PREPARATION OF SPECIAL EDUCATION TEACHER EDUCATORS: AN
INVESTIGATION OF EMERGING SIGNATURE PEDAGOGIES

By

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ABSTRACT

Today's special educators must be well prepared to provide evidence-based instruction to students with complex learning needs in an era of ever-changing demands that include increasing accountability mandates, new knowledge of evidence-based practices, and enduring social concerns. Although the professional literature has focused on the preparation of special education teachers, little has been written about the professionals who prepare them. Specifically, limited literature is available about skills and competencies effective teacher educators need and the best ways in which to prepare them.

This study utilized a mixed method design to explore both the skills of effective special education teacher educators and the ways in which doctoral special education programs address the preparation process. The qualitative phase of the study entailed semi-structured interviews with experts in the field of doctoral preparation of special and general education teacher educators. The quantitative phase involved an analysis of survey data related to teacher education content within special education doctoral programs.

Interviews with teacher education experts revealed two main themes related to knowledge of effective teacher educators and doctoral experiences that promote effective preparation. The first theme, knowledge and skills of effective teacher educators, was subdivided into four interwoven subthemes that included (a) possessing teacher educator knowledge (e.g., academic content, instructional pedagogy, adult learning knowledge), (b) understanding of how special education fits within the greater context of P-12 instruction, (c) understanding the importance of

general education and special education collaboration both within P-12 settings and in teacher education programs, and (d) maintaining a professional disposition that includes a strong service orientation. The second theme, scaffolded work of teacher educators, included two subthemes related to opportunities to participate in: (a) ongoing work related to P-12 practices and school structures (e.g., program evaluation and mentoring and induction of novice teachers) and (b) faculty work experiences (e.g., college teaching and practicum supervision). Interviewees also identified several barriers to effective special education teacher educator preparation. These included doctoral student recruitment, knowledge and skills assessment of teacher educators, and institutional barriers that limit special education and general education collaboration.

Survey data from doctoral preparation programs (*N*=42) suggest that most programs provide numerous opportunities for students to participate in coursework related to teacher education, college teaching, practicum supervision, and P-12 experiences. Additionally, although most programs offer teacher education doctoral experiences, 20 doctoral programs offer teacher education as a specific area of emphasis. Several discrepancies emerged between the interview and survey results, including the limited emphasis on content-area expertise in doctoral education and levels of ongoing collaboration between general and special education programs.

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CHAPTER 1

Preparation of special education teachers is nested within social, legal, and institutional complexities. These include widespread teacher shortages (Boe, 2006), continued disproportionate representation of students from minority backgrounds receiving special education services (Hosp & Reschley, 2004), struggles with barriers to supporting the education of students with disabilities in the least restrictive environment (Crockett, 2002), meeting the demands for highly qualified teacher mandates in both the *No Child Left Behind Act* (NCLB) and *the Individuals with Disabilities Education Act* (IDEA) (Boe, 2006), and continued media and public criticism of education (see Figure 1).

Given this complex set of issues related to the education of children and youth with disabilities, it is no wonder that novice special educators report numerous challenges in their first years of teaching. Reported challenges include working with paraeducators (Billingsley & Tomachin, 1992; Otis-Wilborn et al., 2005), collaborating with general education colleagues (White & Mason, 2006), learning pedagogical and content knowledge for multiple grade levels and content areas (Billingsley & Tomachin, 1992; Gehrke & McCoy, 2007), implementing legal requirements such as compliance with procedures related to individualized education program (IEP) planning (White & Mason, 2006; Whitaker, 2003), managing large student case loads, general role ambiguity, and professional confusion (Gehrke & Murri, 2006). This long list of challenges undoubtedly contributes to the well-

documented high attrition rate among early-career special education teachers (Boe, Cook, & Sunderland, 2006).

To understand effective preparation, induction, and ongoing support of special educators, it is critical for researchers to examine the types of experiences that contribute to comprehensive teacher education. The knowledge base related in this area continues to grow and includes research in the areas of teacher quality (Brownell et al., 2008), mentoring and induction supports (Griffin, Winn, Otis-Wilborn, & Kilgore, 2003), and the effects of various evidence-based practices on students' learning. One critical area of scholarship missing from the literature is the preparation of teacher educators (Ducharme & Ducharme, 1996; Korthagen, Loughran, & Lunenberg, 2005; Martinez, 2008; Murray, 2008; Murray & Male, 2005). Teacher educators are a critical piece of examining teacher preparation as they provide the formal instruction to both preservice and practicing teachers (Fisher et al., 2008). In particular, there is a paucity of this literature in the special education teacher education (SETE) literature. The field's lack of knowledge about effective preparation of special education teacher educators is especially troubling in light of the long list of complex issues within special education (see Figure 1) and the ongoing difficulties novice special educators face as new practitioners (e.g. working with paraeducators, managing large student case loads, and professional role confusion). Figure 1 highlights the complexities inherent within the work of teacher educators and the underlying work that teacher educators do in response to those complexities.

Inherent complexities of teacher education. Sindelar and Rosenberg (2000) described the challenges faced by teacher educators as they attempt to address the contradictory dilemmas of quality and quantity in teacher education during a time of extreme teacher shortages. Whereas special education teacher educators must prepare teachers who are highly competent and effective, there is also a demand for fast-track alternative-route programs that quickly prepare and graduate special educators. The authors described challenges such as "legislative mandates for curriculum coverage, restrictive institutional rules and regulations, and students' growing consumer orientation" (p. 188). Grossman (2008) explained that these legislative mandates, often translated as burdensome State-created certification standards, are often blamed on teacher educators who must recreate courses to address the new standards. Teacher educators, therefore, must carefully change their course content to address these changes in certification standards.

In addition to the abovementioned competing roles of teacher educators, schools of education are faced with political pressure to remedy many of the problems faced in today's public schools. According to Levine (2005), education schools are blamed for social problems that are not entirely within their scope of influence including low-performance of K-12 schools and the socioeconomic and cultural achievement gap. There is an expectation that schools of education can respond to all these issues. Cochran-Smith (2003) stated that because schools of education are responsible for preparing competent teachers, teacher educators "are now the linchpins in educational reforms of all kinds" (p. 5).

Figure 1: Complexities inherent within special education teacher educators' work

Figure 1: Complexities inherent within special education teacher educators' work
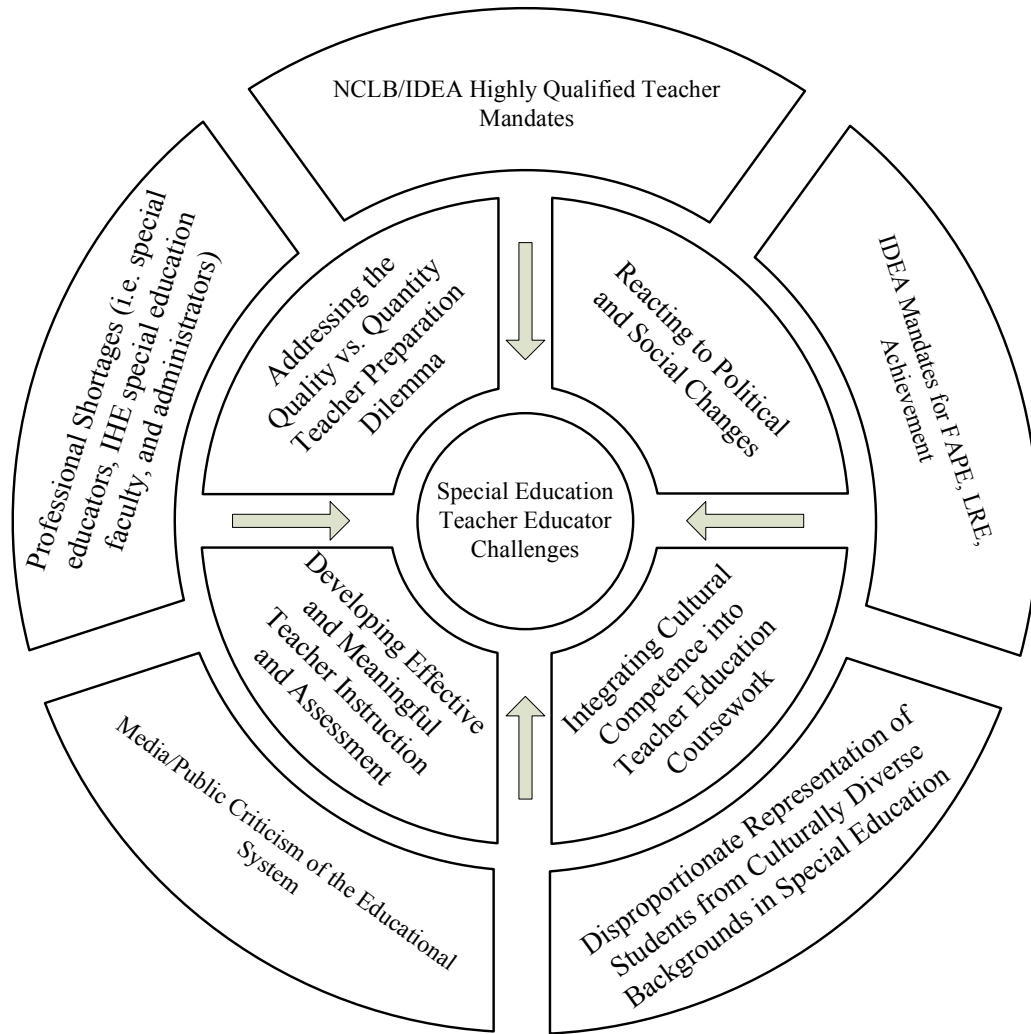
Doctoral preparation of teacher educators. In the United States, the majority of teacher educators receive their preparation in doctoral programs (Zeichner, 2005). It is important to note, however, that doctoral programs are diverse and have numerous program goals that include preparing researchers, policy makers, district

and state administrators, and teacher educators. Additionally, within these broad preparation categories, doctoral programs offer areas of specialization that, in special education, include disability-specific studies, policy studies, and teacher education. The diversity among these doctoral programs has been a productive foundation for many unique contributions to the education knowledge base; programs with different foci examine different aspects of special education. Consequently, the study of doctoral preparation of special education teacher educators should take this diversity into account and not assume that all doctoral programs must have similar pathways to preparing researchers, policy makers, administrators, and teacher educators. With this said, however, it is also important to begin learning how the field of special education prepares its teacher educators in order to uncover what Shulman (2005) called the profession's "signature pedagogies" (p. 52). He defined these signature pedagogies as the fundamental experiences resulting in the education and enculturation of new professionals during their preparation. Shulman further explained that by studying the signature pedagogies of the professions, such as the preparation of teacher educators, one can learn about the culture, dispositions, and personalities of the profession. Although not the only feature of the profession's signature pedagogies, preparation of special education teacher educators is one aspect of special education teacher preparation that should begin to be studied. After all, doctoral special education graduates will prepare most of the next generation of teachers providing students with disabilities a free and appropriate public education (FAPE) (Smith, Pion, Tyler, & Gilmore, 2003).

A review of the literature shows there are a variety of methods used to study the preparation of teacher educators. One way of doing so is by examining the formal and informal program structures. Cochran-Smith (2003) stated that in order for future teacher educators to become effective, they must engage in the "stuff of everyday practice" (p. 23). Similarly, Zeichner (2005) recommended doctoral students preparing to become teacher educators should be provided with experiences that immerse them in the practices of teacher educators. He recommended ongoing opportunities to study the teacher education literature and engage in activities that promote self study to begin gaining essential skills prior to their first faculty position. Shulman's examination of the professions' signature pedagogies along with Zeichner's (2005) and Cochran-Smith's (2003) emphasis on doctoral work in teacher education provides a useful framework for examining how special education doctoral programs prepare future teacher educators.

Statement of the Problem

Research in the area of teacher educators is limited and has largely ignored questions related to effective teacher educators' skills and how future teacher educators can learn these skills (Cochran-Smith, 2003). The limited but growing body of literature focuses primarily on the development of general education teacher educators; very little is known about how programs that prepare special education teacher educators and researchers actually do this preparation. It is important to study the preparation of special education teacher educators as their work is inherently complicated by the abovementioned complexities (see Figure 1).

Purpose of the Study

The overarching goal of this study was to investigate the broad questions related to preparation of special education teacher educators by examining both experts' analysis of effective teacher educators' skills and reviewing the range of current preparation experiences in top special education doctoral programs. This study also explored both formal programmatic structure (e.g., coursework, field experience supervision, college teaching, and preparation for research in teacher education) and informal structures in place for preparing doctoral students as teacher educators. Needless to say, there are many other aspects of doctoral preparation such as preparation in research methodologies and scholarly analysis of areas including specific disabilities, and instructional strategies. The scope of this study, however, was limited to experiences related specifically to the preparation of novice special educators. This research did not address questions related to doctoral experiences beyond this narrow scope.

The conceptual framework for this study was based on three premises: (a) teacher educators typically transition into the profession from P-12 teaching (Zeichner 2005), (b) future teacher educators benefit from directed experiences that prepare them for their future roles as teacher educators (Cochran-Smith, 2003), and (c) because this is a new area of inquiry, a mixed methodology research design was the most appropriate as it allowed the researcher to use multiple data sources to gain a more comprehensive understanding of the issues (Creswell & Clark, 2007).

The qualitative phase of this study comprised of expert interviews that included semi-structured question protocols about critical issues related to practices of effective special education teacher educators and doctoral experiences that promote those practices. The quantitative phase involved the analysis of an online survey, the Doctoral Experiences in Teacher Education Survey (DETES), which was electronically distributed and completed by 42 department chairs or program coordinators of special education doctoral preparation programs. The majority of the participating programs were members of the Higher Education Consortium for Special Education (HECSE), a national organization representing special education university programs with doctoral programs, as this is the main professional organization for doctoral special education programs. Other doctoral programs were found through a comprehensive online program search.

Research Questions

The following research questions were addressed in this study:

1. What experiences within doctoral special education programs could help doctoral students improve their skills as effective teacher educators? (Qualitative phase)

2. What types of *formal experiences* do special education doctoral programs offer to prepare their students to become teacher educators (e.g., specific course sequences or preparation related to teacher education, supervision of practicum students, college teaching, and teacher education research methodologies)? (Quantitative phase)

3. What types of *informal experiences* do special education doctoral programs include to prepare their students to become teacher educators (e.g., joint faculty student research in teacher education, seminars, and relationships with local schools)? (Quantitative phase)

4. Are there relationships between demographic characteristics of the doctoral programs (e.g., Carnegie classification and program size) and teacher education components (e.g., course content, college teaching, practicum supervision, P-12 experiences, and policy experiences) within special education doctoral programs?

CHAPTER 2: REVIEW OF LITERATURE

Ongoing societal demands for improved learning outcomes, both for students with and without disabilities, have resulted in intense scrutiny of teacher quality from both within and outside the education community (Ingersoll, 2007). This scrutiny has been focused, among other things, on general and special education teacher preparation programs by connecting teacher preparation, teacher quality, and student outcomes. Although the connection between student learning outcomes and teacher preparation must be considered, presently little literature links teacher education program characteristics with teacher quality or effective student outcomes (Brownell, Leko, Kamman, & Streeper-King, 2008). There are just too many variables beyond teacher preparation that contribute to both teacher quality and student learning outcomes. For example, in addition to teacher quality indicators, variables such as student demographics and reliance of certain curricula affect student-learning outcomes. Nonetheless, examination of special education teacher preparation is, in fact, critical and has been under examination in many areas of education (Martinez, 2008).

Despite the attention of teacher education and teacher quality, preparation of teacher educators is one area of teacher education that has not received considerable attention (Ducharme & Ducharme, 1996; Korthagen, Loughran, & Lunenberg, 2005; Martinez, 2008; Murray, 2008; Murray & Male, 2005). In fact, questions related to the preparation and expertise of teacher educators have been addressed in the literature only recently. This lack of attention may be attributed to underlying but

incorrect assumptions that effective P-12 teachers automatically become successful

teacher educators (Zeichner, 2005). If the transition from teacher to teacher educator

was intuitive, then the development of effective teacher educators would not require

further study. Yet, the limited, but growing body of literature that addresses the skills,

competencies, and development of teacher educators suggests this transition

preparation of teachers is not intuitive, and that specific skills and competencies for

effective teacher education are not traditionally part of P-12 teachers' professional

work (Martinez, 2008; Murray, 2008; Smith, 2003). Martinez (2008) explained this

false assumption:

> I believe it is important to trouble this idea of a seamless shift [from
>
> teacher to teacher educator], with its implication that teaching
>
> experience is context-free and so generally transferable.
>
> Acknowledging that teaching diverse adults in non-compulsory
>
> settings requires a different set of strategies and skills marks this as a
>
> key transition challenge, even for those new teacher educators who
>
> enter with strong successful teaching records in schools (p. 39).

Examining this transition, as well as the types of supports that may help new teacher

educators teach more effectively, is critical. Buchberger, Campos, Kallos, &

Stephenson (2000) stated simply, "High quality teacher education depends on high

quality teacher educators" (p. 65).

Existing literature provides a framework for understanding the skills and

competences of effective teacher educators. Because this literature is almost

exclusively related to general education practices, there is little mention of issues specifically affecting special education teacher educators. Although knowledge of the development of all teacher educators generally applies to the context of special education, there are issues that specifically affect special education teacher educators that are not addressed such as the legal mandates of IDEA and specific accountability issues related to assessing students with disabilities. The purposes of this review of literature, therefore, are to (a) provide a synthesis of the available general education literature related to the skills, competencies, and preparation processes of effective teacher educators, (b) contextualize this literature base within special education, and (c) highlight areas of needed research related to the preparation and support of teacher educators working in the field of special education.

Literature Review Methodology

A two-step process was used to locate articles for inclusion in this review. The first step was a systematic online database search (i.e., Dissertation Abstracts, Education Abstracts, Google Books, Google Scholar, PsycInfo, and WilsonWeb). Descriptors included combinations of the terms *teacher education, teacher preparation, teacher education pedagogy, teacher education standards, special education teacher education, higher education, doctoral studies, doctoral students,* and *doctoral preparation*. The next step was a historical search for articles and books using reference lists obtained through the online database search. Although the literature review originally focused on special education teacher educators, none of

the studies that emerged were in special education. Consequently, the literature review broadened to include research related to general education teacher educators.

Eighteen studies were identified that related to either the preparation of teacher educators or the skills and competencies of teacher educators. Research methods included qualitative studies, such as interview and self-study research, and quantitative research such as surveys. Self studies were also included in this review as they provided valuable information about the roles and practices of teacher educators. The majority of this literature focused on novice teacher educators' transition from P-12 practice to higher education. In addition, several descriptive articles emerged that provided useful overviews related to the work of teacher educators as well as preparation and professional development of teacher educators. Appendix A provides summaries of all the published research obtained through this search (i.e., authors, settings, participants, methods, and findings).

<center>Defining the Problem</center>

The literature search revealed a paucity of scholarship related to both the preparation of and the skills and competencies of special education teacher educators. As illustrated in Figure 2, this lack of attention is indicative of the greater lack of scholarly emphasis on SETE, which results in little knowledge about the skills and dispositions effective teacher educators need and the types of professional experiences that can contribute to teacher education development. This lack of research exists despite the need for clarification of the roles of special education teacher educators in light of ongoing criticisms of teacher education (Finn,

Kanstoroom, & Petrilli, 1999; Levine, 2005), numerous demands on teacher

educators (Cochran-Smith, 2003), and higher education environments that values

other academic responsibilities over teacher education (Ducharme & Ducharme,

1996). Figure 2 shows the effects of the lack of emphasis on research related to

teacher educators' work.

Figure 2: Why Do We Not Know More about Special Education Teacher Educators'
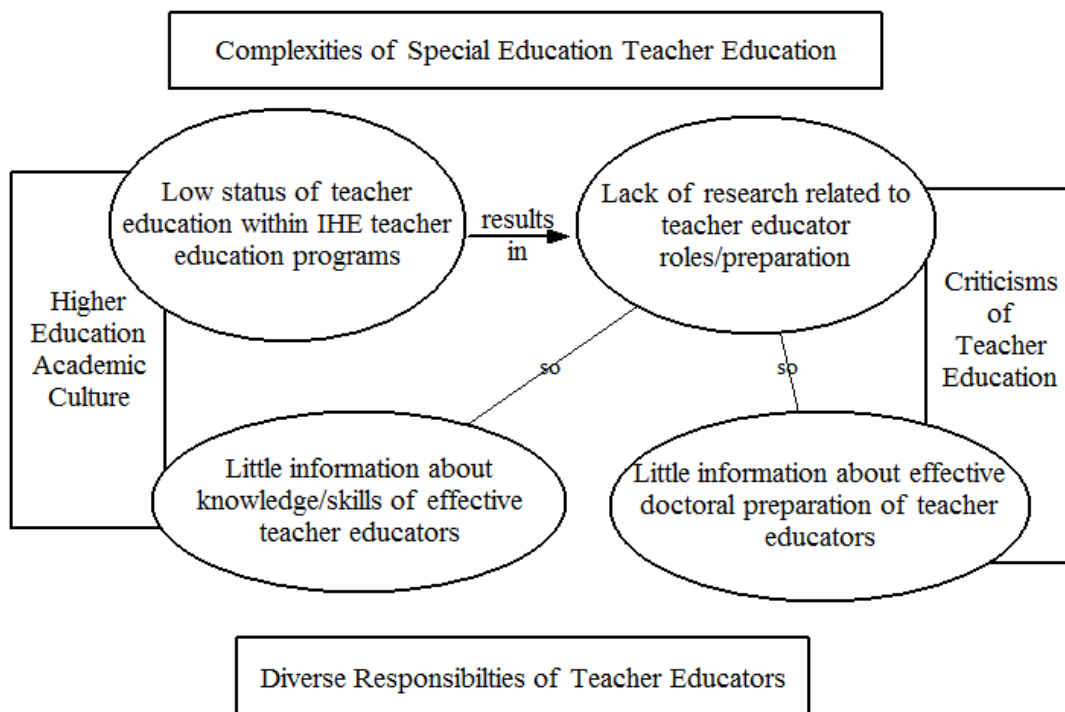
Work?

