seminars in your department, university, and greater discipline.
- **Current Place of Employment** includes opportunities for professional development at the university that you currently hold your academic appointment.

My **structured education** adequately prepared me to assume my academic responsibilities related to **how** I teach.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

My **structured education** adequately prepared me to assume my academic responsibilities related to the **content** that I teach.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

My **unstructured education** adequately prepared me to assume my academic responsibilities related to **how** I teach.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

My **unstructured education** adequately prepared me to assume my academic responsibilities related to the **content** that I teach.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

My **current place of employment** adequately supports me by providing professional development related to **how** I teach.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

My **current place of employment** adequately supports me by providing professional development related to the **content** that I teach.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

Please provide any additional thoughts or comments regarding your structured and unstructured education and/or the current level of support for your teaching role.

### PREVIEW / TEST MODE

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

Continue

Finish Later

## Part 2: Faculty Development Preferences

**Instructions:** Please respond to each of the following statements by clicking the number that most accurately indicates your level of agreement. Recognizing the realities of your current time commitments, please answer these questions as if time was not an issue.

I would (or do) participate in an early career faculty development program to improve my teaching.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would (or do) participate in a faculty development program to improve my teaching that was available to all faculty, regardless of rank or years of service.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would like to see more faculty development programs aimed at improving my teaching made available to me.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

The level of faculty development activities aimed at improving my teaching is adequate at my current place of employment.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would prefer to (or do) work with someone one-on-one to improve my teaching.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would (or do) participate in a one day long faculty development program to improve my teaching.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would (or do) participate in a faculty development program to improve my teaching that met one time a week during the semester.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would (or do) participate in a week long faculty development program to improve my teaching.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would prefer that faculty development to improve my teaching be offered at the departmental level.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would prefer faculty development to improve my teaching be offered at the college level.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

I would prefer faculty development to improve my teaching be offered at the university level.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

My discipline's professional organization meeting is an appropriate place for faculty development programming aimed at improving my teaching.

Strongly Disagree  1  2  3  4  5  Strongly Agree  
Neutral

Please provide any additional thoughts or comments regarding your preferences in terms of the delivery and format of professional development aimed at improving your teaching.

### PREVIEW / TEST MODE

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

### Part 3: Participation in Faculty Development

**Instructions:** Please respond to the first statement by clicking the number that most accurately indicates your level of agreement with the statement. For the remaining items please respond to each of the statements by typing a numeric answer in the space provided.

I actively seek out faculty development activities aimed at improving my teaching.

Strongly Disagree 1  2  3  4  5  Strongly Agree  
Neutral

How many hours of **department** sponsored faculty development aimed at improving your teaching have you participated in the last 12 months?

How many hours of **college** sponsored faculty development aimed at improving your teaching have you participated in the last 12 months?

How many hours of **university** sponsored faculty development aimed at improving your teaching have you participated in the last 12 months?

How many hours each week do you devote to improving your teaching?

How many hours each week do you spend discussing your teaching with colleagues?

How many times in the last 12 months have you attended teaching improvement sessions at a professional organization meeting?

Please provide any additional thoughts or comments regarding your participation in faculty development programming aimed at improving your teaching.

#### PREVIEW / TEST MODE

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

### Part 4: Perceived Areas of Need and Self-Efficacy

**Instructions:** In the **first column** please indicate your level of agreement in terms of **how helpful the topic would be to your development as a teacher**. In the **second column** please indicate your level of agreement in terms of **how confident you are in your ability level**. If the statement is not applicable please select "Does Not Apply" in each column.

	This topic would be helpful to my growth as a teacher.						I am confident in my current ability level for this topic.					
	Does Not Apply	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Does Not Apply	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Developing Course Syllabi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designing Course Content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering Distance Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Internet Courseware such as Blackboard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing Non-traditional Instructional Approaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using a Variety of Teaching Approaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing Learning Objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing Effective Lectures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designing Visual Aids to Enhance Learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning for Laboratory Instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### PREVIEW / TEST MODE

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

Continue

Finish Later

**Part 4 continued: Perceived Areas of Need and Self-Efficacy**

**Instructions:** In the **first column** please indicate your level of agreement in terms of **how helpful the topic would be to your development as a teacher**. In the **second column** please indicate your level of agreement in terms of **how confident you are in your ability level**. If the statement is not applicable please select "Does Not Apply" in each column.