Due to the lack of professional attention to the work of special education

teacher educators, this critical area of study must be investigated through robust,

ongoing examination. Ducharme and Ducharme (1996), more than a decade ago,

discussed the rationale for sustained research related to the work of teacher educators.

Although they were not specifically referring to special education teacher educators, their contention holds true. They stated:

> Many critics of teacher education (see Koerner, 1963; Conant, 1963; Finn, 1991; Kramer, 1992) base their negative images of teacher education programs and faculty (i.e., teaching staff) on blanket condemnation and hearsay rather than careful delineation of actual conditions and practices. Scholarly inquiry and study of the teacher education professoriate may refute some of these intellectually shallow, though often powerfully stated indictments (p. 58).

The authors also declared that despite the ongoing criticisms related to preparing quality teachers, there is still very little known about the practices of teacher educators.

<div align="center">Teacher Educator Research Findings</div>

This review was divided into four interrelated sections. First, as a foundation, the literature related to the definition of teacher educators was described. Second, information about the transition from P-12 teacher to teacher educator was explained by an examination of self studies, other qualitative studies, and position papers. Third, skills and competencies of teacher educators were explored through an examination of teacher educator standards both in the United States and abroad. These studies highlight both work related to teacher educator standards as well as broader studies related to the ongoing work of teacher educators. Finally, literature related to doctoral preparation of teacher educators was examined. Because of the paucity of literature

focusing specifically on special education teacher educators, this review includes general education literature in the United States and internationally. Although there are aspects of the special education context that are unique, general education research provides a useful framework with which to begin examining special education teacher educators' practices. Within each of the four major areas of this literature review is a brief summary contextualizing this research within the field of special education.

Definitions of Teacher Educators

Teacher educators are broadly defined as those who prepare P-12 educators (Fisher, Short, McBee, & Venditti, 2008; Loughran, 2006). Both Fisher and colleagues and Loughran acknowledged that this definition is too general to be useful. First, it applies to a broad range of teacher educator roles including teaching courses in institutions of higher education (IHEs) and mentoring practicing teachers within P-12 settings (Klecka, et al., 2008). Second, the roles, responsibilities, and identities of teacher educators are much more complex than this definition suggests. Lanier and Little (1986) explained:

> Teachers of teachers—what they are like, what they do, what they think—are systematically overlooked in studies of teacher education. Even researchers are not exactly sure of who they are. While it is known that a teacher educator is one who teaches teachers, the composite of those who teach teachers is loosely defined and constantly changing (p. 528).

The diversity of teacher educators' work, including work in IHEs as well as

within P-12 settings, is one challenge in broadly defining their work and

specific areas of expertise. This question of teacher educator identity is further

complicated by numerous alternative routes (AR) to certification program

options, particularly in special education, whereby teacher education

candidates simultaneously teach within P-12 special education settings and

participate in teacher preparation programs (Rosenberg, Boyer, Sindelar, &

Misra, 2007). The authors differentiate AR programs from traditional ones by

placing them outside the typical programs offered in colleges of education as a

means of streamlining programs and moving teachers into P-12 classrooms

quickly. Therefore, the work of teacher educators, especially in high-need

areas such as special education, may involve teacher preparation outside the

traditional roles in colleges of education.

Another major difficulty in defining the term *teacher educator* results from

teacher education faculty's lack of identification with their roles as teacher educators.

Ducharme & Ducharme (1996) examined eight years of survey data gathered by the

Research about Teacher Education (RATE) Committee of the American Association

of Colleges for Teacher Education (AACTE). This data consistently indicated that

teacher education faculty do not identify themselves as teacher educators. The authors

stated, "In several years of the surveys, respondents had the opportunity to indicate

how they chose to identify themselves professionally. They never selected the title

'teacher educator' more than 15% of the time" (p. 64). This finding occurred in spite

of the fact that the faculty surveyed indicated that they spent an average of 60% of their time on activities related to teaching. Although the authors did not probe into reasons for this finding, they speculated that the lack of identification with roles of teacher educators may be due to faculties' allegiance to their disciplines rather than to preparing teachers. They cited the work of Judge (1982) in making this inference. Another reason for lack of identity with teacher education may be the marginalized status typically afforded to teacher educators (Liston, Borko, & Whitcomb, 2008).

Defining teacher educators is also problematic as those who teach teachers reflect a diverse range of professional roles from those working in research-intensive universities to those working in school district based alternative certification programs. Additionally, teacher educators, in the context of institutions of higher education, have other roles including participation in research and service. Specific roles related to teacher education may include working with novice teachers, collaborating with school districts, and facilitating needed policy changes. This broad context of *who* teacher educators are and *what* they do contributes to the unclear definition of teacher educators.

Murray (2008) began narrowing the definition of teacher educators by referring to them as "second order practitioners". She explained that first-order practitioners (i.e., school teachers) have experience in working in the school sector. Second-order practitioners must have professional knowledge that extends beyond this understanding and includes engaging in academic discourses about extended pedagogical skills as well as producing new knowledge in their prospective

disciplines. Second-order practitioners (i.e., teacher educators), therefore, must be able to transmit knowledge effectively to be used by first-order practitioners (i.e., P-12 teachers). Many second-order practitioners work with preservice and practicing teachers and, therefore, should be considered teacher educators when studying the roles and competencies of teacher educators.

For the purposes of developing teacher educator standards, the Association of Teacher Educators (ATE), a professional organization of teacher educators, defined teacher educators as, "those educators who provide formal instruction or conduct research and development for educating prospective and practicing teachers. Teacher educators provide the professional education component of preservice programs and the staff development component of inservice programs" (Fisher et al., 2008). This definition by Fisher and colleagues further narrows the definition of a teacher educator to one who provides formal instruction related to the preparation and support of teachers. Swennen and Van der Klink (2008) similarly explained that teacher educators are involved in formal preservice and inservice teacher education in either higher education or schools. It seems, then, that the work of teacher educators diverges from other professionals supporting preservice and inservice teachers by the formal characteristic of their preparation. Other professionals who provide support and mentorship to preservice and novice teachers do so in a more informal manner, so they do not fit into the definition of teacher educators as providing formal supports.

This definition, however, is still broad enough to encompass teacher educators such as practicum supervisors, online instructors, and others that work in school

districts of other alternative methods. Although the roles of these professionals may differ from the roles of traditional university-based teacher educators, narrowing the definition further may unintentionally exclude these groups of teacher educators.

Connection to special education teacher education. Within special education, the burgeoning alternative routes to certification often involve collaboration between IHE based teacher education programs, district-based mentoring and induction, and other teacher education practices (Rosenberg et al., 2007). Consequently, when defining the roles of teacher educators, it is important to consider the national trends towards teacher preparation that involves not only IHE faculty, but also P-12 school personnel. Murray's (2002) definition of teacher educators as second-order practitioners is still useful within the special education context as SETE, regardless of whether it is IHE based or school district based, involves introducing preservice or inservice teachers to the content and pedagogical tools necessary to teach students with disabilities effectively. The dilemma remains: how can the second-order practitioners best convey knowledge of instructional practices to the first-order practitioners so that they can use this knowledge for effectively working with students with disabilities.

Two major issues in special education obstruct any solutions to this complex and multifaceted problem. First, teacher educators and researchers have yet to identify these best practices adequately. Second, if the findings of Ducharme and Ducharme (1996) apply within the special education context and special education teacher educators are not identifying themselves with the preparation of teachers,

answering questions related to the effective preparation of special education teachers may be difficult, as questions related to teacher education may not be viewed as professionally critical.

Transition from Teacher to Teacher Educator

Most teacher educators today began their careers as classroom teachers (Golde & Walker, 2006; Swennen & Van der Klink, 2008; Zeichner, 2005). Faculty position announcements in the United States, in fact, often require teaching experience and sometimes licensure as requisite skills for teacher educators. Despite this occurrence, there is little research to inform the field about the transition from effective teacher to effective teacher educator, particularly in special education. The transition from teacher to teacher educator is often abrupt; existing literature suggests that the evolution of effective teacher to effective teacher educator requires time and must be constructed in a meaningful way (Dinkelman, Margolis, & Sikkenga, 2006). Dinkelman and colleagues stated that although the roles of classroom teachers and teacher educators have commonalities, the two roles are significantly different in practice and identity.

Teachers are expected to teach subjects to younger learners and teacher educators are expected to prepare adult learners about *how to* teach those learners. Not surprisingly, pedagogies for each of these practices are inherently different (Ritter, 2007). Murray and Male (2005) explained that in order for teacher educators to convey content and pedagogy knowledge effectively, they must do so through modeling effective practices and communicating explicitly about learning and

teaching. The authors stated that these methods of conveying knowledge of best practices are quite complex and require an elaborate understanding of P-12 practices.

The lack of professional attention to P-12 teachers' transition to teacher educator suggests that the field inaccurately assumes that teacher education is self-evident. Zeichner (2005) explained that there is an "assumption that educating teachers is something that does not require any additional preparation and that if one is a good teacher of elementary or secondary students, this expertise will automatically carry over to one's work with novice teachers" (p. 118). He countered this argument by explaining that there are fundamental differences between teaching children and adolescents and teaching adults. When teaching preservice teachers, the teacher educator must (a) provide information about teaching practices within the context of today's accountability systems, (b) encourage self-reflective practice, and (c) scaffold the novice teachers' learning toward building expertise. Although expert P-12 teachers may have strong skills in each of these areas as they apply to their teaching practices, the leap to relating these skills to preservice teachers does not automatically occur.

Almost 30 years ago, Zeichner and Tabachnick (1981) posited that preservice teachers do not transfer information they learn in their university coursework to P-12 classrooms, and this information is *washed out* during field experiences. Few researchers, however, have studied these teacher education dilemmas from the perspective of the effectiveness of teacher educators. Teacher education research has largely ignored questions related to the knowledge and skills that effective teacher

educators need and the means by which they might gain this knowledge (Cochran-Smith, 2003).

Studies presented in this section of the literature review relate to teacher educators' transition from P-12 teaching to teacher education positions. For the sake of prudence, it is important to note that several of these studies occurred in England and Australia, where full time teacher educators often transition directly from P-12 positions (Harrison & McKeon, 2008). There may not be a direct parallel between the experiences of the English and Australian teacher educators and the experiences of teacher educators in the United States, who often transition into teacher education through a middle-step of doctoral preparation. Still, most teacher educators who enter the profession after doctoral study were first classroom teachers, so there may be valuable lessons learned from these findings. Findings in the following section about teacher educators' perceptions about their own development are organized into two categories: self-study research and other transition to teacher education research.

Self study research. Much of the emerging body of literature related to the development of teacher educators has taken the form of self study (Cochran-Smith, 2003). In these studies, teacher educators and researchers conduct research on their own professional contexts. In fact, of the 18 identified research studies, six were self studies related to the early experiences of teacher educators. Although not in special education and often in countries outside the United States, these self studies have provided in depth qualitative information about essential teacher educator skills from the perspectives of novice teacher educators as they reflect on their transition from

classroom teacher to IHE-based teacher education. It is, therefore, important to explore these studies despite the lack of special education or national context. Grossman (2005) stated that there are many reasons why self study in teacher education has merit. This author stated that teacher education self-study research is often intended to provide feedback used for improvement of subsequent instruction and teacher education practices. Cochran-Smith (2005) similarly expressed that self-study research results in "systematic inquiry and sometimes leads to the development of conceptual frameworks, theories, and practices useful well beyond the original site" (p. 222). She also states, however, that it is difficult to generalize self studies for guiding broader teacher education parameters or for informing practice. Nevertheless, through self-study research, teacher educators have sought to understand their initial experiences as they transitioned from teacher to teacher educator (Dinkelman, et al., 2005), and a number of self studies were intended for generalizability and provide valuable information about the early-career experiences of teacher educators.

One such self study, Ritter (2007), was an investigation of the author's transition from a social studies teacher to teacher educator as he pursued his doctoral studies. His introduction into teacher education occurred when he enrolled in a doctoral education program. Through doctoral coursework, supervising student teachers, and personal journal reflections, he examined critical incidents that pushed him to study his responsibilities as a teacher educator. He indicated that through this transition, he was required to modify his professional identity and his pedagogy. Modifying his professional identity created some cognitive dissonance as he

examined teacher education through his own teaching experiences and his doctoral

preparation. Ritter explained:

> Aside from my experiences observing student teachers, my classroom
>
> teacher identity was also challenged by my doctoral coursework and
>
> discussions with my peers. These experiences served to challenge my
>
> larger belief systems and subsequently my views on the purpose of
>
> teaching social studies (p. 14).

He noted that at the beginning of his doctoral studies, he identified more with

his professional identity as a classroom teacher, as he did not want to discredit

his work as a classroom teacher. Ritter reflected that when he initially

observed his student teachers' instruction, his feedback was prescriptive and

positioned him as an expert. Gradually, however, he began to employ

collaborative reflection with his student teachers. This change from giving

knowledge to providing opportunities for inquiry and reflection helped shape

Ritter's pedagogy of teacher education.

Similar themes emerged from Dinkelman, Margolis and Sikkenga's

hybrid case study/self study (2006). In this study, the researchers investigated

the transition of two classroom teachers into their new roles as university-based

teacher educators. The two participants entered teacher education while enrolled

in doctoral education preparation. The first participant began as a secondary

social studies teacher while the second followed a career as a secondary English

teacher. Both had opportunities to teach seminars and supervise student

teachers. Data included reflective journals as well as a series of semi-structured interviews. These data revealed that the participants attempted to integrate their experiences as teachers with their new responsibilities as teacher educators. Although the two teachers had different experiences, both reported that the shift from secondary teachers to teacher educators resulted in professional identity conflicts as they tried to integrate their identities as school teachers and teacher educators. For example, in observing and giving feedback to student teachers, they often referred to their experiences as classroom teachers as a way of gaining trust and credibility of the students. They struggled with ways of maintaining citizenship as classroom teachers while at the same times building up expertise that would differentiate them from P-12 practitioners. Additionally, both novice teacher educators reported conflicts created by the institutional context of university-based teacher education; they stated that the university climate tended to deemphasize the importance of teacher education as compared to research ventures. They further stated that faculty advised them to spend less time in teacher education as it takes a great deal of time and may hinder their research developments.

Brandenburg (2008), who focused on the culture of teacher education in mathematics teacher education, undertook another such self study. In this research, Brandenburg described her initial transition from K-12 teacher to teacher educator:

Generally, I felt that my previous experience had prepared me

well for my new venture into mathematics teacher education and

the issues linked to the transition process were not something I

had initially or consciously considered….I must state, however,

that at the beginning point in the study of my practice, I was

quite aware of my assumptions about learning and teaching but

had never sought, as an educator, to unravel those assumptions

and explore their impact on my teaching (p. 4).

Brandenburg described the reflective practice, which drove her self-study research, and the steps she took move her reflective practice into a robust self study. She described this process as a "systematic inquiry into practice" (p. 175) and concluded that this type of inquiry resulted in her becoming a more effective teacher educator that could address the real needs of her preservice teachers. Her inquiry resulted in four assumptions about preservice teachers' learning: (a) multiple reflective practices integrated into teacher education challenged the preservice teachers to reflect critically on their learning , (b) discourse and reflection created opportunities for inquiry into practice and challenged the preservice teachers' assumptions about their teaching and learning of mathematics, (c) reflective discourse maximized preservice teachers' learning opportunities as they constructed knowledge and made judgments about learning, and (d) the preservice teachers' and the author's individual authority of experience was enhanced when the they were

reconceptualized as co-learners because power sharing and a democratic approach to learning created multiple learning opportunities.

Like Brandenburg, Berry (2007) described the self-study process as inquiry into practice. She described self study as moving from knowledge tied to specific events and situations to a more generalizable knowledge about her practice. She stated that as she reflected on her work, she gradually detached her learning from specific situations and developed a more global understanding of her practices as a teacher educator. Berry's self study focused on tensions inherent in teaching teachers; by focusing on tensions in the field, she could better understand the complex and uncertain nature of practice. The author identified six interconnected areas of tension: telling versus growth, confidence versus uncertainty, safety versus challenge, planning versus being responsive, valuing versus reconstructing experience, and action versus intent. She explained that the tension between telling and growth occurs as teacher educators attempt to balance delivery of information with creating opportunities and conditions for professional growth. Confidence and uncertainty is the tension that arises as teacher educators (and prospective teachers) attempt to move ahead and create new ways of learning and teaching. The author stated that these sets of tensions are intertwined with the tensions between safety and challenge as one must move away from *safe* teaching practices and challenge oneself to find better means of preparing prospective teachers. The tension between valuing and reconstructing experiences occurs as teacher educators must balance valuing their students' individual experiences while at the same time constructing

shared, meaningful learning experiences. Lastly, the tension between action and

intent encompasses all the other tensions as teacher educators evaluate their goals as

teacher educators and try to construct experiences in order to achieve those goals.

Other beginning teacher educator research. In addition to the

abovementioned self-study research, four other studies used alternate

methodologies (surveys, questionnaires, and interviews) with beginning teacher

educators but resulted in similar findings (Harrison & McKeon, 2008; Martinez,

2008; Murray & Male, 2005; Sinkinson, 1997). Three of the studies took place in

England (Harrison & McKeon, 2008; Murray & Male, 2005; Sinkinson, 1997) and

one took place in Australia (Martinez, 2008). The first study occurred more than a

decade ago whereby Sinkinson (1997) identified 14 newly-hired lecturers from six

IHEs who transitioned into their positions directly from P-12 careers. In her

research, the main reason cited for entering a career in higher education was an

opportunity for professional development. Participants considered time flexibility

an advantage of working in teacher education, although they acknowledged that

preparing lectures and seminars was extremely time consuming. Interestingly, only

three participants cited research opportunities as motivations for entering higher

education; the majority of participants viewed research as a formidable obligation

for which they felt ill prepared. The author explained that research was a "constant

source of anxiety and concern for all those with research responsibilities" (p. 100).

The participants' statements of their inadequate research preparation were likely

explained by their lack of research experience. Four of the participants' research

experience was limited to previously written master's theses and only three of the participants had at least one additional publication prior to entering their lecturer positions. One participant cited that her research activities were solely because work towards a doctoral degree was a requirement for maintaining her faculty position. In all cases, the participants indicated that research demands caused a great deal of professional apprehension.

In a study with similar outcomes to Sinkinson's, Martinez (2008) used elements of self study and interviews of six novice teacher educators in Australia to examine six transition challenges addressed in the literature. These challenges related to: (a) shifting from teaching youth to adult learners, (b) increased autonomy, (c) institutional structures and size of IHEs, (d) increased sophistication of work environment and technology, (e) the modeling imperative of teaching about teaching, and (f) research and promotion culture of IHEs. Of these challenges, the modeling imperative presented the greatest challenge as new teacher educators were faced with learning ways of modeling meta-cognition, rationale for teaching practices, and so forth. The author explained that the participants struggled with constructing instruction to "practice what they preach" effectively and "provide a running commentary of justification and explanation for their teaching practices" (p. 42).

Secondary to challenges with modeling effective teaching practices, participants in Martinez's study identified research as a transition area of concern. Unlike Sinkinson's study, however, research was not cited as a principal area of

concern. Although the lecturers in Sinkinson's study were engaged in ongoing professional development and academic study, they came directly from P-12 institutions into academia. Martinez, however, did not delineate participants' prior academic preparation prior to entering teacher education, so it is difficult to further compare issues related to research demands with Sinkinson's study.

Murray and Male (2005) conducted a qualitative study of 28 new teacher educators working in higher education institutions in England. Through interviews, participants identified five areas of growth that occurred during their first three years as teacher educators. These areas included: (a) acquisition of pedagogical knowledge and experiences as teacher educators, (b) generalization of existing education knowledge, (c) development of an identity as a researcher, (d) development of mentorship abilities, and (e) acquisition of knowledge related to working in higher education. Of these areas of growth, the two biggest areas of tension for these early career teacher educators were developing their pedagogy for higher education teacher education and becoming active in research practices. These areas challenged the novice teacher educators to reflect upon their roles as teacher educators and required them to learn new skills that they did not possess as classroom teachers.

Harrison and McKeon (2008) similarly presented findings of the induction of five novice teacher educators into higher education teaching positions in England. Findings presented a first phase of inquiry that involved interpretation of interviews related to facilitators and barriers to the professional learning of the participants. All

five teacher educators viewed their recent work in P-12 settings as crucial to their credibility as teacher educators. Areas they identified as challenging were consistent with the other literature. These challenges included working with and assessing student teachers, institutional demands such as research expectations, and lack of clarity of their professional responsibilities. Specific to their professional development as teacher educators, barriers included lack of role models, reliance on trial and error learning, lack of a personal vision in how to develop professionally, inappropriate courses, and few opportunities to collaborate with others. Facilitators to professional learning included flexible, institution-wide induction programs, comprehensive discussions with a mentor and other colleagues, and previous higher education experience (i.e. a master's or doctoral preparation).