	This topic would be helpful to my growth as a teacher.						I am confident in my current ability level for this topic.					
	Does Not Apply	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Does Not Apply	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Evaluating Learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing Test Questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing Non-traditional Evaluation Methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessing Educational Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducting Peer Evaluations of Teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving the Instructor / Student Relationship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding Learning Styles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addressing Classroom Incivilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meeting a Class for the First Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching in Non-traditional Settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**PREVIEW / TEST MODE**

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

Continue

Finish Later

**Part 4 continued: Perceived Areas of Need and Self-Efficacy**

**Instructions:** In the **first column** please indicate your level of agreement in terms of **how helpful the topic would be to your development as a teacher**. In the **second column** please indicate your level of agreement in terms of **how confident you are in your ability level**. If the statement is not applicable please select "Does Not Apply" in each column.

	This topic would be helpful to my growth as a teacher.						I am confident in my current ability level for this topic.					
	Does Not Apply	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Does Not Apply	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Understanding the Roles of a Faculty Academic Advisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentoring Graduate Students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advising Undergraduate Student Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing a Teaching Philosophy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing a Teaching Dossier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please provide any additional topics that would be helpful to your growth as a teacher.

**PREVIEW / TEST MODE**

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

Continue

Finish Later

## Personal and Professional Characteristics

**Instructions:** Please answer each of the following questions honestly and completely.

I am (sex):

My age is:

I currently hold the rank of:

What percentage of your appointment is in teaching?

What percentage of your appointment is in research?

What percentage of your appointment is in service, outreach, or extension?

Please indicate in which academic department you hold your primary faculty appointment.

How many years, including this year, have you been a tenure track faculty member?

### PREVIEW / TEST MODE

Your Responses Will Not Be Permanently Saved.

Contact your survey administrator if you were directed to this INACTIVE version of the survey.

Continue

Finish Later



**Assessment of Early Career Faculty Development in Agricultural Colleges**

**Thank You**

The test survey is now complete, you may close this browser.

End Survey and Submit

APPENDIX B  
PANEL OF EXPERTS

Table 13

*Panel of Experts for the Assessment of Early Career Faculty Development in Agricultural Colleges (n = 7)*

Name	Title	Institution
Dr. Anna Ball	Associate Professor and Director of Undergraduate Studies	University of Missouri
Dr. Joe Donaldson	Professor and Associate Chair	University of Missouri
Dr. Bryan Garton	Associate Dean and Director of Academic Programs	University of Missouri
Dr. Tracy Kitchel	Assistant Professor and Director, Center for Excellence in Teaching and Learning	University of Kentucky
Dr. Grady Roberts	Associate Professor and Coordinator, Teaching Resource Center	University of Florida
Dr. Rob Terry	Professor and Chair	University of Missouri
Dr. Robert Torres	Professor and Director of Graduate Studies	University of Missouri

APPENDIX C  
LETTER TO PANEL OF EXPERTS

SUBJECT LINE: Panel of Experts Request

Dear {*PANEL MEMBER*} –

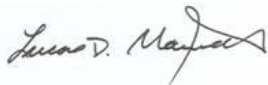
Greetings from the University of Missouri! I am Lucas Maxwell and I am a PhD Candidate in the Department of Agricultural Education. I hope this email finds you enjoying the final weeks of the semester. I am writing to ask you to consider serving on a panel of experts to help establish the validity of my dissertation data collection instrument. My dissertation committee consists of Anna Ball, Chair, Bobby Torres, Rob Terry, Bryan Garton, and Joe Donaldson. It was suggested that I contact you based on your experience and expertise in the area of teaching methodology and faculty development.

The working title of my dissertation is *Early Career Faculty Members' Attitudes and Perceptions Toward Faculty Professional Development at Midwestern Land-grant Universities*. It is my intention to survey faculty from the agricultural colleges at the University of Missouri, Iowa State University, and the University of Nebraska in my study. For the purpose of my research, early career faculty members are defined as those tenure track faculty who are in their first through seventh year of service in the academy and have at least some formal appointment in teaching. Please note that I have included a draft of the study's purpose and objectives at the bottom of this message to help provide you with a more clear idea of the intended outcomes.