As noted in the introduction to this section, teacher educators in England and Australia may not necessarily engage in doctoral preparation prior to becoming teacher educators, and hence their experiences may not directly parallel the experiences of beginning teacher educators in the United States. In the above four studies, two specified that participants had varied academic preparation that included both masters' and doctoral degrees (Harrison & McKeon, 2008; Murray & Male, 2005). Sinkinson (1997) did not directly specify participants' academic backgrounds, but did indicate that the participants either had earned or were earning advanced degrees, including doctoral degrees. Lastly, Martinez (2008) did not specify academic preparation. All authors, however, indicated that participants had significant P-12

experiences in addition to their academic backgrounds. It is unclear from these studies to what extent the amount of academic preparation affected the findings.

Connection to special education teacher education. These studies present a picture of dissonance as teachers transitioned into their new roles as teacher educators. Participants indicated concerns about their changing professional identities from classroom teachers to teacher educators and expressed struggles with developing a pedagogy of teacher education. Special education teacher educators would most likely also experience these areas of dissonance as they begin to work with novice special educators, especially in light of the complexities inherent in P-12 special education practices. For example, special education teacher educators must consider ways of helping novice special educators address the unique demands of preparing students with disabilities to successfully pass state assessments required by the *No Child Left Behind* (NCLB) mandates for adequate yearly progress (AYP). To meet the mandates for educational access and accountability for students with disabilities, special education teacher educators must provide preservice special educators with meaningful and integrated instruction in critical areas (e.g. research-validated teaching and assessment practices, legal mandates, and collaborative structures).

Successfully providing this complex and interrelated content in a manner that promotes understanding and application in complex K-12 classrooms, however, has proven to be a challenge for teacher education (Putnam & Borko, 2000). Ritter (2007) above explained that university-based teacher educators "are expected to teach about how to teach subject matter" (p. 5). Doing so within the context of special education

means preparing novice special educators to differentiate instruction based on individual learning needs and adapting and modifying curricula to meet the needs of individual students. Teaching these skills is greatly complicated as it involves providing this meaningful content and pedagogical instruction within the context of systemic problems in the field of special education that include the chronic shortages of highly qualified special educators (Boe, 2006), disproportionate representation of children from culturally and linguistically diverse backgrounds in special education (National Research Council, 2002), and NCLB achievement accountability mandates.

Skills and Competencies of Teacher Educators

While the teacher education literature addresses many of the challenges inherent in teacher preparation (Cochran-Smith & Lytle, 1999; Darling-Hammond, 2006; Feiman-Nemser, 2001; Romano, 2005), it does not adequately address the needed skills teacher educators must possess in order to meet those challenges (Cochran-Smith, 2003; Grossman, 2005). In fact, Cochran-Smith (2003) stated that even though multiple demands are placed on teacher educators, the field has largely ignored the preparation of and institutional supports for teacher educators. Teacher educators, after all, must fully understand many issues related to preservice teacher education and licensure as their instruction significantly influences teacher effectiveness (Nougaret, Scruggs, & Mastropieri, 2005; Sindelar & Rosenberg, 2000). Literature in this section is divided into two parts. The first section describes literature related to professional standards for teacher educators in both the United States and

abroad. The second section addresses the broader context of teacher educators' work as teachers, researchers, and policy makers.

Professional standards for teacher educators. In both the United States and abroad, there is growing interest in the development and use of professional standards for teacher educators. Koster (2005), an associate professor at Utrecht University in the Netherlands, defined standards for teacher educators as "a means of formulating what it means to be a competent teacher educator" (p. 2). The ATE in the United States, the Dutch Association of Teacher Educators (VELON), and the Professional Standards Framework in the United Kingdom (Higher Education Academy, 2006) have all done work in this area. Even greater than the debate regarding the definition of teacher educators is the debate about the standards for effective teacher educators. Koster and Dengerink (2008) synthesized the criticisms of standards in teacher education. They did not, however, differentiate teaching standards from teacher educator standards. The authors described the following three categories of criticisms: (a) standards may not account for the complexity of teacher education (Korthagen, 2004; Zeichner, 2005), (b) as normative structures, they may lead to de-professionalization (Cochran-Smith, 2001), and (c) if imposed, they may lead professionals to use them exclusively for their professional development (Sachs, 2003).

Despite these criticisms, exploring work related to standards for teacher educators can provide useful information about the values, responsibilities, and expectations of the teacher educators involved in this process. In the following

sections, standards developed by ATE and VELON will be briefly explained followed by studies that make use of these standards as a means of studying teacher educators. It is important to note that reflecting on the above criticisms is important when considering the studies presented below.

In the United States, ATE has recently updated its teacher educator standards to include nine standards for accomplished teacher educators (ATE, 2007). Fisher and colleagues (2008) stated that the purposes of the ATE standards include: (a) encouraging discussion about the roles and expectations of teacher educators, (b) contributing to research on teacher educators, and (c) providing external benchmarks related to what accomplished teacher educators do. The updated standards (ATE, 2007) outline nine standards that accomplished teacher educators should consider (see Table 1).

Table 1

ATE Teacher Educator Standards

Standard 1: Teaching. Model teaching that demonstrates professional knowledge, skills, and dispositions reflecting accepted best practices in teacher education.
Standard 2: Cultural Competence. Apply cultural competence and promote social justice in teacher education.
Standard 3: Scholarship. Engage in inquiry and contribute to scholarship that extends the knowledge base related to teacher education.
Standard 4: Professional development. Inquire systematically into and improve practice and demonstrate commitment to continuous professional development.
Standard 5: Program development. Provide leadership in developing, implementing, and evaluating teacher education programs that are rigorous, relevant, and grounded in theory, research, and best practices.
Standard 6: Collaboration. Collaborate regularly and in significant ways with relevant stakeholders to improve teaching, research, and student learning.
Standard 7: Public advocacy. Serve as informed, constructive advocates for high quality education for all students.
Standard 8: Teacher education profession. Contribute to improving the teacher education profession.
Standard 9: Vision. Contribute to creating visions for teaching, learning, and teacher education.

In addition to standards developed in the United States by ATE, professional standards were developed in the Netherlands by VELON (VELON, 2005). The Dutch standards were presented at the Association of Teacher Educators in Europe (ATEE) conference in 2005 (Koster, 2005) and have thus been adopted or altered into teacher educator standards in other countries such as England (Murray, 2008). The VELON standards comprise of six fields of competences (Koster & Dengerink, 2008): (a) Interpersonal; the teacher educator creates a safe (working) atmosphere, (b) Pedagogical; the teacher educator creates an inspiring and stimulating learning environment, (c) Organizational; the teacher educator organizes his or her work and improvises if necessary, (d) Working with colleagues in the organization; the teacher educator actively contributes towards the development and implementation of the organization's outlook and policy, (e) Working in a wider context; the teacher educator has a relevant network and keeps up-to-date, and (f) Working on one's own development; the teacher educator reflects systematically on his or her own pedagogical approach and (teaching) behavior towards students, colleagues, and others. These VELON standards were developed for teacher educators' own professional development and self assessment as well as to add a level of transparency to the work on quality teacher educators (Koster, 2005).

It is important to note that there is great overlap between the two sets of standards. Murray (2008) provides a synthesis of both the commonalities and differences between the two sets of standards. Similarities include statements about: (a) benefits of the development of standards by teacher educators within their

occupational group, (b) the unique professional knowledge and expertise of teacher

educators, (c) teacher educators' diverse roles as teachers, researchers, and

collaborators with P-12 partners and (d) the use of the standards for assessment

purposes. Primary differences between the two sets of standards lie in the degree of

emphasis on each of these areas. For example, whereas ATE Standard 3, Scholarship,

directly mentions research engagement, VELON standards do not explicitly mention

research obligations but rather state that teacher educators should contribute to the

knowledge about teaching.

Studies related to teacher educator standards. Two studies specifically used

the teacher educator standards as an area of inquiry (Klecka et al., 2008; Koster &

Dengerink, 2008). Klecka and colleagues (2008) focused on professional knowledge

of teacher educators as related to the 2003 ATE professional standards for teacher

educators. The authors investigated 14 teacher educators' reflection on their

professional identities through the development of e-portfolios aligned with the ATE

standards. The goal of this study was to analyze the use of professional portfolios to

identify skills and competencies demonstrated by teacher educators. Data included

the 14 teacher educators' e-portfolios, field notes from two focus groups and three

general meetings, and 14 individual written reflections on the portfolios. Participants

indicated that the standards provided insight into goals of effective teacher educators.

They also stated, however, that the e-portfolios did not necessarily fully represent

their work as teacher educators. Results also indicated five areas of professional

identity: teacher, scholar, collaborator, learner, and leader. Twelve of the 14

participants identified most with their identity as a teacher. Thirteen of the 14

participants stated that a major contributor to effective teacher education is being

involved in scholarly activity. All discussed collaborative work. The major areas of

collaboration included grant work, work in K-12 settings, professional development,

institutional work, and research efforts. Only two participants discussed collaboration

with the community and only four discussed course-based collaboration. Eleven

participants identified themselves as learners either through professional associations

or professional development. Lastly, leadership was identified by twelve of the

participants as a major facet of teacher education. This leadership involved program

development and evaluation, dissemination of work, involvement in policy issues,

and work within professional associations. The authors concluded that the ways in

which the teacher educators showed competence in the areas addressed in the ATE

standards were quite diverse. Therefore, they recommended that the standards must

be broad enough to allow these degrees of individuality in interpretation.

     Koster and Dengerink (2008) investigated whether the Dutch standards

(VELON, 2003), as measured by self-assessment through the Professional

Development and Registration (SPR) portfolio system: (a) would reflect the

professional complexity of teacher educators' work and (b) were imposed on Dutch

teacher educators or were teacher educators self selecting to participate. They also

sought to learn how the standards were being used by teacher educators. Fifteen

teacher educators completed evaluation forms and 25 teacher educators' portfolios

were reviewed. Teacher educators reported that self-assessment together with

feedback from students and colleagues were more meaningful than self-assessment on its own. In fact, more than a third of the participants extended the feedback loop by sharing their original feedback with colleagues at their institutions. The least favorable aspect of the SPR was the step that resembled the use of checklists for the standards. Lastly, the professional development steps were seen as more useful than assessment steps. Portfolios revealed teacher educators set complex professional goals and used a variety of professional development activities. The teacher educators personalized the standards to their professional experience, thus interpreting their specific individual complexities onto the standards. The Dutch standards were not found to be imposed on teacher educators. Rather, the teacher educators reported an ownership of the standards as they were developed within their professional community. Interestingly, the authors recommended the term "professional frameworks" (p. 146) instead of professional standards (as is done in several other countries) to avoid association with rigidly prescribed professional behaviors that the term "standards" may connote.

Teacher educators' work and practices. The standards explained above attempt to conceptualize the work of effective teacher educators. Cochran-Smith (2005) described more broadly the traditional three areas of teacher educators' work: (a) teacher education, (b) research and inquiry into teaching and learning processes, and (c) policy analysis as it relates to education and social justice. Each of these three areas, for Cochran-Smith, relates to and merges into the other. She described the

relationship between practice and scholarship in teacher education as "working the dialectic" (p. 219). She explained:

> We used this phrase because we wanted to point out that there were
> not distinct moments when we were only researchers or only
> practitioners and thus to emphasize the blurring rather than dividing of
> analysis and action, inquiry and experience, theorizing and doing in
> teacher education (p. 219).

Teacher educators' work must be examined from the perspective of an increasingly more complex context of teacher education (Ben-Peretz, 2001; Cochran-Smith, 2003, Levin, 2005; and Sindelar & Rosenberg, 2000). The complexities inherent in teacher education include the many competing roles of teacher educators (Ben-Peretz, 2001), expectations that teacher education can alleviate all the problems that exist within the U.S. educational system (Sindelar & Rosenberg, 2000), contradictory dilemmas of quality and quantity in teacher education during a time of extreme teacher shortages (Sindelar & Rosenberg, 2000), and legislative mandates that often result in burdensome state-created certification standards (Grossman, 2008). Teacher education, therefore, occur within the context of these complexities.

    Teaching practices. The major role of teacher educators is, of course, teaching teachers. Cochran-Smith and colleagues (2008) elegantly expressed the impact of teacher education, "Given the importance of education in our global society, one could surely make the case that the education of teachers is indispensable in shaping the quality of life for individual learners, for communities, for our nation, and for the

world" (p. xxxiv). The standards-based movement described above attempts to help teacher educators navigate the personal challenges associated with learning to become practitioners.

One major area of struggle for beginning teacher educators appears to be modeling teaching practices (Loughran & Berry, 2005; Martinez, 2008). Loughran and Berry (2005) explored the very nature of explicit modeling within one preservice teacher education course. The authors explained, "Explicit modeling is about us 'doing' in our own practice that which we expect our students to do in their teaching" (p. 194). They further explained that this modeling comprises of two processes: modeling the use of effective practices and presenting the meta-learning tools (such as reflective practices) that accompany the effective teaching practices. In practicing meta-learning tools (such as debriefing after teaching sessions and professionally critiquing colleagues), the tensions and complexities of teaching became apparent to the student teachers. The authors, through their self study, found four aspects of practice related to explicit modeling: (a) unpacking teaching practices through professional critiques, (b) highlighting different types of teaching decisions informs novice teachers about pedagogical reasoning, (c) highlighting the distinction between action and intent shows the difference between what one intends to teach and actual teaching behaviors, and (d) valuing partnership and co-teaching demonstrates numerous learning opportunities that occur through collaboration.

Connection to special education teacher education. The general information about preparing teachers, as it applies to special education in the United States must

be contextualized within two important areas: inclusive education and educational accountability. Changes in legislative demands have resulted in fundamental changes in how students with disabilities receive their instruction. These changes, however, are only slowly affecting teacher education programs. Sapona and colleagues (2006) stated that after examining their teacher preparation program, they found that they needed to make significant changes to their preparation of special educators. These changes were designed to meet the legislative mandate of IDEA to teach children in the least restrictive environment, which often translated to inclusive settings. They had to examine the course sequence offered in their preparation program to reflect the transition towards more inclusive education. This change required the authors to collaborate with faculty in the general education teacher education program and provide authentic experiences that the preservice teachers would encounter once they entered the teaching workforce.

With the reauthorization of IDEA in 2004 and the passage of NCLB in 2001, educational policy moved from a precedence of educational access to a precedence of educational accountability for students with disabilities (Goe & Coggshall, 2007). This movement towards educational accountability focused attention not just on the instruction of students with disabilities but also on the outcomes of that instruction. By requiring school districts to assess students with disabilities on state assessments, counting their results towards the AYP measure, and disaggregating data by disability, schools are held accountable for the achievement of students with disabilities. Regardless of the criticisms and debate surrounding the appropriateness

of AYP accountability measures, when novice special educators leave their preparation programs, they are expected to have proficient content and pedagogical skills to prepare their students to succeed on the reading and math state assessments. The *grace period* previously afforded to teachers to learn on the job is no longer in place as AYP measures affect entire school systems and thus both veteran and novice teachers.

Special education teacher educators must realize that novice special educators need sufficient skills in content areas such as mathematics and reading to provide effective instruction to students with disabilities in these areas. Although the teacher quality literature has shown some inconclusive findings, it suggests that having this content and pedagogy knowledge improves students' performance (Brownell et al., 2008). Secondary teachers with knowledge of mathematics and mathematics instructions, for example, have been shown to have students with greater mathematics outcomes (Hill, Rowan, & Ball, 2005). Although the connection between content knowledge and student achievement has, at best, shown inconclusive results in areas outside of mathematics and science, adequate preparation in content and pedagogy a critical component of effective instruction for students with and without disabilities (Brownell, et al., 2008). As special education teacher educators examine their instruction, they must consider how that instruction translates to the teachers' application of that knowledge.

Preparation of Teacher Educators

As noted earlier, new teacher educators face complex challenges related to teaching adult learners, research demands, and adjusting to other institutional structures. Cochran-Smith (2003) purported that the best way to conceptualize the knowledge of teacher educators is to engage in inquiry into"daily practice" of teacher educators including: teaching and revising courses, supervising student teachers, developing assessment systems, admission of new students, and writing accreditation reports. Therefore, when considering professional preparation of teacher educators, engagement in daily practice, as well as content-area expertise, must be addressed. This section examines available literature regarding preparation of teacher educators.

Initial preparation of teacher educators. Given the paucity of research related to the development of teacher educators, it is unsurprising that there is little research to inform the field about the types of experiences either general or special education doctoral students receive to prepare them to be effective teacher educators. The preparation of teacher educators, however, is a fundamental part of special education. Hardman and West (2003) explained that successfully providing a free and appropriate education to all students is directly tied to teacher quality and, therefore, to the quality of their preparation in schools of education. As the previous three sections suggest, providing *quality teacher preparation* requires a comprehensive understanding of both student learning and adult learning and is complicated. Quality instruction as it relates to the education of students with disabilities must embed content and pedagogy in a manner in which the preservice teachers can apply that

information to the complex issues they will face once in the field (Putnam & Borko, 2000).

The responsibilities of teacher educators as both instructors and researchers are well established in the field; however, the need for specific preparation for those roles has been debated. Although doctoral programs typically provide preparation related to research skills, little information is available about whether these programs are providing a significant amount of preparation related to teaching novice educators. In fact, there is little research to indicate the types of experiences that contribute to increased proficiency related to teaching novice teachers. Despite this lack of research, it is important to understand the roles and responsibilities of teacher educators and the skills they need in order to provide the types of experiences doctoral students should receive in preparation for these roles. Cochran-Smith (2003) explained the necessity to better understand "what teachers of teachers themselves need to know, and what institutional supports need to be in place in order to meet the complex demands of preparing teachers for the 21st Century" (p. 6). Thus, it is critical to begin exploring the types of experiences provided to doctoral students who intend to enter faculty positions in preparation for their roles as teacher educators.

Signature pedagogies of doctoral teacher education programs. Shulman (2005) stated that examining the preparation of professionals results in uncovering the profession's "signature pedagogies" (p. 52). He defined these signature pedagogies as the fundamental experiences resulting in the education and enculturation of professionals in preparation for their new vocations. Shulman further explained that

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by studying the signature pedagogies of the professions, such as the preparation of teacher educators, one could learn about the culture, dispositions, and personalities of that profession. Although Shulman acknowledged the enormous variations among teacher education programs, he did suggest that the profession could converge on a collection of signature pedagogies. Goe & Coggshall (2007) argued that this type of inquiry into the practices of preparing teachers could begin the process of determining which program characteristics have the greatest impact on student learning.

     Doctoral preparation of teacher educators: University of Wisconsin, Madison example. Although not specifically addressing special education, Zeichner (2005) provided a framework for the preparation of doctoral students as teacher educators at the University of Wisconsin-Madison (UWM). He explained that they developed a series of graduate courses in teacher education including supervision and mentoring preservice teachers, analysis of policy issues affecting teacher education, teacher professional development, and reflective practice in teacher education. He stated, however, that most UWM doctoral students did not take these courses as they viewed their roles as teacher educators as a means of financially supporting their doctoral studies related to their major focus of interest. The doctoral students typically focused their learning on specific areas of research and considered teacher education secondary. Few students considered teacher education as a primary area of scholarship and research. Even though the doctoral students generally wanted to become effective teacher educators, few thought about major issues in the field or read the related literature. Zeichner further explained that ignorance of the teacher

education literature and greater issues results in teacher educators that have difficulty challenging their own frameworks and improving their instructional strategies. Their practices as teacher educators may then become "inconsistent with scholarly norms that universities claim to embrace" (p. 123). Despite these issues, Zeichner concluded that most UWM graduates take positions at universities that provide insufficient support for continued professional development in teacher education. Because it is assumed that effective P-12 teachers will seamlessly transition into roles of teacher educators, most universities do not believe there is a great need for providing these supports.

Despite this debate, one of the main roles of doctoral programs in education is the preparation of future teacher educators. Effective programs must operate as "laboratories for the study of teacher education and develop in prospective teacher educators the same habits and skills of self-practice as we and they seek to develop in prospective teachers" (Zeichner, 2005, p. 121). Doctoral students should be immersed in the practices of teacher educators by studying the literature and engaging in ongoing professional development that promotes self study so that they can learn to become effective teacher educators prior to taking their first faculty positions. In addressing the criticisms often directed towards teacher education, Grossman (2008) offered three areas to be addressed, including: (a) the need to demonstrate that the preparation teachers receive results in student learning outcomes, (b) the need for improved research in teacher education, and (c) improved preparation of teacher educators and researchers. She explained:

Schools of education need to strengthen substantially the preparation

of the future generation of researchers and teacher educators, so that

they are able to both prepare future teachers and to produce the

academic knowledge that can inform the practice of both teaching and

teacher education (p. 13).

It is crucial, therefore, to provide doctoral students who intend to enter teacher education and the professoriate opportunities to experience the professional practice of teacher educators.