While specific dates are flexible, it is my intention to provide the instrument for your review no later than January 3<sup>rd</sup>. I would appreciate receiving your comments in time to make any changes and field test the instrument on or around January 18<sup>th</sup>, 2010. I know this is a busy time of year but your assistance and expertise would be greatly appreciated.

I look forward to hearing back from you at your earliest convenience. Should you have any questions or need further clarification please feel free to contact me by email or by phone at 573/882-2200.

*LDM*



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Lucas D. Maxwell | PhD Candidate | President, Ag Ed GSA | Agricultural Education Department  
University of Missouri | 125 Gentry Hall | Columbia, Missouri 65211 | Phone: 573/882-2200

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APPENDIX D  
PERCENT AGREEMENT RELIABILITY FOR INSTRUMENT ITEMS

Table 14  
*Percent Agreement Reliability for Teaching Professional Development Instrument Items*  
*(n = 14)*

<i>Item</i>	<i>Agreement</i>	<i>+/- One</i>	<i>% Agreement</i>
Structured Education – How I Teach	6	8	100
Structured Education – Content I Teach	11	3	100
Unstructured Education – How I Teach	6	7	93
Unstructured Education – Content I Teach	8	4	86
Current Place of Employment – How I Teach	11	3	100
Current Place of Employment – Content I Teach	6	7	93
Would or Do participate in Early Career Faculty Development	4	6	71
Would or Do Participate Regardless of Rank or Years of Service	10	4	100
See More Faculty development Made Available	9	5	100
Level of Faculty Development is Adequate	8	5	93
Would or Do Prefer to Work One-On-One to Improve Teaching	6	6	86
Would or Do Participate in One day Long Faculty Development	7	7	100
Would or Do Participate in Faculty Development Weekly During the Semester	7	4	79
Would or Do participate in One Week Long Faculty Development	5	5	71
Prefer Faculty Development at the Department Level	8	6	100
Prefer Faculty Development at the College Level	5	7	86
Prefer Faculty Development at the University Level	7	6	93
Disciplinary Professional Meetings are Appropriate for Faculty Development in Teaching	8	5	93
I actively seek out Faculty Development	9	5	100
Helpfulness of Developing Course Syllabi	7	5	86
Confidence in Ability to Develop Course Syllabi	8	6	100
Helpfulness of Designing Course Content	7	5	86
Confidence in Ability to Designing Course Content	9	4	93
Helpfulness of Delivering Distance Education	6	5	79
Confidence in Ability to Deliver Distance Education	9	4	93
Helpfulness of Using Internet Courseware	8	4	86
Confidence in Ability to Use Internet Courseware	11	1	86
Helpfulness of Developing Non-traditional Instructional Approaches	7	6	93

Table 14  
*Continued*

Confidence in Ability to Develop Non-Traditional Instructional Approaches	8	5	93
Helpfulness of Using a Variety of Teaching Approaches	11	3	100
Confidence in Ability to Use a Variety of Teaching Approaches	6	8	100
Helpfulness of Developing Learning Objective	8	3	79
Confidence in Ability to Develop Learning Objectives	10	4	100
Helpfulness of Developing Effective Lectures	10	3	93
Confidence in Ability to Develop Effective Lectures	8	5	93
Helpfulness of Designing Visual Aids	10	4	100
Confidence in Ability to Design Visual Aids	5	8	93
Helpfulness of Planning for Lab Instruction	10	1	79
Confidence in Ability to Plan for Lab Instruction	10	2	86
Helpfulness of Evaluation Learning	6	8	100
Confidence in Ability to Evaluate Learning	9	4	93
Helpfulness of Developing Test Questions	11	2	93
Confidence in Ability to Develop Test Questions	9	3	86
Helpfulness of Developing Non-Traditional Evaluation Methods	9	5	100
Confidence in Ability to Develop Non-Traditional Evaluation Methods	6	8	100
Helpfulness of Assessing Educational Resources	8	4	86
Confidence in Ability to Assess Educational Resources	5	4	64
Helpfulness of Conducting Peer Evaluations of Teaching	9	5	100
Confidence in Ability to Conduct Peer Evaluations of Teaching	9	4	93
Helpfulness of Improving the Instructor/Student Relationship	6	7	93
Confidence in Ability to Improve the Instructor/Student Relationship	10	4	100
Helpfulness of Understanding Learning Styles	9	5	100
Confidence in Ability to Understand Learning Styles	8	5	93
Helpfulness of Addressing Classroom Incivilities	8	5	93
Confidence in Ability to Address Classroom Incivilities	4	8	86
Helpfulness of Meeting a Class for the First Time	6	7	93
Confidence in Ability to Meet a Class for the First Time	9	5	100