Induction into teacher education. The term "induction" usually connotes the beginning years of novice P-12 teachers. The induction period is ideally represented by a period of time when beginning teachers receive mentorship, guidance, and support in helping them transition from novice to experienced teacher (Billingsley et al, in press; Morberg & Eisenschmidt, 2008). Although induction into P-12 instruction has become an established practice that is well researched, induction into teacher education instruction has received very little attention. Harrison & McKeon (2008) explained, "Relatively little has been researched or is known about the efficacy of different forms and processes of induction into education departments" (p. 153). Swennen and Van der Klink (2008) explained, "Beginning teacher educators experience their induction as stressful, isolated and fragmented and formal induction of teacher educators is scarce" (p. 219). Similarly, Morberg & Eisnschmidt (2008) stated, "No matter how extensive their prior work experiences as a school teacher, an academic entering the university as a teacher educator is a major step that requires

socialization and learning" (p. 104). The concept of induction into the professional role of teacher educator must therefore be further explored.

Connection to special education teacher education. Like in other areas of this review of literature, little is written about the preparation of special education teacher educators. One area that has received attention is the well-documented shortage of special education university faculty. Doctoral special education programs are simply not preparing enough teacher educators to meet the demands of SETE programs. Therefore, the preparation of doctoral teacher educators in special education must be considered in light of this issue.

Smith and colleagues (2003) found that special education doctoral programs are not producing enough graduates to meet current demands. The authors stated that the effects of faculty shortages in special education have resulted in more than a third of job searches failing. For example, between 1994 and 2000, California's six schools of education that granted doctoral degrees in special education graduated six special education doctorates per year for the entire state. Of those graduates, only two graduates per year pursued faculty positions. At the same time, the number of P-12 students receiving special education services in California increased by 41 percent, resulting in the state's need to hire special education teachers that did not have the necessary credentials or preparation to teach children with disabilities. This shortage of teacher educators, therefore, directly affects public schools' ability to provide a free and appropriate public education to students with disabilities (Hardman & West, 2003). Hardman and West (2003) stated, "Without an adequate supply of higher

education faculty, the vision that every child receives an education consistent with individual need and delivered by qualified personnel cannot be achieved" (p. 109).

Conclusion

The literature presented in this review suggests that being an effective classroom teacher does not necessarily translate to immediately being an effective teacher educator. Although teacher educators must have the content of P-12 teachers, there are additional skills that P-12 teachers do not necessarily possess. Additionally, teacher education practices within special education are continually changing and include issues such as mandates for *highly qualified* teachers within IDEA and NCLB, new interventions and teaching practice, accountability mandates within NCLB, and other social changes that then affect education policy. Consequently, special education teacher educators must not only understand effective instruction of P-12 students with disabilities but also the greater context in which P-12 exists. Much of the literature presented in this review points to the steep learning curve that novice teacher educators face in their first years in higher education. Novice teacher educators struggle with issues such as working with adult learners, supervising and assessing student teachers, and maintaining research and faculty demands.

These professional activities must be examined throughout the doctoral preparation of teacher educators. Doctoral special education programs must not only examine how to prepare their graduates to be effective researchers with the skills necessary to conduct and evaluate evidence-based practices, but they must also consider the types of experiences necessary for those graduates to effectively prepare

novice special educators to use those evidence-based practices. Cochran-Smith (2003) explained that the curriculum for novice teacher educators ought to consist of these work experiences.

The current research suggests that novice teacher educators need early and ongoing practice in skills and competencies of effective teacher educators so that they, in turn, can provide better guidance and instruction to the preservice teachers they prepare. As doctoral students preparing for their roles as future researchers and teacher educators hone their skills as researchers, they should also begin to learn the skills necessary to prepare novice special educators while they are still students and can learn from mentor faculty. Although one expects a steep learning curve as a novice professional, without adequate preparation within doctoral special education programs, new teacher educators may face the scenarios presented through the self-study research of novice teacher educators who struggle, perhaps unnecessarily, with issues of professional identity, learning how to teach adults, and balancing their work as researchers and teacher educators.

Connection to the Present Research

The present research examines the signature pedagogies related to doctoral preparation of special education teacher educators. It addresses two major gaps in the SETE literature by examining: (a) skills needed by effective special education teacher educators and (b) current teacher education preparation within doctoral special education programs in the United States.

Little scholarly attention has been given to the preparation and support of teacher educators, especially those working in the field of special education. Although the literature presented in this review provided rich descriptions of the issues novice teacher educators often face, none of the literature specifically addressed the issues faced by special education teacher educators and skill sets specifically needed to address those issues. Additionally, many of the studies presented in this review were conducted outside the educational contexts of the United States. In order to focus on issues specific to the professional needs of special educators, studies should focus on the preparation of teacher educators in the United States, and specifically in special education. Lastly, few publications focused on doctoral preparation of teacher educators and, of the existing studies, none were in special education. As most teacher educators in the United States enter professional roles through doctoral study, it would be extremely beneficial to have more research focusing on doctoral special education preparation related to teacher education.

In focusing on gaps in the present teacher educator literature, the present study has a dual purpose. The first phase of the present study investigates the skills needed by effective special education teacher educators and the types of doctoral experiences that may enhance those skills through in-depth interviews with experts in the area of special education doctoral preparation of teacher educators in the United States. The second phase involves a broad study of current doctoral special education programs through quantitative analysis of online surveys related to teacher educator practices within special education doctoral programs. The two phases of this study, when

considered together, provide both a framework for understanding effective teacher

educator practices within the context of special education and a description of how

the field is currently preparing future teacher educators to meet the complex demands

they will face as SETE faculty.

CHAPTER 3: METHODOLOGY

Overview

When considering the impact of quality special education teacher preparation, an obvious extension can be made to quality preparation of teacher educators. Two questions emerge from this extension. First, what skills do special education teacher educators need in order to prepare P-12 teachers effectively? Second, given that most teacher educators are prepared in doctoral programs, what types of experiences related to teacher education do these programs provide? Examining these questions provide insight into the signature pedagogies within the field of special education.

This study employed a mixed-methods design (Creswell & Clark, 2007) to investigate: (a) effective practices of teacher educators and (b) formal and informal structures within doctoral special education programs that promote those practices. As little is known about experiences provided to doctoral students in special education related to their future roles as teacher educators, the use of a mixed methods design allowed for a wider range of data collection and analysis than either qualitative or quantitative methods alone. Creswell and Clark (2007) provided the following definition for mixed methodology research:

> Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixed of qualitative and quantitative approaches in many phases in the research process. As a

method, it focuses on collecting, analyzing, and mixing both

quantitative and qualitative data in a single study or series of studies. Its

central premise is that the use of quantitative and qualitative

approaches in combination provides a better understanding of research

problems than either approach alone (p. 5).

Figure 3 provides a graphical representation of the mixed methodology data

collection and analyses processes. Qualitative data from expert interviews explored

critical issues related to doctoral preparation of special education teacher educators.

Additionally, along with information gathered in the literature review, themes from

these interviews guided the construction and validation of the survey instrument, the

Doctoral Experiences in Teacher Education Survey (DETES).

After addressing face validity and reliability issues, the DETES was

electronically distributed and completed by department chairs or doctoral program

coordinators of special education doctoral programs. This descriptive survey elicited

information about formal and informal structures within doctoral special education

programs, including teacher education coursework, college teaching experiences,

supports offered along with student teaching supervision, non-practicum

opportunities to participate within P-12 settings, research in teacher education, and

policy related to teacher education.

Figure 3: Mixed Methods Study Design
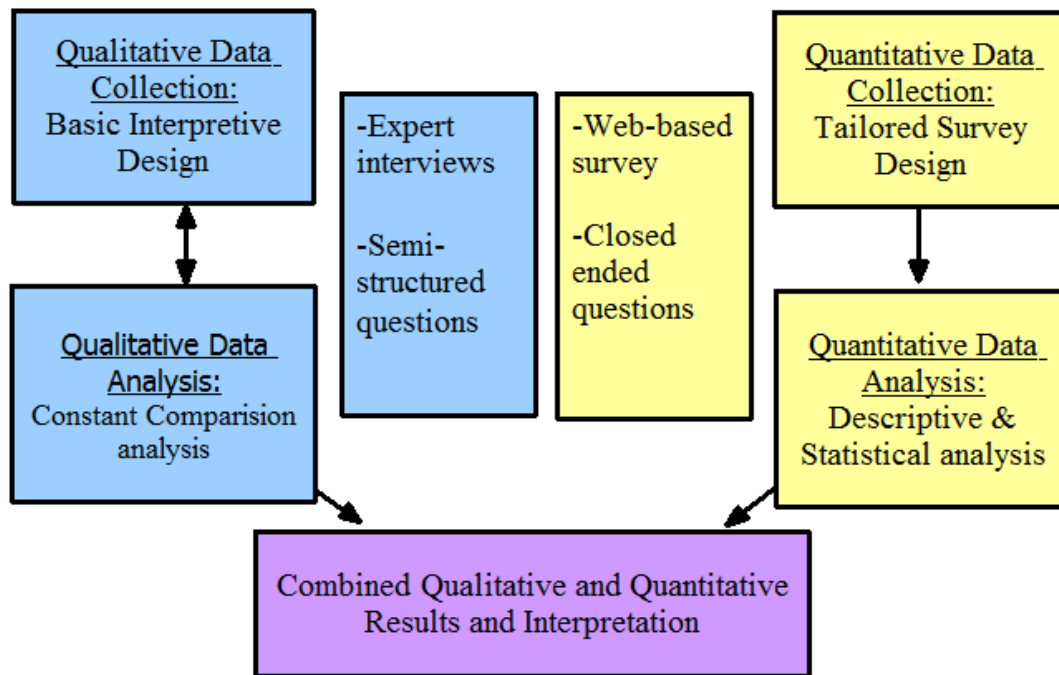
Research Questions

The following research questions were addressed in this study

1. What experiences within doctoral special education programs could help doctoral students improve their skills as effective teacher educators?

2. What types of *formal experiences* do special education doctoral programs offer to prepare their students to become teacher educators (e.g., specific course sequences or preparation related to teacher education, supervision of practicum students, college teaching, and teacher education research methodologies)?

3. What types of *informal experiences* do special education doctoral programs offer to prepare their students to become teacher educators (e.g.,

joint faculty student research in teacher education, seminars, and

relationships with local schools)?

4. Are there relationships between demographic characteristics of the

doctoral programs (e.g., Carnegie classification and program size) and

teacher education components within special education doctoral

programs?

Qualitative Data Collection and Analysis

Expert Interview Data Collection and Analysis

Initially, leading experts in the areas of preparing both general and special

education teacher educators were interviewed. The selection of experts was based on

one of the following criteria: (a) national publications related to doctoral preparation

of teacher educators, (b) policy work related to the preparation of special education

teacher educators, and/or (c) direct work with doctoral students in programs focusing

on teacher education. The rigorous selection criteria ensured that the experts solicited

to participate were recognized as leaders in the field. The purposes of the expert

interviews were to gain a fuller understanding of the issues affecting the preparation

of special education teacher educators, validate items used in the DETES survey

instrument, and compare expert accounts with information found in the literature.

These interviews, consequently, focused on characteristics of effective doctoral

programs in teacher education. A semi-structured question protocol was developed

based on information found in the literature review (See Appendix B). Examples of

open-ended expert interview questions included:

- Based on what we know about the literature, what do you think are the characteristics of effective teacher educators? Do you think these characteristics should be addressed in doctoral preparation in special education? (Buchberger et al., 2000; Dinkelman, Margolis, & Sikkenga, 2006; Murray, 2008; Smith, 2003).

- Based on your experiences related to the preparation of teacher educators, what do you consider the most important content of teacher educators' preparation? (Cochran-Smith, 2003; Zeichner, 2005).

- In examining the lack of research on the preparation of special education teacher educators, what do you consider critical issues for study? (Cochran-Smith, 2003; Smith et al., 2003)

Because of the nature of semi-structured interviews, it was possible to inquire beyond this question protocol to address unique areas of teacher education expertise of the participants. For example, for experts that were involved in doctoral preparation of teacher educators, it was possible to ask about their teacher education program components and for experts from the U.S. Department of Education agencies, it was possible to ask what areas of expertise they expect teacher educators to possess to effectively prepare novice special educators.

Reliability and validity considerations. Several steps were taken to minimize threats to validity and increase the trustworthiness of this data analysis. To increase reliability and validity of the interview data, careful attention was paid to conducting uniform data collection, which included: (a) the researcher conducted all the

interviews, (b) all interviews were audio recorded and transcribed by the researcher, and (c) member checks were conducted with each interviewee after initial data analysis to confirm member statements and for agreement of emerging themes.

Data analysis. Interview data was analyzed using a constant-comparative data analysis (Glaser & Strauss, 1967). As new data were collected from the interviews, they were analyzed and compared with other sources of data in the study. Categories and themes were devised through this constant comparative method. Through continuous comparison of participant remarks, units of data were sorted and grouped first by regularities in the data and then by irregularities in the data. These units of data were sorted into tentative categories and subcategories. This procedure allowed the researcher to take individual *pieces* of data and organize them into larger categories that eventually resulted in a few themes that encompassed all the data.

In order to construct these categories and themes, a three-step process was used. First, major points from each interview were highlighted and sorted. After the first two interviews were analyzed, comparison of the sorted data pieces began. As each additional interview was conducted, this same method of data analysis took place. Second, after all interviews were analyzed, all sorted data were organized into categories and then into themes. This analysis examined similarities and divergence in the data. When all the data were organized in this fashion, as a final check of the data analysis, all transcripts were reexamined to ensure all data were represented. Finally, during the member check, the interviewees were presented not only with their statements, but also with the resulting categories. The participants were asked

whether their comments were interpreted correctly and if they fit appropriately within the themes that emerged.

Quantitative Data Collection and Analysis

Instrument Development: Doctoral Experiences in Teacher Education Survey (DETES)

The purpose of the DETES, a web-based descriptive survey, was to gain general information related to the range of both the formal and informal experiences offered to doctoral students in special education departments within institutions of higher education. Content validity was addressed throughout the construction of the DETES, as items were developed based on literature review (see Appendix B) and expert interviews. Additionally, the DETES was designed using tailored design procedures (Dillman, 2000), which are used in self-administered mail and web-based surveys to increase high quality responses as well as response rates.

The DETES consisted of 29 closed-ended questions (See Appendix C). These questions primarily focused on the following characteristics of the doctoral programs: (a) coursework related to teacher education, (b) field experience supervision of preservice teachers, (c) college teaching preparation and experiences, (d) ongoing P-12 experiences, and (e) policy experiences in teacher education. In addition to these program characteristics, several questions also elicited demographic information such as Carnegie classification, program areas of study emphasis, number of full time and part time doctoral students, and number of doctoral faculty.

Instrument development. The DETES was developed and completed by participants through SurveyMonkey, a web-based survey tool (www.surveymonkey.com). SurveyMonkey was used to capitalize on the reported benefits of web-based surveys. Many benefits of using web-based surveys, as compared to traditional surveys, have been reported, including: (a) reduced mailing costs, (b) reduced data entry cost, (c) reduced response time, (d) higher response rate, (e) findings could be shared online and on a continuous basis, and (f) data could be immediately sorted and examined for patterns and correlations (Fetterman, 2002). Additionally, web-based surveys provide versatility in design and coding that exceed the capabilities of traditional self-administering surveys and questionnaires (Dillman, 2000). He explained that web-based surveys provide graphic components that can clarify directions and navigation through the survey. Additionally, due to the nature of web-based surveys, monitoring data improves because researchers can view response data immediately.

Primary graphical component within the DETES was graphical representation of the percent towards completion bar at the top of each section. This graphic allowed participants to gauge their progress and visually see the length of the survey. The DETES also included hidden navigation components in the form of unseen "logic." Depending on the participants' response, they would either complete a section of survey or move to another section. For example, the first question in the DETES inquired whether the participants' special education department has a doctoral program. If participants answered positively, they moved to the second question. If

they answered negatively, the survey automatically skipped to the end. This navigation was intended to streamline survey completion by the participants and avoid confusion over unsuitable questions.

Validity and reliability considerations. A draft of the DETES was created based on information gathered through the literature review. Appendix B provides information about literature sources for these items. Additionally, the DETES was discussed with the experts as part of the qualitative interviews. In doing so, several items were added to the survey including: increased information about admissions criteria, additional information about coursework content, and information about doctoral "field experiences" within P-12 settings. To minimize the effects of measurement errors, the DETES was then reviewed with both a doctoral program coordinator and department chair for feedback regarding survey completion time, clarity of survey items, and ease of completion.

To check the internal consistency of the program description items DETES, the Cronbach's Alpha internal consistency estimate was computed. The program description items included items related to doctoral coursework, formal and informal supports for practicum supervision, P-12 school-based experiences, collage teaching experiences, and formal and informal policy supports. The value of the coefficient alpha was .80 across all these survey items, indicating satisfactory reliability. DETES items such as number of students and faculty, Carnegie classification, and admissions criteria were not included in this measure of internal consistency as these items were unrelated to program descriptors.

Survey Data Collection and Analysis

    Participants. After receiving approval from the Human Subjects Committee-Lawrence, the institutional review board (IRB) for the University of Kansas, special education department heads and doctoral program coordinators of programs that engage in doctoral preparation were emailed and asked to complete the DETES. As there has not been a comprehensive study of doctoral special education programs since 1999 (Smith et al., 2003), it was unclear how many doctoral special education programs existed at the time of the study. Because of this lack of current information related to how many doctoral special education programs existed, participating programs were identified through two primary mechanisms. First, institutions with membership in the Higher Education Consortium for Special Education (HECSE) were solicited to participate in the study. HECSE is a non-profit organization comprised of institutions of higher education that engage in special education leadership preparation. Membership in HECSE indicated that the participating institutions had a special education doctoral program. Additionally, as not all doctoral special education programs participate in HECSE, a web-search for doctoral special education programs was conducted through online searches of the website GradSchools.com. To increase participation, weekly email reminders were sent to all identified department chairs and program coordinators for three consecutive weeks.

    Data entry. All items on the DETES were entered into the statistical program, SPSS. Individual items related to the doctoral program components were then aggregated (i.e. teacher education coursework, practicum supervision, college

teaching, P-12 practices, and policy work). For example, teacher education

coursework content variables collected within the DETES included items such as

teacher education pedagogy, adult learning theory, technology in teacher education,

assistive technology considerations, and collaborative structures. These items were

transformed into new "total teacher education coursework" variable. The "total"

variables included total teacher education coursework, total practicum supervision,

total P-12 experiences, total college teaching, and total policy work. These total

variables were then grouped into a combined total teacher education variable. As no

theoretical foundation existed regarding weighing importance of these variables, each

of these variables was computed with equal weight.

In addition to aggregating the data into "total" scores, the data was also

grouped by formal and informal teacher education doctoral components when

appropriate. For example, within the variable related to supports for practicum

supervision, formal supports included coursework, formal meetings with cooperating

teachers, required readings, and preparation for the use of specific observation tools.

Informal supports included informal meetings with other practicum supervisors,

cooperating teachers, and university faculty.

Descriptive data analysis. The main emphasis of the survey was to provide a

description of doctoral preparation of special education teacher educators. Therefore,

the main analyses were descriptive statistics. As the DETES was comprised of a

series of categorical variables, the most common descriptive analyses utilized were

frequencies. Means and standard deviations were computed on demographic variables

(i.e., Carnegie classification, number of doctoral students, number of faculty) and all the total variables that resulted from aggregating the data (i.e., total coursework, practicum supervision, college teaching, P-12 experiences, policy work, and the total teacher education score).

Analyses were computed for both the total sample of doctoral programs that participated in the study as well as for those programs that indicated on the DETES that they had a teacher education emphasis within their doctoral program. This dual-analysis was computed to assess whether there was a difference between the entire sample of special education doctoral programs and those that differentiated themselves as having an emphasis in teacher education.

Inferential data analysis. Qualitative data analysis of the expert interviews resulted in expansion of the quantitative data analysis. Whereas initially, the quantitative phase of the study was intended to simply provide descriptive information about the teacher education components of the special education doctoral programs, the experts interviewed strongly suggested conducting other analyses to answer programmatic questions related to required teacher education components, expanded P-12 experiences, and demographic predictors of program characteristics. Therefore, in addition to descriptive statistics, in order to ascertain relationships among program characteristics, several inferential statistics were also computed.

First, contingency table chi-square analyses were conducted to determine relationships between required teacher education structures (i.e., coursework, practicum supervision, and college teaching) and identified practices within those

structures (i.e., formal and informal supports for teacher education). These analyses were conducted to ascertain whether required teacher education components were related to specific practices identified through the literature review and the interviews as potentially increasing doctoral students' effectiveness as teacher educators. This particular chi-square analysis was chosen because of the researcher's interest in comparing two categorical teacher education variables, and the contingency table chi-square analysis is appropriate for determining relationships between two independent categorical variables with two or more levels (Shavelson, 1996).

Second, a paired-samples *t*-test was conducted among the non-practicum P-12 doctoral experiences to determine whether the types of doctoral P-12 experiences related more to typical IHE work or typical P-12 work. This analysis was conducted as a means of examining the diversity of P-12 experiences that doctoral students received. In order to conduct this analysis, the P-12 experiences were first categorized as either typical IHE activities (e.g., research, professional development in schools, andconsulting with children and families) or typical P-12 activities (e.g., co-teaching, observing or participating in model teaching, and program evaluation). All the P-12 experiences were identified in either the literature or the interviews as practices that expand doctoral students' understanding of P-12 practices, but the practices typically engaged by P-12 practitioners were identified by the interviewees as encouraging a broad contextualization of how schools work from an inside perspective. As the program components identified for this analysis were from the same doctoral teacher education programs (both typical IHE components and typical P-12 components

occurred within the same institutions), they were inherently correlated. The paired-samples *t*-test was conducted as it takes this correlation into account (Shavelson, 1996).

Lastly, because the total teacher education variables aggregated categorical variables into nominal ones, it was possible to compute correlations with these variables. In order to address the question of whether teacher education practices were related to demographic characteristics, Pearson Product Moment Correlation coefficients were computed among the following variables: total teacher education aggregate variable, number of doctoral students, and number of doctoral faculty. Similarly, a Spearman correlation was computed among the total teacher education variable and Carnegie classification. The Spearman correlation was used for this analysis instead of the Pearson Product Moment Correlation because Carnegie classification is an ordinal variable. Again, like with the descriptive analyses, these correlations were computed both for the entire sample as well as for the sample of doctoral teacher education programs.

Final Analysis

Quantitative and qualitative data analyses initially occurred separately. The final stage of data analysis results in merging the qualitative and quantitative data so that "a complete picture is developed from both datasets" (Creswell & Clark, 2007, p. 136). According to Creswell and Clark, the researcher must answer the following questions in merging qualitative and quantitative data: (a) Convergence: To what extent do the quantitative and qualitative data converge? How? Why? (b) Data

transformation: To what extent do the same types of data confirm each other? (c)

Validating quantitative data: To what extent do the open-ended themes support the

survey results? (d) Multilevel: What similarities and differences exist across levels of

analysis? This final study of both quantitative and qualitative data will produce the

merged analysis.

CHAPTER 4: RESULTS

This study examined doctoral preparation of special education teacher

educators. Results are divided into two sections: qualitative and quantitative findings.

The first section describes results from expert interviews and provides information about themes that emerged from these interviews. The second section describes results from the Doctoral Experiences in Teacher Education Survey (DETES). In Chapter 5, a merged analysis of the qualitative and quantitative results will be provided to explore commonalities and differences between data sources.

<div align="center">Qualitative Interview Results</div>

Interview data were analyzed using a constant-comparative method (Glaser & Strauss, 1967) and member checks to confirm interviewee statements. Units of data from each interview were coded, sorted, and grouped by both regularities and irregularities in the data. After all the interviews were analyzed in this manner, two general themes, with accompanying subthemes, emerged related to the doctoral preparation of special education teacher educators (see Table 2). In addition to these themes, the interviewees identified barriers to effectively preparing doctoral students as teacher educators (see Table 3). The theme of "barriers" was consistent among the interviewees, although their specific barriers differed. Barriers described by the interviewees provided critical information with which to nest the six themes. Each of the themes, for instance, could be affected by one or more of these barriers. Therefore, the barriers were presented after examining the interview themes. When participants reported consistent information, that data was presented through exemplar responses. When inconsistencies emerged, that information was juxtaposed to the main themes (Glaser & Strauss, 1967).

Participants

Six interviewees were purposefully selected for this study (see Table 1). They were selected based on involvement in doctoral preparation of teacher educators through one of the following criteria: (a) national publications related to doctoral preparation of teacher educators, (b) policy work related to the preparation of special education teacher educators, and (c) direct work with doctoral students in programs focusing on special and/or general teacher education.

Although it was important that each of the interviewees understand the context of doctoral preparation of special education teacher educators, it was equally important to select a broad sample of interviewees that represented both IHEs and government agencies that support the work of those institutions. Experts included two from government agencies within the U.S. Department of Education, three from IHE special education departments, and one from a general education IHE. Of the three experts from special education IHEs, two were doctoral program coordinators and one was a dean of a school of education that included both special and general education programs (see Table 2).

Table 2

Expert Interview Participants

Interviewee Number and Role	Institution Type	Areas of Emphasis Pertinent to this study
#1. Project Officer	OSEP	Special education teacher quality and preparation
#2. Project Officer	IES	Research-based instructional strategies for students with disabilities
#3. Doctoral Program Coordinator, OSEP funded doctoral leadership grant PI	IHE—RU/H Special Education	Doctoral preparation of teacher educators
#4. Faculty, OSEP funded doctoral leadership grant PI	IHE—RU/H Special education	Doctoral preparation of teacher educators
#5. Dean of College of Education	IHE—RU/H Special/General Education	Special education/general education collaboration
#6. Faculty, Member of the ATE commission on teacher educator standards	IHE—RU/H General Education	Standards for teacher educators

Interview Data Analysis: Emergent Themes

Constant-comparative analysis (Glaser & Strauss, 1967) of the semi-structured interview data revealed two main themes organized by subtheme that the experts believed doctoral students should have to increase their effectiveness as teacher educators. The first theme, knowledge and skills of teacher educators, included four subthemes: (a) extensive teacher education knowledge, (b) broad understanding of the education landscape, (c) collaboration between special and general education, and (d) professional dispositions (see Table 3). Areas related to the theme of teacher education knowledge and skills are interrelated. For example, broad understanding of the education landscape relates to teacher educators' need to know the both the special and general education literature base related to topics such as evidence-based practices, teacher quality, and school leadership. This subtheme shares many commonalities with the collaboration subtheme which, in part, relates to teacher educators' knowledge of understanding how IHEs, State Education Agencies (SEAs), and Local Education Agencies (LESs) work together.

The second theme, scaffolded teacher educator work experiences, included two subthemes: (a) P-12 practices and instructional structures and (b) faculty work (see Table 4). Whereas the first theme addresses the knowledge and skills that effective teacher educators should have, this theme relates to guided *clinical* experiences in which doctoral students should engage to attain the knowledge and skills of the first theme. Scaffolding experiences in both P-12 and IHE settings allows

doctoral students opportunities to observe, reflect upon, and participate in the work of

teacher educators throughout their doctoral preparation.

Table 3

Emergent Theme One: Knowledge and Skills of Teacher Educators

Theme One	Subtheme	Exemplars
Knowledge and skills of teacher educators	Extensive teacher education content knowledge	▪ Knowledge of P-12 academic content and pedagogy ▪ Mastery of critical P-12 instructional skills ▪ Understanding of adult learning theory ▪ Understanding of supervisory and mentoring models
	Broad understanding of the education landscape	▪ Understanding of special education and general education literature (e.g., evidence-based practices, teacher quality, school reform, school leadership, systems change, policy development)
	Collaboration between special and general education	▪ Competent communication, negotiation, and interdisciplinary problem-solving skills ▪ Understanding of systems change ▪ Understanding of IHE, SEA/LEA collaboration models
	Professional dispositions	▪ Dedicated service orientation ▪ Commitment to effective educational outcomes for students with disabilities ▪ Respect for families and P-12 school personnel

Table 4

Emergent Theme Two: Scaffolded Teacher Educator Work Experiences

Theme Two	Subtheme	Exemplars
Scaffolded teacher educator work experiences	P-12 practices and instructional structures	▪ Knowledgeable about P-12 effective organizational structures and implementation practices for instruction, student and teacher support, student assessment, and program evaluation
	Faculty work	▪ College teaching, practicum supervision, disability and teacher education policy work, and research practices

Theme One, subtheme one: Extensive teacher education knowledge. One of

the major subthemes that emerged from the interview data was the importance of the

specific knowledge of special education teacher educators. Primarily, interviewees

discussed the importance of a strong knowledge base related to academic content, a

foundation in P-12 instructional pedagogy, and knowledge of how to effectively

convey this knowledge to novice special educators. Despite the ongoing debate about

the importance of academic content knowledge versus teaching pedagogy,

interviewees stated that both domains must be addressed. For example, Interviewee

#3, a doctoral program coordinator who also has an OSEP-funded doctoral leadership

grant explained:

> I think that in special education, we have made the mistake of going
>
> one way or the other. There is one camp that believes we need content

and there is another camp that believes we need pedagogy. I think that

with high-stakes testing, we have to have both. We have missed the

boat in either direction by not giving both.

In considering the preparation of teacher educators, interviewees explained that they

must have sufficient preparation and knowledge of both content and pedagogical

knowledge.

In addition, interviewees considered specific knowledge related to working

with adult learners critically important. They stated that although teacher educators

must have a strong understanding of instructional content and pedagogy, teaching

adults is inherently different than teaching children. Teacher educators must be able

to integrate knowledge of effective instructional practices with that of school culture

so novice special educators are prepared well for the complexities of effective P-12

teaching. Interviewee #1, a project officer at OSEP explained, "At the same time as

we are continuing to develop their [doctoral students'] professional understanding of

how schools work, we also have to develop their instructional skills because they are

going to be teacher educators." It is that integration of instructional best practices

with a deep understanding of how schools work that will help teacher educators

effectively prepare novice special educators.

Interviewees discussed several means for addressing these critical areas of

teacher educator knowledge. One fundamental way of doing so was through selective

admissions criteria to doctoral preparation programs. Three interviewees discussed

the importance of admissions criteria that assess teacher effectiveness as a means of

ensuring a strong foundation in P-12 instruction, content knowledge, and an understanding of educational structures. Interviewee #4, a faculty in a special education program who also has an OSEP-funded doctoral leadership grant, explained that in addition to traditional admissions criteria (e.g., GRE scores and a scholarly written sample), her doctoral program requires letters of recommendation that address teaching experience and teaching quality as well as academic potential. She stated, "In addition to a letter from a faculty member, they have to have a letter from an employment supervisor that testifies that the student implemented best practice in the job setting with kids." Interviewees stated that admissions criteria should not only be used as a means of assessing entrance into the doctoral programs, but they should be used to guide individualized learning experiences for the doctoral students to ensure that they receive preparation in areas where they are lacking critical knowledge, skills, and experience. Interviewee #1 stated:

> If we are bringing in people into the doctoral program who have three years of classroom experience, I think there needs to be an assessment of how accomplished they are when they come into the doctoral program. If they have three years of calendar time in the classroom, that doesn't mean that they have accomplished their knowledge and skills. They need to have the circumstances to continue to develop their competencies.

This interviewee also stated that it is critical to provide doctoral students opportunities to build and enhance their understanding of content and pedagogy

because, "there is just too much evidence out there that teacher education faculty don't know practices well enough to teach them."

Theme one, subtheme two: Broad understanding of the education landscape. Interviewees all stated that doctoral preparation of special education teacher educators must expand beyond the scope of special education to ensure students develop deep understanding of how special education fits into the larger context of teaching students both with and without disabilities. Interviewee #5, a dean of a college of education, explained:

> I personally think that all graduates of doctoral programs who may go into teacher education, regardless of their field, need to have a base knowledge of the landscape of teacher education literature and the teacher quality literature to have a sense of it and be able to connect to it. For example, how has the literature in special education teacher quality paralleled the literature in general education?

Without this understanding of the greater landscape of education, novice teacher educators may not truly understand how effective education of students with disabilities fits into the greater educational context. For example, issues that affect the education of students with disabilities include such considerations as collaboration between special and general education teachers, student assessments, program evaluation, and accountability mandates. These issues are broader than special education and clearly affect whole school structures and educational systems. The interviewees explained, however, that although the special education doctoral

students may have demonstrated excellent teaching skills in working with students with disabilities, their P-12 experiences may be limited to viewing education through the particular lens of their own school-based experiences as special educators. Interviewee #6, a general education teacher educator, further explained that without deliberately expanding one's professional understanding of understanding of school structures, teacher educators' knowledge of P-12 instruction remains limited to their initial teaching experiences.

By nesting experiences of students with disabilities within this larger context of education, novice teacher educators begin to understand the greater issues that all P-12 special educators face once they are out in the field. Familiarity with the research literature related to how special education fits into this larger educational context will most likely enhance teacher educators' ability to prepare special education teachers to advocate for effective and well-integrated services within the greater P-12 community.

Theme one, subtheme three: Understanding of collaboration between special and general education. In addition to understanding collaboration between general and special educators as a critical part of the new landscape of education, a separate theme related to collaboration emerged. Issues of special and general education collaboration included the need to teach novice special educators (and general educators) how to collaborate effectively. Interviewee #1 emphasized that doctoral students must learn about how to better support collaboration between special and general education teachers:

They [doctoral students] need to understand the general education/

special education culture within schools and how to work towards

having a positive culture because in a lot of places, it is not. It is only

through earned reputation that collaboration results in equal working

relationships.

This interviewee also stated that it is critical to focus on how general and special

education teachers work together in order to help novice special educators navigate

the many institutional barriers within P-12 schools that maintain the dual system of

education. By doing so, they can help promote a more "positive culture" in their

school settings that includes better support among general and special education

teachers that leads to shared accountability for the learning of students with

disabilities.

In addition to focusing on how collaboration occurs within P-12 settings, two

of the interviewees (#2 and #5) focused on collaboration within university schools of

education. Interviewee #2, a project officer in IES, explained:

What's the role of the special education teacher educator? A part is

knowing enough about the other areas of curriculum so they [special

education teacher educators] can work with whoever teachers the

reading and math in the college to make sure that teachers are prepared

appropriately. Teacher educators have a role in not just delivering

instruction to their teachers. They also have a role in developing

programs, working with other faculty, and coordinating how special

education trainees will get content in other academic areas.

Interviewees indicated that one way of doing so was through the inclusion of

extended and ongoing general education experiences throughout special education

doctoral programs. Identified experiences included co-teaching with faculty both in

special education and general education classes, engaging in research with faculty

outside of special education, and observing effective collaborative models within P-

12 schools. To emphasize this point, Interviewee #5 stated that although co-teaching

is an accepted model for teaching P-12 students, university faculty rarely used this

method of instruction or modeled what effective co-teaching should look like. This

interviewee acknowledged the challenges of collaboration between special and

general education faculties as there are numerous institutional barriers that can

perpetuate the dual systems of education, but she did state that teacher education

programs must try to cross these boundaries.

Theme one, subtheme four: Professional dispositions. In addition to

knowledge of teacher education, academic content, and instructional

pedagogy, interviewees also talked about professional dispositions as equally

important. The interviewees discussed professional dispositions as relating to

having a dedicated service orientation, a commitment to effective education

outcomes for students with disabilities, and respect for families and P-12

personnel. Interviewee #1 explained:

This is intangible. It's a service orientation. Why would you go into

education if you really didn't have this vision of the world being a

better place if people have access to education and learn so that they

could become better citizens?

The interviewees explained that they expect special education doctoral students to

have this high level of service dedication. They focused mainly on using selective

admissions criteria as a way of assessing that quality. Interviewee #3 explained that

their admissions process focuses on ascertaining whether the doctoral applicants have

this service disposition:

We don't talk enough about this, but it's important to have the right

person with the right disposition to start with. We want to know that

you can teach and that you have this high level of disposition. We ask

for references from many sources. Then folks come in and meet with

the faculty….I think that our field needs humility plus visionary

thinking at this point.

The interviewees all acknowledged that it is difficult to assess the professional

dispositions of doctoral students for work as teacher educators, but they all

stated that this is an important piece of being effective teacher educators.

Theme two, subtheme one: Scaffolded work in P-12 school practices and

instructional structures. Interviewees agreed that one cannot assume that P-12

practitioners entering doctoral study have a comprehensive understanding of P-12

school structures and practices. As many doctoral students enter programs with

limited P-12 experiences, their understanding of schools and school structures may be incomplete. Interviewee #5 explained:

> One of the things I think we have a problem with in general is that many of us in special education really don't know the landscape of teacher education literature at all….or some people in higher ed from the standpoint that they are very knowledgeable about their areas of special education content, but they did not come out of programs that included much about teacher education.

Even an excellent teacher who has taught for many years may not understand fully how school structures outside of his or her own experience may function. The interviewees shared two different approaches to addressing issues of doctoral students' understanding of school structures and school organization.

All the interviewees discussed the importance of using selective admissions criteria as one means of assessing the doctoral students' understanding of school practices and organization. A difference emerged, however, in how the interviewees used the admissions criteria. Interviewees #3 and #4 stated that their admissions criteria require doctoral students to have a strong foundation in school organization. They viewed selective admissions criteria that focused heavily on P-12 experiences as evidence of their students' strong foundation in P-12 practices. They still acknowledged that the doctoral students often require additional P-12 experiences to enhance their understanding of P-12 systems. Interviewees #1, #2, and #5 indicated that, regardless of information learned through selective admissions criteria, doctoral

programs should deliberately include missing P-12 knowledge and skills into the doctoral studies of future teacher educators/researchers. Interviewee #1 noted, "This would require really strong mentoring at the university level, but we could put [special education doctoral students] in schools where they would observe teachers, where they could provide program evaluation, and get a lot of different school-based experiences." Providing doctoral students with missing P-12 exposures is challenging. To be effective, it must be individualized and based on the areas of weakness demonstrated by each student in the program. For example, Interviewee #3 explained that effective doctoral preparation is extremely individualized and depends on the doctoral students' previous P-12 experiences, "We ask our students right away to tell us what they know and where their weaknesses are." Doctoral areas of P-12 concentration are consequently depend on the students' previous work within P-12 settings.

Theme two, subtheme two: Scaffolded faculty work experiences. All the interviewees stated that doctoral programs should deliberately provide doctoral students with ongoing opportunities to practice the work of teacher educators. Interviewee #6, a teacher educator and a member of the ATE task force charged with creating and vetting Teacher Educator Standards, stated that she encourages future teacher educators to identify areas in which they need additional professional development through self study, as different doctoral students require different types of faculty work preparation. She further explained that as part of the ATE task force on teacher educator standards, their goal was to create a versatile framework for

thinking about the work of teacher education to be used to facilitate self study and professional development. She was careful to explain that she believed that the Teacher Educator Standards should be used as a personal guidepost rather than an accountability measure, "In terms of professional development, the Teacher Educator Standards could be useful in looking at areas for improvement….The word 'standards' raises red flags for people. Some people think it will deprofessionalize rather than professionalize our work." Interviewee #6 further explained that in preparing future teacher educators at her institution, "Doctoral students are required to shadow and then teach at least one class. We are also careful about giving people a variety of teaching and supervision experiences while they still engage in research." In this way, they are exposed to the work of teacher educators in a scaffolded manner.

Interviewee #4, in explaining her program's teacher education course sequence, stated that the six special education core courses required in their doctoral program are accompanied by one-credit "professional practice experiences." She explained, "These professional practice experiences are follow ups to the courses where they actually write a policy brief and have to present it to a legislator. They have to co-teach a course with a faculty member. They supervise clinical experiences. They participate in a research project with a faculty member and so forth." This interviewee, in explaining how all of these experiences are scaffolded, shared how doctoral students gradually take on college teaching:

> During their college instruction professional practice, they work with
> one faculty member in a totally online course and one faculty in a

face-to-face course. They have specific things they have to do like plan

the discussion that is online or is live. They then have to teach a 20-

minute segment. Then they have to teach a full class session later in

the semester. They have to grade assignments and give students

feedback. Also, because they do this in each course, they can compare

the experiences in face-to-face and online instruction.

This deliberate and mentored introduction to college teaching allows the doctoral

students to observe, teach, and get feedback. Furthermore, once they have completed

the college teaching professional practice experience successfully, they have the

option to teach a course independently as well.

Barriers in preparation of special education teacher educators. When asked

specifically about barriers to creating doctoral experiences related to teacher

education, interviewees identified eight issues (see Table 5). A major barrier cited by

four of the interviewees was recruitment of qualified doctoral students. For

Interviewee #4 issues of recruitment centered on potential doctoral applicants'

resistance to relocate to study. This interviewee explained that it is very difficult to

recruit students who do not live within driving distance to the university, as they will

probably not move to participate in the doctoral program, even with substantial

OSEP-supported financial assistance that includes tuition support and an annual

stipend of $30,000.

Another major barrier within doctoral teacher education programs related to

the lack of collaboration between general and special education departments within

schools of education. Interviewee #5 stated that many departments are attempting to create merged preparation programs, but these changes often are slow and require faculties from both special and general education departments to think of creative ways of working through institutional barriers that may prevent increased collaboration.

The issues of doctoral student recruitment and faculty retirements are consistent with information found in the last study of doctoral special education preparation (Smith & Pierce, 1995). Issues related to teaching and assessing doctoral students' proficiency as teacher educators is consistent with the literature on the lack of information related to teacher educators' work (Korthagen, Loughran, & Lunenberg, 2005; Martinez, 2008; Murray, 2008; Murray & Male, 2005).

Table 5

Barriers identified in expert interviews

Barrier	Interviewee
Recruiting experienced and skilled doctoral students	#1, #2, #3, #4
Special education and general education collaboration within teacher education programs	#1, #4, #5
Little research on how to teach and assess doctoral competencies related to teacher education	#4, #5, #6
Creating robust clinical, research, and internship experiences	#1, #2
Faculty retirements/Faculty Cohesiveness	#3, #4
Higher Education Institutional Barriers (etc. tenure and promotion reward structure, course credit structure)	#5, #6
Time constraints	#4
Lack of emphasis/knowledge of instructional technology in teacher education	#3

Summary of Qualitative Findings

Interviewees were all selected on the basis of demonstrated expertise in the preparation of doctoral students for future roles as teacher educators, so the two themes, their subthemes, and identified barriers can provide a framework for examining doctoral preparation of teacher educators. It is important to remember that this study focused only on experiences related to teacher education, as the scope of this study focused solely on this one aspect of doctoral preparation. Identified themes, together, included doctoral emphasis on (a) knowledge of content, pedagogy, and teacher education, (b) the greater landscape of education, (c) opportunities for

collaboration between general and special education professionals, (d) professional dispositions, (e) ongoing P-12 experiences, and (f) scaffolding ongoing preparation for the work of teacher educators. Although the themes were consistent among the interviewees, the range of experiences within each theme was broad and allowed for multiple models of doctoral preparation. It is important to emphasize that the general themes that emerged from the interviews should not be considered prescriptive recommendations. Rather, it may be helpful to consider them as broad areas of consideration when creating doctoral experiences focused on preparation of teacher educators.