Table 14  
*Continued*

Helpfulness of Teaching in Non-Traditional Settings	9	3	86
Confidence in Ability to Teach in Non-Traditional Settings	8	4	86
Helpfulness of Understanding the Roles of an Academic Advisor	6	5	79
Confidence in Ability to Serve as an Academic Advisor	6	6	86
Helpfulness of Mentoring Graduate Students	9	5	100
Confidence in Ability to Mentor Graduate Students	8	6	100
Helpfulness of Advising Undergraduate Student Organizations	8	4	86
Confidence in Ability to Advise Undergraduate Student Organizations	8	3	79
Helpfulness of Developing a Teaching Philosophy	9	5	100
Confidence in Ability to Develop a Teaching Philosophy	8	5	93
Helpfulness of Developing a Teaching Dossier	7	5	86
Confidence in Ability to Develop a Teaching Dossier	10	4	100

APPENDIX E  
EMAIL INVITATION TO RESPONDENTS

SUBJECT LINE: Faculty Professional Development

Dear {*FACULTY PARTICIPANT*},

We hope you are having a productive and rewarding semester. As an early career faculty member we are requesting your participation in a study that will provide insight into developing programs to help prepare graduate students and early career faculty members for careers in higher education. Your time is valuable; therefore, we greatly appreciate your consideration of this request.

The purpose of this study is to examine the perceptions of early career faculty members with regard to how well their graduate program prepared them for their teaching roles. Additionally, the perceived levels of support in terms of faculty development and formal and informal mentoring will be explored. Finally, the study addresses areas of need for faculty development and perceived self-efficacy for each area of need. It is our goal to assess early career faculty professional development to better understand our strengths and weaknesses and to improve the preparation of future and current faculty for their teaching roles.

The online questionnaire will take approximately 15 minutes to complete. We would greatly appreciate you completing the online questionnaire by April 9th. To begin the questionnaire please click on the following link.

{*LINK TO QUESTIONNAIRE*}

After completing the questionnaire you will receive no additional messages or requests. Your identity will remain confidential; after all data has been collected the questionnaires will be destroyed. No link between your responses and the personal and professional characteristics provided will be made. There are no risks, benefits or compensation to you for participating in the study. Should you have questions please contact us by phone at 573-882-2200 or by e-mail at [ldmaxwell@mail.mizzou.edu](mailto:ldmaxwell@mail.mizzou.edu)

Thank you for your time and participation.

Sincerely,

*Bryan*

Bryan L. Garton  
Associate Dean, Academic Programs

*Lucas*

Lucas D. Maxwell  
PhD Candidate

This project has been reviewed and received IRB approval through the University of Missouri Office of Research. Questions concerning your rights as a participant in this research may be addressed to Office of Research, 205 Jesse Hall, University of Missouri, Columbia, MO 65211; ph 882-9500.

APPENDIX F  
FIRST FOLLOW-UP EMAIL TO RESPONDENTS

SUBJECT LINE: Your Input is Valuable!

Dear {*FACULTY PARTICIPANT*},

Last week you received an email containing a link to a questionnaire regarding early career faculty professional development. With your help we hope to improve the preparation and early career support of future faculty for their teaching roles.

The online questionnaire will take approximately 15 minutes to complete. To begin the questionnaire please click on the following link.

{*LINK TO QUESTIONNAIRE*}

We would appreciate you completing the online questionnaire by April 9th. Should you have questions please contact us by phone at 573-882-2200 or by e-mail at [ldmaxwell@mail.mizzou.edu](mailto:ldmaxwell@mail.mizzou.edu).