Quantitative Survey Results

Participants

Because of the lack of a comprehensive list of all special education doctoral programs, the researcher identified doctoral programs by three primary methods including membership in the Higher Education Consortium for Special Education (HECSE), a search of the website www.gradschools.com, and a general internet search for doctoral special education programs. This search resulted in 75 doctoral special education programs. Once these programs were identified, a search of their departmental websites was conducted to identify the doctoral program coordinator(s). Surveys were sent to the doctoral program coordinators. If the coordinators were unlisted, the survey was sent to the departmental chairperson. Forty-two doctoral program coordinators or department chairs from 27 states responded to the survey. This represented a 56% response rate.

DETES doctoral program demographics. Demographic information included Carnegie classification, number of doctoral students, number of faculty, and program areas of concentration. Using the Carnegie classification system, three categories of doctoral programs were represented in the data with 52.4% (*N*=22) of the institutions classified as Research Universities/Very High Research Activity (RU/VH), 38.1% (*N*=16) classified as Research Universities/High Research Activity (RU/H), and 9.5% (*N*=4) classified as Doctoral Research Universities (DRU).

Great variability was found in the number of doctoral students and faculty within the doctoral special education programs. In fact, for total doctoral students, the range was between four students and 100 students. For doctoral faculty, the range was between two and 34 faculty. Table 6 provides means, standard deviations, and the range of students and faculty within doctoral programs.

Out of the 42 doctoral programs that participated in the DETES, two programs had outlying demographic results. One program had 34 doctoral faculty reported; the program with the second highest number of doctoral faculty only had 19 doctoral faculty. The other outlying program reported 100 doctoral students; the program with the second highest number of doctoral students had 50 students enrolled in their doctoral program. For the purpose of data analysis for research question four, which addresses trends in the data, correlation and regression analyses were computed both with and without these two programs' data to assess whether these outlying variables affected the analysis results.

Table 6

Means and Standard Deviations for Number of Doctoral Students and Faculty

Doctoral Students and Faculty	Range	Mean	SD
Full-time Doctoral Students	0-77	12.39	13.38
Part-time Doctoral Students	0-35	10.10	7.77
Total Doctoral Students	4-100	22.49	15.83
Doctoral Faculty	2-34	8.93	5.23
Total Faculty	5-52	15.60	10.24

Doctoral preparation areas. In addition to specific disability emphases, several other areas of emphasis were reported by the doctoral programs (see Table 7). Nearly half the programs reported a concentration in the area of teacher education. Additional areas of concentration that showed a high frequency included behavioral interventions, early childhood special education, literacy, inclusive practices, and instructional strategies. About a third of the programs had concentrations in the areas of administration, secondary transition and special education policy. Areas of specialization that existed in less than a third of the doctoral programs included assessment, family systems/structures, and technology integration.

Table 7

Doctoral Areas of Concentration

Area of Concentration	Percentage	Number of Programs
Teacher Education	47.6 %	20
Behavioral interventions	45.2 %	19
Early Childhood Special Education	45.2 %	19
Literacy	42.9 %	18
Inclusive Education	40.5 %	17
Instructional Strategies	40.5 %	17
Secondary Transition	35.7 %	15
Special Education Policy	31 %	13
Administration	28.6 %	12
Families/Family Systems	19 %	8
Technology Integration	16.7 %	7
Assessment	9 %	9

Program respondents were asked about the future roles of program graduates. The largest percentage of programs (31%, *N*=26) reported preparing graduates for IHE faculty and research positions. Ten programs (11.9%) reported preparing graduates for faculty, research, and administrative positions. Four (4.8%) reported preparing graduates for faculty and administration positions. Two programs (2.4%) reported preparing doctoral students exclusively for IHE faculty positions. No

programs reported exclusive doctoral preparation for either administrative or research

positions. Doctoral programs that identified themselves as having an emphasis in

SETE had similar distribution of graduate outcomes (see Table 8).

Table 8

Program Preparation Outcomes

Position Outcome	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
IHE Faculty and Research Positions	61.9%	26	60%	12
IHE Faculty Positions, Research Positions, and Administrative Positions	23.8%	10	20%	5
IHE Faculty Positions and Administrative Positions	9.5 %	4	15%	3
IHE Faculty Positions	4.8%	2	0%	0
Administrative Positions	0%	0	0%	0
Research Positions	0%	0	0%	0

Admissions criteria. The two most common admissions criteria into the

doctoral programs were GRE scores (92.9%) and demonstration of effective written

communication through a written statement (83.3%). In addition to these two

components, criteria related to working with P-12 students (78.6 %) and special

education experiences (61.9%) as reflected both through letters of recommendation

and writing samples were often used (see Table 9). Despite the use of P-12 and

special education experience, less than a fifth of the programs relied on special

education licensure as an admissions criteria (19%). Lastly, two programs indicated

that they also used personal interviews to determine program acceptance into the

doctoral programs. Admissions criteria for doctoral programs with a SETE emphasis

were similar to the total sample.

Table 9

Doctoral Program Admissions Criteria.

Admissions Criteria	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
GRE Scores	92.9 %	39	85%	17
Writing Sample	83.3 %	35	85%	17
P-12 Experience	78.6 %	33	90%	18
Special Education Experience	61.9 %	26	50%	10
Special Education License	19 %	8	20%	4
Content Area	11.9 %	5	15%	3

DETES Doctoral Program Characteristics

Within the Doctoral Experiences in Teacher Education Survey (DETES),

doctoral areas related to teacher education included coursework, practicum

supervision and mentoring, research, P-12 experiences, and policy experiences. This

section provides information related to the internal consistency of these DETES items

as well as descriptive information along these four areas within doctoral special education programs. Two of the programmatic areas lent themselves to division as either formal or informal practices: Practicum supervision supports and policy practices. Other areas were either considered formal programmatic areas (such as coursework in teacher education and college teaching) or informal (such as additional P-12 experiences beyond practicum supervision). Where appropriate, data were divided into the formal and informal categories.

Program Characteristics: Teacher Education Coursework. As indicated above, the category of teacher education coursework was considered a formal component of doctoral programs. Thirty eight doctoral programs (90.5%) indicated that they included either optional or mandatory coursework related to SETE. Of these programs, 38.1% (*N*=16) included optional teacher education coursework and 52.4% (*N*=22) included mandatory teacher education coursework (see Table 10). Interestingly, when looking at the data for the 20 doctoral programs that indicated that they have a designated SETE emphasis, the percentage is slightly lower with 81.2% (*N*=18) of those programs having either mandatory or optional teacher education coursework. Ten SETE programs (45.5%) had required teacher education coursework while 36.4% (*N*=8) of those programs had optional teacher education coursework.

Major course content included teacher education pedagogy and research-based interventions for teaching students with disabilities with over 70% of programs offering these two areas as part of their teacher education course content. Over half of the programs offered course content related to supervising field experiences and

collaborative structures that facilitate the inclusion of students with disabilities in general education settings (see Table 10). Areas with less emphasis were educational technology, adult learning theories, and assistive technology considerations.

In addition to teacher education coursework, program coordinators were also asked about their content-specific courses. Sixty-nine percent of programs ($N=29$) included either optional (45.2%, $N=19$) or mandatory (23.8%, $N=10$) coursework specific to content area expertise. A similar trend emerged among the SETE programs with 45% ($N=9$) including optional and 25% ($N=5$) including mandatory coursework specific to content-area expertise.

Table 10

Teacher Education Course Content

Teacher Education Course Content	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Teacher education pedagogy	76.2 %	32	85%	17
Research-based interventions	71.4 %	30	70%	14
Supervising field experiences	59.5 %	25	75%	15
Collaborative structures	54.8 %	23	55%	11
Adult learning theories	40.5 %	17	50%	10
Teacher education technology	40.5 %	17	30%	6
Assistive technology	23.8 %	10	15%	3

Chi-square analyses were conducted to evaluate whether required teacher education coursework was associated with specific components within the teacher education coursework. These analyses were done based on information from the expert interviews regarding the knowledge of teacher educators. As the descriptive data for the complete sample and the SETE subsample of programs were similar, chi-square analyses were only conducted on the entire group. Required teacher education coursework was found to be significantly related course content related to teacher education pedagogy, research-based interventions, and supporting and mentoring student teachers in their field experiences (see Table 11).

Table 11

Results of Required Teacher Education Coursework Chi-Square Analyses

Required SETE Coursework relationships with coursework content	Pearson chi-square	Phi Correlation	*p*-value (Alpha)
Teacher education pedagogy	15.44*	.61	<.001
Research based interventions	11.12*	.52	.004
Field experiences	7.55*	.42	.023
Collaborative structures	5.40	.36	.07
Teacher education technology	3.61	.29	.165
Adult learning theory	3.02	.27	.221
Assistive technology in teacher education	1.75	.20	.416

Program characteristics: Field experience supervision. The majority of

doctoral programs offered doctoral students opportunities to supervise P-12 student

teaching and other field experiences. In fact, 97.6% (*N*=41) included either optional

or mandatory practicum student teaching supervision. In 61.9% of the programs

(*N*=26), the supervision component was option while 35.7% (*N*=15) mandated field

experience supervision as part of their doctoral special education programs. As part of

doctoral field experience supervision, programs also included formal (45.2%, *N*=19)

supports as well as informal (95.2%, *N*=40) supports to help the doctoral students

supervise and mentor the preservice P-12 teachers. All the SETE programs included

opportunities for doctoral students to participate in practicum supervision. The

percentage of optional (65%, *N=13)* to mandatory (35%, *N*=7) is similar to the entire

sample. *Tables* 12 and 13 provide information about formal and informal practicum

supervision supports.

Table 12

Formal Practicum Supervision Supports

Formal Practicum Supervision Supports	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Formal: Coursework	47.6%	20	30%	6
Formal: Collaboration with Cooperating teachers	42.9%	18	50%	10
Formal: Required readings	33.3%	14	50%	10
Formal: Preparation for specific observation tools (i.e., Praxis III)	33.3%	14	40%	8

Table 13

Informal Practicum Supervision Supports

Informal Practicum Supervision Supports	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Informal: Meetings with university faculty	88.1 %	37	90%	18
Informal: Meeting with other supervisors	81 %	34	80%	16
Informal: Meetings with cooperating teachers	59.5 %	25	55%	11

Like with the teacher education coursework data, chi square analyses were conducted to evaluate whether required field experience supervision was associated with specific components of those supervision experiences. Once again, because the descriptive data for the complete sample and the subsample of SETE programs were similar, chi-square analyses were only conducted for the entire group. Required field supervision was only found to be significantly related to one variable. A moderate relationship was found between required practicum supervision and formal meetings with cooperating teachers (see Table 14).

Table 14

Results of Required Field Experience Supervision Chi-Square Analyses

Required field supervision relationship with supervision supports	Pearson chi-square	Phi Correlation	*p*-value (Alpha)
Formal: Meetings with cooperating teachers	6.65*	.40	.036
Formal: Seminars	4.79	.34	.091
Formal: Coursework	1.75	.20	.418
Formal: Readings	4.43	.33	.109
Formal: Observation tools	2.18	.23	.336
Informal: Meeting with other supervisors	.827	.14	.661
Informal: Meeting with cooperating teachers	.718	.13	.699
Informal: Meeting with faculty	.168	.06	.920

Program characteristics: Non-practicum related P-12 experiences. In addition to practicum and student teaching supervision, the doctoral programs offered numerous other opportunities for doctoral students to work within P-12 settings. As expected, the majority of the P-12 experiences consisted of conducting research in P-12 settings (97.6%, *N*=41). Nearly all the programs offered opportunities for doctoral students to be in P-12 schools for the purpose of conducting field research. Other P-12 practices such as conducting professional development (78.6%, *N*=33), and consulting on the education of P-12 students (52.4%, *N*=22) also took place in most programs. Typically, P-12 experiences that more directly involved the work done by classroom teachers and other practitioners within P-12 practices were less common including mentoring and induction support (21.4%, *N*=9), conducting or assisting in program evaluation (31%, *N*=13), and observing model teaching (11.9%, *N*=5).

This same trend occurred with programs that indicated they offered a SETE emphasis. Both the entire sample and the teacher education subsample showed high participation in activities such as research and professional development and low participation in activities such as mentoring and induction support and observation of model teaching. Tables 15 and 16 provide a summary of the doctoral P-12 practices reported by the participants. For clarity and further analysis, these tables were differentiated as either typical IHE activities and typical P-12 activities. Table 15 provides data of P-12 activities that are typically conducted by IHE faculty and researchers. Table 16 provides P-12 activities that are typically conducted by teachers and other school-based professionals.

Table 15

Typical IHE Mediated Doctoral P-12 Practices

Typical IHE P-12 Activities	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Research	97.6 %	41	95%	19
Professional development	78.6 %	33	75%	15
Consultation on P-12 students	52.4 %	22	60%	12
Consultation with families	42.9 %	18	55%	11
Field testing interventions	38.1 %	14	30%	6

Table 16

Typical P-12 Mediated Doctoral P-12 Practices

Typical Teacher P-12 Activities	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Co-teaching	45.2 %	19	40%	8
Modeling interventions	35.7 %	15	30%	6
Program evaluation	31 %	13	40%	8
Mentoring and induction	21.4 %	9	20%	4
Observation of model teaching	11.9 %	5	10%	2

Both the complete data set and the SETE subset were aggregated by activities in which IHE professionals engage (i.e., conduct research, consult with families and children, develop interventions, and deliver professional development) and activities of P-12 professionals (i.e., mentoring and induction, co-teaching, modeling interventions, observing teaching, and evaluating program). Paired samples *t*-tests were conducted to evaluate whether doctoral P-12 practices reflected traditional IHE practices or traditional P-12 practices. In both data sets, the results indicated that the mean IHE practices were significantly higher than the mean of traditional P-12 practices. For the complete data set, the mean of IHE practices (*M*=3.10, *SD*=1.34) was significantly greater than the mean of traditional P-12 practices (*M*=1.45, *SD*=1.42), *t*(41)=7.2, *p*<.001. For the subset of programs with SETE program emphases, the mean IHE practices (*M*=3.15, *SD*=1.35) was also significantly grater than the mean of traditional P-12 practices (*M*=1.40, *SD*=1.35), *t*(19)=6.25, *p*<.001.

Program characteristics: College teaching. College teaching was considered a formal aspect of doctoral programs. All the program participants reported inclusion of college teaching as part of their doctoral programs. Of these programs, 64.3% (*N*=27) of the participants reported college teaching was a required component. The other 35.7% (*N*=15) reported that college teaching was included as an optional program component. Within the teacher education doctoral programs, a similar trend emerged. Sixty percent of the SETE programs (*N*=12) required college teaching as part of their doctoral preparation.

Great variability was reported in the types of college teaching experiences. For example, 42.9% (*N*=18) of the participants reported that college teaching included well-defined, consistent outcomes for assessing doctoral students' teaching performance. The other 57.1% (*N*=24) included college teaching, but assessment processes were individualized and defined independently by the faculty supervising those college teaching experiences. Within the teacher education doctoral programs, a similar trend also emerged where 45% of those programs had well-defined assessment outcomes for college teaching experiences. Table 17 showcases the range of doctoral college teaching practices within programs.

Table 17

Doctoral college teaching practices

College teaching practices	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Well-defined assessment outcomes	42.9%	18	45%	9
Single semester college teaching	61.9 %	26	60%	12
Multiple semester college teaching	76.2 %	32	70%	14
Development of syllabi	90.5 %	38	90%	18
Development of assessments	88.1 %	37	70%	14
Co-teaching with special education faculty	97.6 %	41	95%	19
Co-teaching with general education faculty	23.8 %	10	10%	2
Face-to-face college teaching	90.5 %	38	90%	18
Online college teaching	57.1 %	24	60%	12

Chi square analyses were conducted to evaluate whether required college teaching experiences were associated with specific components within college teaching experiences. Analyses were based on information from the expert interviews

regarding scaffolded faculty experiences including having well-defined assessment outcomes, teaching single and multiple semesters, teaching face-to-face, teaching online, and teaching in both special education and general education courses. As the descriptive data for the complete sample and the subset with a SETE emphasis were similar, chi-square analyses were only conducted on the entire group.

Required college teaching experiences was found to be significantly related to well-defined outcomes, single semester college teaching experiences, and online college teaching experiences. No significant relationships were found between required college teaching and face-to-face college teaching, college teaching within special education, or college teaching within general education (see Table 18).

Table 18

Results of Required College Teaching Chi-Square Analyses

Required college teaching practices relationship with college teaching practices	Pearson chi-square	Phi Correlation	*p*-value (Alpha)
Well-defined outcomes	17.5*	.645	<.001
Single semester college teaching	6.07*	-.380	.014
Multiple semesters college teaching	1.17	.167	.280
Online college teaching	5.40	.351	.02
Face-to-face college teaching	.221	-.073	.638
Special education college teaching	1.84	.210	.174
General education college teaching	1.17	-.167	.280

Program characteristics: Teacher education policy. The last category of

SETE preparation examined through the DETES related to teacher education policy.

This category lent itself to division by formal and informal practices. Participants

reported that 57.1% of their programs (*N*=24) included formal preparation in the area

of teacher education policy while 85.7% of participants (*N*=36) indicated informal

policy experiences included in their doctoral programs. Although both the entire data

set and the SETE subset showed similar trends in specific policy experiences, SETE

programs showed a slightly higher percentage of formal policy experiences (80%,

N=16) as well as informal teacher education policy experiences (95%, *N*=19). See

Tables 19 and 20 for both formal and informal policy practices within special

education doctoral programs.

Table 19

Formal Teacher Education Policy Practices

Formal Policy Practices	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Formal: Seminars	40.5%	17	50%	10
Formal: Coursework	40.5%	17	55%	11
Formal: Internships	19%	8	25%	5
Formal: Policy mentors	2.4%	1	5%	1

Table 20

Informal Teacher Education Policy Practices

Informal Policy Practices	Percentage	Number of Programs	SETE Percentage	SETE Number of Programs
Informal: Invited policy speakers	73.8%	31	75%	15
Informal: Policy mentors	52.4%	22	55%	11
Informal: "Hill" Visits and other legislative exposures	23.8%	10	25%	5

Program characteristics: Aggregate teacher education variables. Program

characteristics were grouped into five new aggregate group variables: coursework,

practicum supervision, P-12 school-based experiences, college teaching, and policy

experiences. These four variables were also grouped into a total teacher education

variable. For example, the variable for the total coursework includes all the variables

related to teacher education coursework content (i.e., instructional interventions,

pedagogy, field experience, adult learning theory, teacher education technology,

assistive technology, and collaborative structures). These new aggregate variables

were intended to get the "big picture" of all the program components. Table 21

provides a summary of these aggregate teacher education variable means and

standard deviations. Aggregate data showed great variability among programs. For

example, the total teacher education score had a 33 point range between lowest and highest scores.

Table 21

Aggregate Teacher Education Variables

Total Teacher Education Variable Scores				
	Minimum	Maximum	Mean	Std. Deviation
Total Practicum	.00	11.00	6.26	2.80
Teacher Education Coursework Total	.00	9.00	5.10	2.26
School-based Experiences Total	1.00	10.00	4.55	2.33
College Teaching Total	4.00	12.00	8.64	1.88
Total Teacher Education Policy Practices	.00	9.00	4.26	2.41
Total Teacher Education	12.00	45.00	28.81	7.37

Aggregate variables transformed individual categorical variables into nominal ones, so it was possible to compute correlation analyses between these aggregate variables and demographic variables. Two types of correlation analyses were computed between these aggregate variables and the demographic variables to account for both ordinal and interval demographic variables (Shavelson, 1986). First,

because Carnegie classification is an ordinal variable, Spearman correlations were computed between the aggregate variables (i.e., total coursework, total practicum supervision, total policy, total college teaching, and total teacher education) and Carnegie classification. Next, because the total number of doctoral students and doctoral faculty are interval variables, Pearson Product Moment Correlation coefficients were computed among the aggregate variables and these demographic variables. Also, because two programs had outlying demographic results related to total doctoral faculty and total doctoral students, these correlation analyses were computed both for the entire sample and for the sample without these two outliers

Results of correlation analyses for the entire sample showed few statistically significant correlations between demographic characteristics and teacher education program variables that were greater than .30 (see Table 22). These results suggest that none of the aggregate teacher education program components were related to Carnegie classification. Two demographic characteristics (total number of doctoral students and total number of doctoral faculty) related to total teacher education variable. There was a moderate correlation between the total teacher education variable and total doctoral students (r=.30, p=.03) as well as with total doctoral faculty (r=.34, p=.03). There was also a moderate correlation between the total practicum score and total faculty (r=.31, p=.04). Other teacher education variables were unrelated to the demographic variables.

Table 22

Correlations between Program Characteristics and Teacher Education Variables

	Total Teacher Education	Total Teacher Education Courses	Total Practicum Work	Total Policy Work	Total College Teaching	Total P-12
Carnegie	.13 p=.41	.12 p=.46	-.10 p=.51	.09 p=.57	-.09 p=.56	.12 p=.42
Total Doctoral Students	.30* p=.03	.179 p=.27	.21 p=.19	.07 p=.68	.18 p=.27	.30 p=.60
Total Doctoral Faculty	.34* p=.03	.26 p=.10	.31* p=.04	.002 p=.99	.22 p=.17	.25 p=.11

When these correlation analyses were computed without data from the two outlying programs, slightly different trends emerged. Like with the total sample, Carnegie classification was not correlated with any of the aggregate teacher education scores and the total teacher education variable was statistically correlated with the total doctoral students variable. (r=.371, p=.02). However, total faculty was not statistically correlated with the total teacher education (r=.276, p=.09).

A multiple regression analysis was conducted to predict the total teacher education aggregate DETES score using the two independent variables of total number of doctoral students within the programs and total number of doctoral faculty within the programs. As no theoretical framework exists that would suggest the need to order these variables by predictive value, they were entered concurrently. The

linear combination of these variables was significantly related to the overall teacher education DETES scores, R^2=.21, $F(2,38)$=4.96, p=.01. As the correlation results for the sample without the outlying data were did not show a statistically significant correlation between the total teacher education variable and total doctoral faculty, the regression analysis was computed on the sample without these two data points differently. This analysis was computed with total doctoral students as the only independent variable. This variable was significantly related to the overall teacher education DETES scores, R^2=.14, $F(1,37)$=5.92, p=.02. Results appear logical as one would expect that, as programs increase in size (i.e., number of faculty and doctoral students), there will be more choices, including those related to teacher education experiences.

Summary

This study's primary goals were to understand (a) the skills of effective special education teacher educators as well as ways that doctoral programs can prepare future teacher educators and (b) how the field prepares of special education doctoral students to become effective teacher educators. Through mixed methodology, data were collected and analyzed in order to achieve a more comprehensive understanding of doctoral preparation of special education teacher educators. Qualitative data revealed two distinct but overlapping themes related to the knowledge and skills of effective teacher educators and the types of scaffolded work experiences that promote acquisition of those knowledge and skills. Interviewees suggested that doctoral preparation should focus on deepening understanding of (a)

instructional content, pedagogy, and adult learning knowledge; (b) global contexts of education and how special education fits within those contexts; (c) collaborative structures both within P-12 settings as well as in IHE settings; and (d) professional dispositions related to service commitment. In addition to deepen understanding in these areas, interviewees suggested scaffolded experiences related to the work of P-12 practitioners (e.g., program evaluation and student and teacher supports) and teacher educators (e.g., college teaching, practicum supervision, disability and teacher education policy work, and research practices).

Quantitative data collected through an online survey, the Doctoral Experiences in Teacher Education Survey (DETES), revealed most special education doctoral programs provide a range of teacher education experiences including opportunities to participate in coursework specific to teacher education, special education college teaching, student teacher supervision and other P-12-based experiences, and teacher education policy. Data were organized and analyzed by both formal and informal experiences. In general, when this distinction could be made, more informal experiences were present than formal experiences.

In addition to descriptive information about each of these components of doctoral teacher education practices, data were aggregated to investigate whether there were any connections between the demographic characteristics of the doctoral programs and the teacher education practices offered within those programs. Carnegie classification did not correlate with teacher education practices. Program size, as measured by the number of doctoral students and faculty, on the other hand, did

moderately correlate with teacher education practices. The next chapter considers

both the qualitative and quantitative findings to consider implications and

recommendations for future research and practice.

CHAPTER 5: DISCUSSION

Paucity of scholarship on the preparation of teacher educators, especially in special education, has resulted in lacking information about how to prepare special education teacher educators to deal with complexities such as addressing teacher shortages, developing meaningful and effective teacher instruction and assessment, integrating cultural competence into teacher education, and reacting to political and social changes that affect the education of students with disabilities (see Figure 1). Existing literature suggests that novice teacher educators (a) struggle with their new roles in higher education (Berry, 2007; Brandenburg, 2008; Dinkelman, Margolis, & Sikkenga, 2006; Loughran & Berry, 2005; Martinez, 2008; Murry & Male, 2005) and (b) often receive little institutional support (Harrison & McKeon, 2008; Sinkinson, 1997; Swennen, Volman, & van Essen, 2008). This literature only addresses issues of general education teacher educators. The lack of emphasis on SETE highlights the need to critically examine special education teacher educators' induction processes.

To begin examining this induction process, it is essential to understand how the special education field prepares its teacher educators. The purpose of this study, therefore, was to enhance current understanding about (a) the skills of effective special education teacher educators and (b) the field's current ways of preparing special education doctoral students to become effective teacher educators. A mixed-methods approach (Creswell & Clark, 2007) was used to gather and interpret both qualitative and quantitative data to answer the research questions. The qualitative phase involved six expert interviews in doctoral preparation of teacher educators.

Data gathered during this phase was used not only to validate the Doctoral Experiences in Teacher Education Survey (DETES) but also to introduce a new framework for understanding critical components of doctoral teacher education preparation within special education. The quantitative phase involved analysis of the DETES, whose purpose was to gather descriptive information about the teacher education elements of doctoral special education programs. The DETES was completed by 42 department chairs or program coordinators of doctoral special education programs.

Interpretation of the research data became more meaningful when both sources, the qualitative and quantitative data, were compared and contrasted with one another. By adopting an interpretive approach, data from both phases were used to examine the role of teacher education within doctoral special education programs. This section discusses both qualitative and quantitative findings from the study as they relate to the research goals and questions. Data analysis revealed several conclusions about the types of doctoral learning experiences that may result in more effective preparation of special education teacher educators.

Qualitative Research Findings

The first question this research study sought to answer was: What experiences within doctoral special education programs could help doctoral students improve their skills as effective teacher educators? In answering this question, issues related to the knowledge, skills, and competencies of teacher educators were also explored. Two themes emerged from the qualitative data: knowledge and skills of teacher educators

and scaffolded teacher educator work experiences. These two themes, when considered together, suggest six broad categories of practice for effective special education teacher educators that can be used to gauge SETE doctoral experiences. According to the expert interviews, effective special education teacher educators have:

(a) Teacher educator knowledge including P-12 academic content, instructional pedagogy, and teacher education pedagogy;

(b) Broad understanding of the education landscape that expands beyond special education and includes knowledge of evidence based practice, teacher quality, school reform, school leadership, systems change, and policy development;

(c) Understanding of the importance of collaboration between general and special education within the P-12 context and within the higher education teacher education context including interdisciplinary problem-solving skills, understanding of systems change, and an understanding of IHE, SEA, and LEA collaboration models;

 (d) Professional disposition that includes a dedicated service orientation, commitment to the educational outcomes of students with disabilities, and respect for families and P-12 school personnel;

(e) Directed practical experience in P-12 practices and instructional structures related to effective P-12 organizational structures, student and teacher supports, student assessment, and program evaluation; and

(f) Directed practical experience in faculty work including teaching and supporting novice special educators, disability and teacher education policy work, and research practices.

These themes might provide useful guidelines for the types of experiences that result in effective preparation of future teacher educators. It is important to remember, however, that special education doctoral programs vary widely and these broad categories should not be considered prescriptive "to do's." Rather, the themes may provide guidance for examining various doctoral teacher education experiences that may be included as part of doctoral special education preparation.

Connection to Previous Literature

Teacher educator standards. Interestingly, when examining the six broad categories that emerged from the expert interviews alongside the Association of Teacher Educators (ATE) *Teacher Educator Standard*s (Fisher et al, 2008) and the Dutch Association of Teacher Educators (VELON) *Teacher Educator Standards* (Koster & Dengerink, 2008), several similarities emerged. First, the ATE and VELON standards as well as the expert interviews referred to teacher educators' need for a strong command of content and pedagogy. This content-area mastery was viewed as essential as it is the primary aspect of teacher education instruction. Second, all referred to the importance of collaboration, but the emphasis of that collaboration differed slightly. The interview themes referred to collaboration on two levels: (a) P-12 collaboration between general education and special education colleagues, and (b) University (IHE) collaboration between teacher education

faculties from different departments such as general education and special education teacher education faculty. The ATE and VELON standards related to broader considerations of collaboration. For example these standards referred to collaboration as a professional practice. The ATE Standard 6 involves collaboration with relevant stakeholders as a means of improving teaching and learning, and the VELON Standard 4 involves collaboration with organizational colleagues to work towards common goals. These standards did not specifically address issues of general and special education collaboration. Third, professional dispositions related to commitment to service were addressed by the interviewees in this study as well as through the standards. However, neither the ATE nor VELON standards had a specific, stand-alone standard related to dispositions. Rather, issues of professionalism and service orientation were implied in many of the standards. For example, both ATE and VELON discussed ongoing professional development, collaboration among colleagues, and contributions to the field.

Along with the similarities, several differences emerged between the interview themes and the ATE and VELON standards. First, participants in this study focused on expanding understanding and involvement in P-12 experiences. Although the ATE and VELON standards suggest broadening this understanding through professional development and collaboration, understanding how special education fits into the larger educational context was unique to this study. Interviewees may have paid more attention to this dimension because the current emphasis on integrating special and general education practices so students with disabilities have access to and

accountability for learning general education curriculum. ATE and VELON standards, on the other hand, were developed within the general education context. The VELON Standard 5, working in a wider context, does imply the need of teacher educators to extend their knowledge beyond their areas of focus, but it does not specifically address issues of educational diversity.

Second, the ATE and VELON standards focused heavily on ongoing professional development. Even though the interviewees referred to ongoing learning as part of professional dispositions, this area was not emphasized. This difference between standards and the interviews, however, should not be considered a divergence between standards and emergent themes from this research. Because of the nature and the scope of this study, expert interviews focused specifically on doctoral preparation for roles as teacher educators. Consequently, issues of professional development were not addressed in detail; one exception was Interviewee #6, who worked at developing and validating the ATE teacher educator standards. This interviewee stated that doctoral students planning to become teacher educators should develop skills in self-study so that they could begin identifying areas for further professional development while completing their doctoral preparation. Other interviewees focused primarily doctoral preparation development rather than extending preparation after completion of doctoral work.

Definition of teacher educators. Murray's definition of teacher educators as "second-order practitioners" (2002, p. 70) provides a useful framework for thinking about the work of special education teacher educators. Whereas first-order

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practitioners (i.e., P-12 special educators) must understand content and pedagogy and be able to effectively instruct students with disabilities, second-order practitioners must be able to effectively transmit that content and pedagogy in a manner that allows the first-order practitioners to apply that knowledge successfully. The ever-present research-to-practice gap (Greenwood & Abbott, 2001; Putnam & Borko, 2000) is testament to the challenges of educating teachers effectively in the use of evidence-based practices that address both fidelity and usability. Greenwood and Abbot discuss four reasons for this well-documented gap: (a) separateness of the research and practice communities, (b) perceived unimportance of education research by teachers and administrators, (c) failure of research to produce innovations practical in real classrooms, and (d) lack of ongoing, collaborative approaches to teachers professional development. Although special education teacher educators, as second-order practitioners, cannot address all these issues, they must consider them in preparing novice special educators. These research-to-practice dilemmas exemplify complexity of teacher educators' work and the far-reaching roles in which they must engage to effectively prepare teachers to work effectively with students with disabilities.

Interviewees agreed on the importance of providing doctoral students with numerous opportunities to learn, practice, and integrate instructional content, pedagogical practices, and adult learning practices so that they can begin to reflect upon their roles as teacher educators. They discussed two distinct means of doing so: (a) specific teacher education course content and (b) opportunities to work in schools with P-12 teachers throughout their doctoral programs.

Transition from teacher to teacher educator. The literature related to the transition from P-12 teacher to teacher educator suggests that this process is not as self-evident as one might imagine (Zeichner, 2005). Effective transitioning can be helped by scaffolded experiences in the work of teacher educators (Cochran-Smith, 2003). Experts interviewed for this study agreed that special education teacher educators benefit from ongoing practical experience in the work of teacher educators. They discussed scaffolded doctoral experiences related to college teaching, supervising student teachers, conducting research, and completing other practical work commonly done by teacher educators in order to learn how to effectively instruct preservice and inservice special educators.

Interviewee #6 specifically discussed self-study as a method of improving teacher education practices and helping doctoral students begin to reflect on their own transition from P-12 teacher to teacher educator. This interviewee recommended that teacher educators have opportunities to examine their professional identities and instructional practices through self study and reflection, so that they can "begin to understand the context of examining the practice of being a teacher educator." Her remarks were consistent with the self-study literature, which provides evidence that self study helps novice teacher educators hone their professional skills. Interviewee #6 was the only participant who did not have a background in special education and this orientation may have influenced her responses.

Merged Qualitative and Quantitative Findings

The last three research questions of this study related to the formal and informal experiences special education doctoral programs offer to prepare students for roles as teacher educators as well as the connection between demographic characteristics and these teacher education experiences. Formal experiences included specific course sequences and related to teacher education, supervision of practicum students, college teaching, policy internships and mentors. Informal experiences included joint informal supports for practicum supervision, informal policy mentors, and research opportunities.

Research questions two and three (i.e., formal and informal teacher education experiences) were analyzed throughout the quantitative phase of the study as the DETES addressed specific aspects of current doctoral experiences related to teacher education. It is helpful, however, to examine the DETES data in relationship to themes that emerged from the expert interviews. Therefore, these data were combined in this final analysis.

The DETES data revealed that doctoral special education programs are generally providing a wide range of formal and informal teacher education options. As this is the first study that examined doctoral preparation of special education teacher educators, it was reassuring to find this general trend within doctoral programs. The qualitative phase of the study identified specific practices that promote effective SETE practices and the DETES suggested that those practices generally occur within doctoral special education programs.

The broad DETES areas were teacher coursework, practicum supervision, college teaching, ongoing P-12 experience, and policy involvement. In all these areas, the majority of participants reported either optional or mandatory doctoral participation practices. Given the paucity of work related to doctoral preparation of teacher educators, these data were encouraging as they demonstrate a wide variety of doctoral program experiences designed to help prepare doctoral students for future roles as teacher educators.

This study examined teacher education programmatic elements within doctoral special education programs, regardless of program emphasis. When disaggregating the survey data for doctoral programs that stated they had a SETE emphasis, little differences emerged from the total sample. Within all the major DETES dimensions, similar trends emerged related to program characteristics. This finding suggests doctoral programs are including teacher education components without formally referring to this as an actual area of emphasis. Findings also suggest that some program differences were not identified within the DETES. Given this, it is likely to assume there may be other programmatic elements not identified through the DETES. Nevertheless, the overall trends between the total sample and the SETE subsample both show great emphasis on teacher education.

Teacher Educator Knowledge and Skills: Merged Analysis

Three major subthemes related to teacher educator knowledge and skills emerged from the expert interviews. These themes related to knowledge of (a) content and pedagogy of P-12 students with disabilities, (b) teacher education content

and pedagogy including adult learning theories, and (c) general landscape of education that includes understanding how special education fits within the larger context of general education.

Teacher education coursework. Experts placed a high value on these areas of knowledge. It was encouraging, therefore, that more than 90% of doctoral programs reported either optional or mandatory coursework related to SETE. Major content covered in these courses included: effective means of teaching instructional interventions, teacher education pedagogy, collaborative structures within P-12 schools, and effective supervision and mentoring of practicum students. Less than half of the programs, however, included content related to teacher education technology or assistive technology (e.g., online learning tools, collaborative websites, and instructional software) even though technology integration is emerging as a major area of teacher education. This finding is consistent with other studies related to the lack of emphasis on technology in teacher education (Windschitl & Sahl, 2002). Although more teacher education programs are including technology to facilitate teacher preparation, this is a slowly emerging trend and the DETES data suggested that doctoral special education programs are not yet broadly addressing instructional technology into teacher education coursework.

Second, unlike the agreement between the expert interviews and the DETES data regarding teacher education knowledge, there appears to be discrepant information in these data sources in relation to content-area expertise. Although nearly 70% (*N*=29) of the programs included either required or optional coursework

specific to teacher education instructional content, fewer programs required coursework specific to academic content-area expertise (23.8%, *N*=10). Additionally, when looking at admissions criteria, only 11.9% (*N*=5) of programs required a content-area major or background. Even though the expert interview data strongly suggested that doctoral students should demonstrate content-area mastery, the DETES data suggested this expertise was not a major consideration in doctoral program admissions criteria and that only approximately a quarter of programs required advanced P-12 content preparation. Both in special and general education, however, content-area expertise has shown to be critical in legislative initiatives that include increased accountability for student performance and highly qualified teacher mandates.

Third, in looking at the relationship between required teacher education coursework and specific course content, chi-square analysis showed that three content areas were correlated with the variable for required teacher education content: teacher education pedagogy, research-based interventions, and supporting student teachers in their field experiences. No statistically significant relationships were found between required teacher education courses and content related to collaborative structures, teacher education technology, adult learning theories, or addressing issues of assistive technology. This is unsurprising as less than half of the doctoral programs included these four areas of teacher education content within their teacher education courses.

Professional dispositions. Data from the expert interviews revealed a major subtheme related to professional dispositions of teacher educators. Interviewees spoke

about the importance of a professional service orientation, that is, an obligation to improve the lives of students with disabilities and a commitment to ongoing skill development as teacher educators. These dispositions were discussed both in terms of admissions criteria and program goals. As admissions criteria, the interviewees discussed processes that included requirements for service and work-related letters of recommendation and interviews focusing on professional goals and service experiences. Professional dispositions were used to guide program goals related to commitment to service.

Despite interviewees' emphasis on the importance of professional dispositions, the DETES revealed the two most common admissions criteria are GRE scores and written samples. The programs did place a high value on P-12 experiences as most required prior experiences with special education populations and P-12 experiences. As most programs required letters of recommendation, professional dispositions may be assessed by analyzing these letters or by the focus of the required writing sample. Admissions criteria were similar for both the entire sample and the subset of program with a SETE emphasis.Lack of admissions criteria related to dispositions may be attributed to the vague nature of assessing dispositions. The interviewees acknowledged the difficulty in assessing doctoral students' dispositions.

Scaffolded Teacher Education Practices

Other themes that emerged from the expert interviews included the need for ongoing and scaffolded experiences related to both P-12 practices and faculty work.

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Practicum supervision. Doctoral program coordinators and department chairs who completed the DETES reported that nearly 98% of the programs included either optional or mandatory experiences related to supervising and mentoring novice special educators in their field experiences. The majority of the programs (61.9%) had optional experiences related to supervising practicum experiences. Along with direct supervision of novice special educators, programs also reported a variety of formal and informal supports to help the doctoral students effectively assist novice special educators. Of these, less than half were formal supports; coursework and formal meetings with cooperating teachers were cited most frequently. The majority of supports related to practicum supervision were informal (e.g., informal meetings with faculty or other practicum supervisors related to specific practicum situations).

In examining the relationship between required field supervision and formal and informal supports to help doctoral students effectively supervise and mentor student teaching through chi-square analyses, only formal meetings with cooperating teachers emerged as statistically related to required practicum supervision. There did not appear to be a relationship between mandatory practicum supervision and the types of supports offered to doctoral students engaged in supervising preservice special educators. Both the formal and informal supports that accompanied the field supervision allowed the doctoral students to work with preservice teachers in P-12 settings thereby increasing their familiarity with various school structures, settings, and cultures.

College teaching. All the doctoral programs reported either optional or mandatory college teaching experiences accompanied by various formal and informal supports. More doctoral programs required mandatory college teaching experiences (64.3%); a smaller proportion included college teaching as optional (35.7 %). Interestingly, nearly half of programs reported well-defined, uniform outcomes to guide doctoral college teaching experiences. Additionally, more than two-thirds allowed multiple-semester college teaching experiences.

Despite the large number of doctoral programs that provide college teaching as part of the preparation process, college teaching experiences rarely included opportunities for collaborating with general education faculty in teaching courses. In fact, less than a quarter provide college teaching opportunities related to general education teacher preparation. The lack of collaboration with general education was unsurprising as it reflects both barriers identified by experts and widely-recognized issues within special and general education departments (Pugach & Blanton, in press). Notwithstanding the lack of general education college teaching experiences, more than half the programs reported studying collaborative structures as part of their required or mandatory teacher education courses. The issue of collaboration between special and general education is growing in importance as students with disabilities continue to increase their time in general education settings. Pugach and Blanton explained that although collaboration in schools of education is not well documented in the United States, the expectation for increasing collaboration continues. In fact, to help special education programs restructure in order to meet the highly qualified

teacher mandates of *NCLB* and *IDEA*, the U.S. federal government is now funding

inclusion-oriented preservice teacher education grants (i.e., 325T grants") that require

collaboration between special and general education as well as with the arts and

sciences (Pugach & Blanton, in press).

In examining required collage-teaching experiences, Chi-square analyses

between required college teaching and specific college-teaching experiences revealed

two statistically significant correlations. Required college teaching was correlated

with well-defined assessment outcomes and inversely correlated with single-semester

college teaching. Interestingly, there was no statistically significant correlation with

multiple-semester college teaching. There was also no statistically significant

relationship with online or face-to-face college teaching as well as with either special

or general education experiences. As most of the doctoral programs had these college

teaching options (with the exception of co-teaching in general education), a

connection to required participation may not reflect program differences. Most

programs may expect doctoral students to participate in different college teaching

experiences, regardless of whether it is institutionally required. The DETES did not

address implied expectations related to teacher education, however, so the present

study could not adequately address this question.