Thank you for your time and participation.

Sincerely,

*Bryan*

Bryan L. Garton  
Associate Dean, Academic Programs

*Lucas*

Lucas D. Maxwell  
PhD Candidate

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APPENDIX G  
SECOND FOLLOW-UP EMAIL TO RESPONDENTS

SUBJECT LINE: Your Response is Appreciated!

Dear {*FACULTY PARTICIPANT*},

In the past few weeks, you have received two emails containing a link to a questionnaire regarding early career faculty professional development. We don't intend to clutter your inbox, but this information is important to the College in order to improve the preparation and early career support of future faculty. As of today you have not responded.

Please share your opinions by clicking the link below. The online questionnaire will take approximately 15 minutes to complete. Please complete the questionnaire by **Thursday, April 15<sup>th</sup>**.

{*LINK TO QUESTIONNAIRE*}

Of course, your participation in this study is voluntary but greatly appreciated. Should you have questions please contact us by phone at 573-882-2200 or by e-mail at [ldmaxwell@mail.mizzou.edu](mailto:ldmaxwell@mail.mizzou.edu).

Thank you for your time and participation. We would appreciate you completing the online questionnaire by **Thursday, April 15<sup>th</sup>**.

Sincerely,

*Bryan*

Bryan L. Garton  
Associate Dean, Academic Programs

*Lucas*

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APPENDIX H  
FINAL FOLLOW-UP EMAIL TO RESPONDENTS



SUBJECT LINE: Will you help?

Dear *{FACULTY PARTICIPANT}*,

I am sure you are constantly asked to participate in research study after research study; sorry to add one more! I know you are extremely busy preparing for the end of the spring semester...but I too am asking for your help. In order to complete my dissertation I really need your responses to a questionnaire about early career faculty development.

The link below will remain active until **noon on Saturday, April 17<sup>th</sup>**. Please take 10-15 minutes to share your responses.

*{LINK TO QUESTIONNAIRE}*

Of course, your participation in this study is voluntary but greatly appreciated. Should you have questions please contact me by phone at 573-882-2200 or by e-mail at [ldmaxwell@mail.mizzou.edu](mailto:ldmaxwell@mail.mizzou.edu).

Thank you in advance for your participation, I really appreciate your help!

Sincerely,

*Lucas*

Lucas D. Maxwell  
PhD Candidate

This project has been reviewed and received IRB approval through the University of Missouri Office of Research. Questions concerning your rights as a participant in this research may be addressed to Office of Research, 205 Jesse Hall, University of Missouri, Columbia, MO 65211; ph 882-9500.

## VITA

Lucas Dee Maxwell was born July 16, 1979 in Bloomington, Illinois, the third of four children born to Dennis F. and Mary Lou Maxwell. Lucas graduated from Blue Ridge High School, Farmer City, Illinois in 1997. In 2001 Lucas earned his Bachelor of Science in General Agriculture, specializing in Agricultural Education from Southern Illinois University Carbondale. Lucas served as Agriculture Instructor, FFA Advisor, and Cooperative Vocational Education Coordinator at Iroquois West High School from 2002-2005. In 2005, Lucas earned his Master of Science in Plant and Soil Science, specializing in Agricultural Education from Southern Illinois University Carbondale. That same year, Lucas accepted a position as the Coordinator of Recruitment, Retention, and Placement for the College of Agricultural Science at Southern Illinois University Carbondale. In 2010, Lucas graduated from the University of Missouri with a Doctor of Philosophy degree in Agricultural Education.

### **Refereed Journal Publications**

**Maxwell, L. D.**, Vincent, S. V., & Ball, A. B. (in review). The Meaning of Effective Teaching through the Lens of Award Winning Faculty. *Journal of Agricultural Education*.

**Maxwell, L. D.** & Ball, A. L. (2010). What is scholarship? Faculty knowledge and perceptions of the scholarship of teaching and learning. *Journal of Agricultural Education*, 52(2), 127-138.

Smith, A. R., Killingsworth, J., Garton, B. L., **Maxwell, L. D.**, & Ball, A.L. (2010). Does prior college credit matter? A longitudinal investigation of academic success, retention and degree completion. *Journal of Agricultural Education*, accepted for publication.

## Refereed Conference Proceedings and Presentations

**Maxwell, L. D.**, Vincent, S. V., & Ball, A. B. (2010, May). *The Meaning of Effective Teaching through the Lens of Award Winning Faculty*. Proceedings of the American Association for Agricultural Education Research Meeting, Omaha, NE., Paper available at <http://www.aaaeonline.org>.

Killingsworth, J. L., **Maxwell, L. D.**, & Ball, A. B. (2010, May). *An Unknown Perspective: A Phenomenology of the Non-Retained Student*. Proceedings of the American Association for Agricultural Education Research Meeting, Omaha, NE., Paper available at <http://www.aaaeonline.org>.

**Maxwell, L. D.**, Vincent, S. V., & Ball, A. B. (2010, February). *Effective Teaching: An Investigation of Award Winning Faculty Instructors*. Proceedings of the annual Southern Region meeting of the American Association for Agricultural Education Research Meeting, Orlando, FL. Paper available at <http://aaaeonline.org>, **Awarded Second Runner-up Paper Presentation.**

Killingsworth, J., Smith, A. R., **Maxwell, L. D.**, Ball, A. L., & Garton, B. L. (2009, May). *A longitudinal investigation of academic success, retention, and graduation: What differences does prior college credit make?* Proceedings of the American Association for Agricultural Education Research Meeting, Louisville, KY. Paper available at <http://www.aaaeonline.org>, **Awarded Distinguished Manuscript.**

**Maxwell, L. D.**, & Ball, A. L. (2009, May). *The scholarship of teaching and learning: Faculty knowledge and perceptions*. Proceedings of the American Association for Agricultural Education Research Meeting, Louisville, KY. Paper available at <http://www.aaaeonline.org>.

**Maxwell, L. D.**, Ball, A. L., & Irani, T. (2008, September). *Faculty knowledge and perceptions of the scholarship of teaching and learning*. Proceedings of the annual North Central Region meeting of the American Association for Agricultural Education, Ithaca, NY. Paper available at <http://aaaeonline.org>.

## ~ Refereed Poster Presentations ~

**Maxwell, L. D.**, Ball, A. L., & Garton, B. L. (2009, May). *Student retention, admissions criteria, and the first year experience*. Poster session presented at the American Association for Agricultural Education Research Conference, Louisville, KY.

Rodriguez, M. T., Roberts, T. G., Turner, R. E., Kane, M., Barrick, R. K., Myers, B. E., Ball, A. L., & **Maxwell, L. D.** (2009, February). *Teacher's college: Learning to teach, teaching to learn*. Poster session presented at the annual Southern Region Meeting of the American Association for Agricultural Education, Atlanta, GA.

**Maxwell, L. D., & Minish, G. L.** (2008, May). *Developing a comprehensive recruitment program: The top ten things deans and departments chairs should know*. Poster session presented at the American Association for Agricultural Education Research Conference, Reno, NV.

**Maxwell, L. D., & Minish, G. L.** (2008, February). *Developing a comprehensive recruitment program: The top ten things deans and departments chairs should know*. Poster session presented at the annual Southern Region Meeting of the American Association for Agricultural Education, Dallas, TX. **Awarded Second Runner-up Innovative Idea Poster.**

### **Invited Presentations**

**Maxwell, L. D.** (2008, April). *What made SIUC the right choice for me*, Invited Presentation at the Southern Illinois University Carbondale, College of Agricultural Sciences, 4<sup>th</sup> Annual Agriculture Industry Day, Carbondale, IL.

**Maxwell, L. D., & Gibson, C. A.** (2007, October). *Recruitment, retention, and placement strategies for state colleges of agriculture and renewable resources*, Invited Presentation at the Annual Meeting of the American Association of State Colleges of Agriculture and Renewable Resources, Hays, KS.

**Maxwell, L. D.** (2006, October). *College of agricultural sciences recruitment and placement practices*, Invited Presentation at the Fall Meeting of the Southern Illinois University Carbondale, College of Agricultural Sciences, College Leadership Board, Bloomington, IL.