P-12 Experiences. In addition to practicum supervision and college teaching,

most programs offered learning experiences in P-12 settings. Predictably, the majority

were related to field research (97.6%). When comparing means after disaggregating

data, the means from traditional IHE activities (e.g., research, professional

development, and consultation) were significantly higher than those of the traditional P-12 activities (e.g., mentoring and induction support, program evaluation, and co-teaching). Fewer programs provided opportunities for doctoral students to participate in mentoring and induction programs (21.4%), participate in program evaluation (31%), model effective interventions (35.7%) or observe effective P-12 teaching (11.9%). This discrepancy is important as the types of experiences interviewees discussed were broader than field research in schools and included a variety of P-12 experiences such as observing model teaching, and participating in program evaluation. Interviewees considered exposure to traditional P-12 activities, in addition to the typical work in P-12 schools in which IHE faculty engage, important for expanding doctoral student understanding of the landscape of education and broadening their experience base beyond their prior P-12 work experience.

Overall Aggregate Findings

The forth research question related to whether relationships existed between aggregate teacher education variables and the demographic variables. In order to address this research question, individual program variables within the DETES were aggregated into total scores for teacher education coursework, practicum supervision, P-12 school-based experiences, college teaching, and policy experiences. These five scores were further aggregated into a total teacher education variable. As with the individual teacher education program scores reported in the DETES, aggregate scores showed great variability. The total teacher education score (*M*=28.81, *SD*=7.37) had a 33 point range (12 points to 45 points).

Correlations between aggregate teacher education scores (i.e., total teacher education coursework, practicum supervision, P-12 school-based experiences, college teaching policy experiences, and total teacher education) and demographic variables (i.e., total doctoral students, total doctoral faculty, and Carnegie classification) revealed several moderate correlations: total teacher education correlated with total doctoral faculty (r=.30, p=.03); total teacher education correlated with total doctoral faculty (r=.34, p=.02); and total practicum supervision experiences correlated with total doctoral faculty (r=.31, p=.04). When excluding outliers, total doctoral students continued to correlate statistically with the total teacher education variable (r=.37, p=.02), but total doctoral faculty was not (r=.28, p=.09). The last demographic variable, Carnegie classification, was not correlated with any of the teacher education variables. There was no relationship between research intensity of the doctoral programs as measured through the Carnegie classifications, and teacher education components within the doctoral programs.

It appears from the data that although program size (i.e. number of doctoral students) was moderately correlated with the total teacher education aggregate score, this relationship may be less important than other factors that were not identified through the DETES. For example, variables such as OSEP funded leadership grants focused on teacher education and faculty areas of study may be more related to teacher education components than the demographic variables used in this analysis.

Connection to Previous Literature

The available literature focuses on general education teacher educators' struggles with shifting professional identities due to new work expectations and expertise. This literature supports the qualitative interview themes related to emphasizing doctoral students' need for knowledge and skills necessary to be effective teacher educators and the professional work experiences that enhance those skills. This literature, however, generally focuses only on one of the two scaffolded work experiences (i.e., IHE faculty work experiences). Interestingly, five interviewees with special education backgrounds focused equally on work within P-12 settings as a means of broadening teacher educators' understanding of P-12 practices. This added emphasis may be because inclusion of students with disabilities requires special educators to navigate through general and special education structures.

In reviewing the teacher education literature, it was apparent at the beginning of this investigation that little information is available regarding the preparation of teacher educators, especially within the context of special education. In fact, other than literature about the shortages of special education faculty, the existing scholarship has failed to examine any issues related to doctoral preparation of special education teacher educators. Moreover, the existing general education studies focused primarily on induction processes of practicing teacher educators and not on initial preparation. Therefore, very little information was available that addresses how the field prepares its teacher educators in both general and special education.

The challenges that novice special educators face are well documented and include difficulties with collaboration with general education teachers (White & Mason, 2006), integrating their content and pedagogy into their instruction (Billingsley & Tomachin, 1009; Behrke & McCoy, 2007), and role ambiguity (Behrke & Murri, 2006). Given these struggles, it is critical to begin examining the preparation and support of teacher educators as this is one area related to teacher quality that has not yet been sufficiently examined. This study added to the literature by providing a description of the types of teacher education experiences within a wide range of doctoral special education programs.

<center>Limitations of the Study</center>

This study had several limitations. First, the quantitative phase focused on teacher education practices within doctoral special education programs. As there was no comprehensive list of all special education doctoral programs, it can be assumed that the survey was not distributed to all doctoral programs. Similarly, the survey may have been sent to academic departments that do not have active special education doctoral program. Every effort was made to increase the sample size, including multiple email reminders, yet the response rate of only 56% may partially be due to the abovementioned sampling issues. Currently a federally-funded research project, Special Education Faculty Needs Assessment (SEFNA) is examining the state of doctoral special education programs (see Smith et al., 2009). Future investigations about the preparation of teacher educators should use findings from this work in the formulation of the research questions.

Second, as with all self-reported data, there may be incongruity between the information provided and actual practices within the doctoral programs. In an attempt to address this limitation, surveys were sent directly to doctoral program coordinators or department chairpersons assuming these participants would most likely have the information needed to accurately complete the DETES. Email communications were sent directly to the department chairs or program coordinators with survey links tied to their email addresses in order to avoid survey completion by unintended participants.

Third, as with all qualitative studies, there are limitations related to the generalizabilty of the findings. To address this limitation, experts were chosen for interviews who have both specific expertise in the preparation of doctoral students and general expertise in teacher education. All of the interviewees in this study have national reputations in doctoral preparation of teacher educators, teacher quality research, and/or general teacher educator standards.

Lastly, given minimal research available to inform this study, the scope of this study was limited to collecting general, descriptive information from special education doctoral programs. As anticipated, findings are intended to provide preliminary information for further studies and analysis. Consequently, although this study provided preliminary information about teacher education components embedded in special education doctoral programs, comprehensive data related to specifics of those components were not gathered. For example, although the DETES

inquired about well-defined outcomes for college teaching experiences, those outcomes were not investigated.

Implications for Practice

The findings of this study suggest that doctoral special education programs spend considerable time preparing students for roles as future teacher educators. Areas such as college teaching, P-12 experiences, policy experiences, and teacher education research occur in most doctoral special education programs. As each program has unique goals and areas of emphasis, it would be unwise to use these findings to create prescriptive teacher education practices. Rather, the themes that emerged from the qualitative phase of this research should be used as a guideline for thinking about doctoral experiences related to teacher education. As Interviewee #3 stated, doctoral preparation is extremely individual. She provided an example of addressing missing background of one doctoral student:

> One of our students has a lot of background in behavior disorders… and has great background in learning disabilities, but she has never really taken any advanced assessment classes. Guess what she is co-teaching? Advanced assessment. It's difficult for her, but she needs this experience.

Although there are program components that all doctoral students within programs must complete, the unique quality of doctoral preparation may be this individual nature that allows each doctoral student to create a distinctive program that reflects their interests and career goals.

Developing collaborative teacher education learning opportunities between general and special education departments will require additional consideration. All experts interviewed for this study stated that because students with disabilities spend a great deal of their time in general education settings, teachers (and, therefore, teacher educators) must have thorough knowledge of how these two separate programs can begin to work together successfully. Doctoral opportunities within general education college teaching, practicum supervision and other P-12 experiences could strengthen the students' understanding of how collaboration at both the P-12 level and the teacher education level can improve the learning outcomes for students with disabilities. The interviewees acknowledged, however that this level of collaboration may be difficult due to institutional barriers inherent within IHEs (e.g., historical precedents, turf issues, and program quality concerns). The interviewees emphasized that it is important to address these barriers in order to provide students with effective preparation and to provide effective models for preservice and doctoral students. Interviewee #5 explained, "Administrative structures in higher ed are going to exist. You have to deal with course credits and there is no way around that. But, we are perpetuating dual systems if we never cross these boundaries in teacher education." She continued by suggesting that for collaborative structures within higher education to begin developing, it is sometimes necessary to find creative means of supporting a collaborative teacher education agenda (e.g., non-credit seminars and collaborative research and writing groups). Perhaps, with the added

incentives of the 325T grants to restructure programs, more collaborative

opportunities for doctoral students will emerge.

Next, increased attention should be paid to the level of academic content-area

expertise of doctoral students. Admissions criteria should guide the preparation of

future teacher educators in order to address areas of content deficiencies. This focus

on content-knowledge, moreover, should address both specific content-area

knowledge and instructional planning in the content areas. As legislative initiatives

continue to focus on accountability for student achievement and increase expectations

for highly qualified teachers, the focus on content-area expertise will continue to

expand. Therefore, when considering the preparation of future special education

teacher educators, a discussion of how to further improve content area knowledge

must occur.

<p align="center">Implications for Future Research</p>

The findings from this investigation suggest that doctoral special education

programs provide an array of experiences to help students prepare for future roles as

teacher educators. Despite this research, very little is currently known about how

programs prepare teacher educators and what aspects of that preparation are most

critical. This study provides preliminary information related to broad categories of

teacher education knowledge. Future studies should focus more specifically on these

doctoral teacher education experiences.

This study identified 20 doctoral programs with teacher education emphases.

As the DETES did not identify program elements that differentiated these programs

from the entire sample, future research should examine these programs in more detail. Additionally, because some of these programs are small and prepare limited students, it may be useful to conduct individual case studies as well as examine these collectively. To increase the effectiveness and efficiency of teacher educator preparation, common benchmarks across those programs should be identified in order to gain a more comprehensive understanding of how special education doctoral programs prepare teacher educators. This research will require both quantitative and qualitative research methodology to ensure comprehensive understanding. Given the large number of doctoral students supported by U.S. Department of Education Office of Special Education Programs (OSEP) leadership grants, examining how OSEP-funded programs address issues of preparation for teacher education might yield useful information for the field and for OSEP.

The DETES sought programmatic information related to teacher education. It did not address issues of implied expectations related to teacher education. As explicit expectations related to teacher education may differ from implicit ones, it would be useful to study how programmatic structures are affected by the implicit expectations within departments. For example, all doctoral programs required college teaching. When looking at the relationship between this requirement and various college-teaching experiences, very few relationships were discovered. Because most programs expect doctoral students to engage in college teaching implicitly, there may not be many explicit requirements related to college teaching.

Lastly the literature suggests novice teacher educators improve their teaching skills and explore their professional identities through reflective self study, it would be interesting to investigate findings from self study as part of special education doctoral preparation. It would facilitate exploring: (a) whether novice special education teacher educators experience cognitive dissonance in the same manner as their general education peers as suggested in the self-study literature (Berry, 2007; Dinkelman, Margolis, & Sikkenga, 2006; Martinez, 2008; Ritter, 2007), and (b) what aspects of doctoral teacher education practices doctoral students view as most effective as they prepare for their roles as teacher educators.

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Appendix A: Research Studies Examining Teacher Educators

Author, year	Purpose	Respondents	Methodology/Data	Findings
Berry (2007)	Examination of the tensions faced by the teacher educator in preparing prospective biology teachers	1 beginning biology teacher educator	Qualitative: Self study	Tensions in teacher education include telling/growth, confidence/uncertainty, action/intent, safety/challenge, planning/being responsive and valuing/reconstructing experience.
Brandenburg (2008)	Examination of the teacher educator's critical incidents and interactions that result in preservice teachers' learning	1 beginning math teacher educator	Qualitative: Self study	(a) Integrating multiple reflective practices results in critical reflection, (b) discourse challenges assumptions about teaching and learning mathematics, (c) reflective discourse maximizes learning, and (d) individual authority of experience is enhanced with power sharing and a democratic approach to learning.

Dinkelman, Margolis, & Sikkenga (2006)	Examination of the transition of K-12 teachers to teacher educators.	2 beginning teacher educators (English and social studies) in the U.S.	Qualitative: Hybrid of case study and self study	The teachers attempted to integrate their K-12 teaching experiences with their new roles as university-based teacher educators. New role identities of teacher educators conflicts to an extent with roles as K-12 teachers.
Ducharme & Ducharme (1996)	Examination of 8 years of survey data gathered from the RATE committee of AACTE related to teacher educators	Teacher educators in schools of education	Quantitative: Analysis of survey data	Only 15% of respondents generally identified themselves as teacher educator.

Grundy & Hatton (1995)	Examination of teacher educators' ideological discourses	8 teacher educators in Australia with a close focus on 3 of the teacher educators	Qualitative: Analysis of interviews and teaching observations.	Main ideological discourses were conservative and non-transformative. Teacher educators committed to critical constructivist epistemologies questioned the status quo, but there was unease with taking an anti-status quo position.
Harrison & McKeon (2008)	Examination of facilitators and barriers to professional learning of beginning teacher educators.	5 novice teacher educators in England.	Qualitative: Interview data	Barriers included trial and error learning, inappropriate induction courses, poor mentoring, and few opportunities for collaborative work. Facilitators included flexible induction programs, collaboration with colleagues, and previous academic work in higher education.

Loughran & Berry (2005)	Examination of teacher educators' explicit modeling of teaching concepts within a preservice teacher education course	2 veteran teacher educators in Australia	Qualitative: Self study data	Explicit modeling was found to take the form of four practices: professional critique, illustrating different teaching decisions, highlighting the differences between action and intent, and valuing collaboration and co-teaching.
Katz & Coleman (2001)	Examination of mentoring practices related to research and scholarship of faculty in schools of education	20 teacher educators in Israel	Qualitative: Observation and interview data	Faculty indicated motivations for research work included promotion, professional growth, impact, and legacy. Successful mentoring focused on identifying personal needs and included practical support. Effective mentoring resulted in positive impact on career development and socialization into academic life.

Klecka, Venditti, Donovan, & Short (2008)	Examination of teacher educators' use of standards-based e-portfolios in demonstrating professional identities.	14 teacher educators in the U.S.	Qualitative: Analysis of focus group interviews, e-portfolios, written reflections, and field notes	Five interrelated teacher identity areas were identified: Teacher, scholar in teaching, collaborator, learner, and leader. Participants indicated e-portfolios did not fully represent their professional identifies.
Koster & Dengerink (2008)	Examination of how Dutch teacher educator standards could be used for professional development reflecting the complex roles of teacher educators	15 teacher educators in the Netherlands (evaluation form) & 25 teacher educators (portfolios)	Quantitative: survey evaluation forms, portfolio evaluations	Teacher educators reported feedback was more meaningful than only self-assessment, least favorable standard assessments were checklists. Professional development was more useful than assessment. Teacher educators set complex professional goals and used a variety of professional development.

Martinez (2008)	Exploration of teacher educators' pathways in the profession and their professional development	The author and 6 novice teacher educators	Qualitative: self study and interviews	6 main challenges were identified in the transition from P-12 teacher to teacher educator: working with adult learners, increased autonomy, institutional structure and size of IHEs, work environments (including technology), modeling imperative, and research and promotion culture. The modeling imperative was the biggest challenge identified.
Murray & Male (2005)	Examination of challenges faced by new teacher educators	28 novice teacher educators in England	Qualitative interviews	Participants indicated difficulty in transitioning from K-12 teachers to teacher educators. Issues included solidifying a new professional identity and learning new professional knowledge.

Reynolds (1995)	Examination of professional self-esteem of teacher educators	255 teacher educators in the United States	Quantitative: Survey instrument	Participants reported verall positive esteem. Differences emerged based on program size. Faculty from larger institutions reported work in K-12 settings diminished their esteem on campus. Faculty from smaller colleges saw K-12 work as enhancing their esteem.
Ritter (2007)	Examination of the transition from teacher to teacher educator.	1 beginning social studies teacher educator in the United States	Qualitative: Self Study	The researcher explained that doctoral coursework, observing and working with student teachers, and personal reflection resulted in cognitive dissonance as he modified his professional identity and pedagogy as he moved from classroom teacher to teacher educator.

Sinkinson (1997)	Examination of transition from teacher to teacher educators	14 novice teacher educators in England	Quantitative: survey data	Participants reported positive transition from classroom teachers to teacher educators, but reported little transition support. Bggest challenges related to administrative and research roles.
Smith (2003)	Examination of teacher educators' professional knowledge from the perspectives of both teacher educators and novice teachers (recent graduates of teacher education programs).	40 novice teachers from Israel, 18 teacher educators from Israel and Sweden.	Quantitative: Analysis of survey and portfolio data.	There was overlap between perceptions of novice teachers and teacher educators regarding professional knowledge of teacher educators. Novice teachers focused more on practical knowledge such as modeling effective teaching practices. Teacher educators focused more on personality characteristics in working with preservice teachers.

Smith (2005)	Examination of teacher educators' professional knowledge as related to ATE and VELON teacher educator standards.	40 novice (1st year) teachers from Israel and 18 teacher educators from Israel and Sweden	Quantitative: Analysis of open-ended survey questions	Teachers and teacher educators valued subject matter expertise. Novice teachers valued practical knowledge more and teacher educators valued knowledge related to enhancing reflective practice. Five areas of difference between teachers and teacher educators emerged.
Swennen, Volman, & van Essen (2008)	Examination the transition from classroom teacher to teacher educators	2 teacher educators in the Netherlands	Qualitative: Biographical-narrative research. Data sources included interviews and document analysis	Teacher educators reported little institutional support when entering teacher education. Professional influence transitioned from knowledge of teachers within their classroom to greater influence over teacher education at their institutions and later in the national context.

Appendix B: Sample Survey Questions based on the Literature Review (prior to

qualitative interview validation)

Questions	Sources
Prerequisite skills: -Does your program require teaching experience as a prerequisite for admission?	It is assumed that if someone was an effective K-12 teacher, they can transition into the role of preparing teachers without any preparation (Zeichner; 2005; Korthagen, Loughran, & Lunenberg, 2005).

Coursework:
 	
-Does your program offer coursework and/or workshops specifically focusing on teacher education pedagogy and teacher education research?
 	
  • If so, please list the courses/workshops and course/workshop descriptions.
 	
  • Are these courses required of all doctoral students in the program?
	Teacher education is often seen as financial aid for doctoral students. The doctoral students often do not receive a great deal of preparation and continued support for this work (Tom, 1997; Zeichner, 2005).
	
	UWM course sequence in teacher education includes graduate level courses in supervision and mentoring teachers, preservice teacher education and teacher education policy issues, teacher professional development, action research, and reflective practice in teacher education. Most students at UWM, however, do not take advantage of these courses. (Zeichner, 2005).
	
	Ignorance of the teacher education literature can result in faculty who do not challenge their own teaching practices and do not benefit from what has been learned in the field (ex. Instructional strategies, etc.) and is inconsistent with scholarly norms of universities (Zeichner, 2005).

Do these courses provide expertise related to: • Research-based interventions for effectively teaching children with disabilities • Knowledge of teacher education pedagogy • Adult learning theories • Research skills for studying teacher education practice and policy in special education • Skills required for communicating with practitioners, policy makers, and researchers. • Technology in special education teacher education	Project RITE course descriptions for doctoral preparation in teacher education (Brownell & Sindelar, 2004) Preservice teachers often have difficulty transferring information learned in formal coursework to classroom scenarios. Through technologies such as video conferencing, extended field experiences can be created throughout the teacher preparation program (Israel, Knowlton, Griswold, & Rowland (manuscript in preparation).
Practicum supervision: -Does your program have opportunities for doctoral students to supervise student teachers? • If so, is does the program offer formal preparation for their supervisory roles? Please indicate all formal supports offered in preparation for supervising student teachers: • Seminars • Coursework • Frequent informal meetings • Meetings with cooperating teachers • Required readings	Teacher education is often seen as financial aid for doctoral students. The doctoral students often do not receive a great deal of preparation and continued support for this work (Tom, 1997; Zeichner, 2005). Preparation for teacher education requires immersion into teacher education including teaching courses, supervising practicum students, and being involved in self-study and other teacher education research as a means of improvement Zeichner (2005).

College teaching:
 	
Does your program offer college teaching experiences for doctoral students?
 	
If so:
    • Is college teaching a graduation requirement?
    • Are there well-defined student outcomes related to the college teaching experiences?
	Preparation for teacher education requires immersion into teacher education including teaching courses, supervising practicum students, and being involved in self-study and other teacher education research as a means of improvement. Zeichner (2005).

Policy:
 	
Does your program offer formalized experiences related to special education policy?
    • Required internships
    • Seminars
    • Resources
    • Required readings
    • Formal policy mentors (assigned by university faculty)
 	
Does your program offer informal experiences related to special education policy?
    • Invited speakers
    • Student-initiated "Hill visits"
    • Informal policy mentors (available to students interested in policy issues)
	Teacher educators work in an increasingly political environment (Sindelar & Rosenberg, 2000).

Teacher Education Research:
 	
Are students expected to engage in teacher education research? If so, is this research:
    • Faculty initiated?
    • Tied to teacher education coursework?
	Preparation for teacher education requires immersion into teacher education including teaching courses, supervising practicum students, and being involved in self-study and other teacher education research as a means of improvement (Zeichner; 2005).

Possibilities for improvement: What do you consider the critical content or subject matter of teacher educators' education? What are some ways that your program could improve the way in which it prepares future teacher educators?	Inquiry as a stance--question posed by Cochran-Smith (2003).