TIME WELL SPENT: THE NATIONAL SURVEY ON TIME USAGE IN CLINICAL EDUCATION

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This research identified current trends in clinical education within graduate level speech-language pathology programs. It addressed how clinical educators (CEs) conduct supervisory encounters. These encounters consist of time spent for teaching clinical skills to graduate student clinicians. Data were gathered via a national survey designed to glean information on how CEs to utilize supervisory encounters. Descriptive statistics were used to identify current trends of CEs working with first semester, first year graduate student clinicians across the U.S. A quantitative analysis was completed to identify similarities and differences of CEs based on years of experience and accreditation region. The results of this study indicated that CEs spent approximately one hour per student per week in supervisory encounters and address approximately the same number of topics. CEs serve under many different titles with "Supervisor" and "Educator" being the primary titles in use. No statistical differences were found in in the amount of time spend and how that time is spent in supervisory encounters across regions of accreditation. CEs reported that continuing education specific to clinical supervision/education is essential for CEs. Implications for higher education and the profession of SLP included: consideration of defining the title of CEs as a Clinical Education Facilitators to fully encompass the roles of both supervisor and educator; acknowledgement of the extensive amount of time used to provide training and teaching

through the use of supervisory encounters; and, the potential to develop a systematic program that would guide CEs through the supervisory process in an efficient manner.

Keywords: time spent in clinical education, clinical education, clinical supervision, clinical educator

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DEDICATION

Dedicated to:

The loves of my life;

Darin, Kerstin, and Ryan

In Honor of:

My parents;

Fran and Jim Hall

In Memory of:

Garret Ryan Lockhart

Helen Worstel

and

Sonia Katsadas

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CHAPTER I

INTRODUCTION

The History of Speech Language Pathology

The discipline of speech-language pathology (SLP) within the field of communication sciences and disorders (CSD) relies on both academic and clinical training at the graduate level to prepare new master's level graduates for successful careers in the U.S. (American Speech-Language-Hearing Association [ASHA], 2017a). While this is currently the case, it is not how the field began. The field of CSD, which includes SLP, has been in existence for hundreds of years in various forms. In the early days of CSD in the U.S., the late 1800s, there were no higher education programs specific to the field. Instead, inquisitive people from various professions who took a special interest in those who demonstrated difficulty in speech and language production began the work of the profession (Duchan, 2002). In 1925, the American Academy of Speech Correction was formed by individuals from fields such as rhetoric, debate, and theater with the desire to develop and maintain high educational standards in the newly formed discipline of speech correction. This would eventually be called Communication Sciences and Disorders (ASHA, 2017c; Duchan, 2002). As such, master's level programs for SLP were nonexistent and there was no regulatory agency for CSD at that time.

The end of World War II, in 1948, brought about two major changes in the U.S. that directly impacted SLP programs in higher education (O'Neill, 1987). The first was increased funding for higher education through the Serviceman's Readjustment Act of 1944 as well as funding specific to professions equipped to care for veterans in need of

care and rehabilitation, SLP, being one of them. The second was the return of veterans who were in desperate need of SLP services due to head injuries sustained in battle. Shortly thereafter, the 1960's brought forth new acts of Congress designed to fund educational opportunities for future professionals such as SLP, audiologists, and intervention specialists looking to serve students with special needs in primary and secondary educational settings (O'Neill, 1987). This drove the need to educate SLPs, then called speech correctionists, in a way that equipped them to meet the needs of the growing number of children and adolescents now recognized as having a variety of communication deficits through evaluation, diagnosis, and therapeutic intervention.

Many changes in CSD have occurred since the 1950s and 1960s: some of these changes include a broadening scope of practice for SLPs; future employers' expectations for new graduates to have increased entry level skills; and, increased standards required by the Council on Academic Accreditation in Audiology and SLP (CAA), the national accrediting body for SLP training programs (McAllister, 2005). Furthermore, McAllister (2005) reports two specific distinctions that directly impact the training of SLPs in higher education: a general lack of advancement in clinical training approaches (i.e., using a traditional model versus reflective model) and decreased funding to universities. Of primary concern and relevance to this study is the lack of change in clinical training approaches, as well as the decreased funding to clinical training facilities on university campuses due to declining State and Federal funding (Pew Foundation, 2015).

Currently, those who wish to practice as an SLP in the U.S. must complete master's degree in CSD that emphasizes both academic and clinical coursework relevant

to SLP (ASHA, 2017c). Although there is much written on the scholarship of teaching and learning in academic courses, little is known about how teaching in clinical settings affects the clinical education of SLP graduate students. Of specific concern to higher education is the dearth of empirical data related to those who provide clinical education in this field, specifically the clinical educators (CEs). This presents an interesting paradox as clinical education "is the cornerstone of graduate student learning" in CSD professions (Prezas & Edge, 2017, p. 1).

While new models of clinical education are emerging, many training programs continue to utilize a common model of training students within a university clinic in which new graduate students receive one-on-one clinical education, and then are transitioned to off-campus community-based sites to complete their training (Prezas & Edge, 2017). In this model, CEs are responsible for the foundational clinical learning of a small group of students. Teaching is provided in real-world clinical settings where the student is assigned clients, and the CE works with the student to ensure the student provides appropriate, direct patient/client care through evaluation and treatment to clients under the direct supervision of the CE. Subsequent teaching outside direct patient/client care is completed in one-to-one or small group supervisory encounters, or meetings, tailored by CEs to meet the specific needs of each student. This model of education is collaborative in nature and time intensive for both students and CEs.

While ASHA regulates the amount of time CEs must provide direct supervision to students when actively engaged with a client (i.e., no less than 25% direct supervision), currently there are no clear guidelines for the amount of time a CE should spend in

supervisory encounters to ensure adequate education is occurring (ASHA & Council of Academic Programs in Communication Sciences and Disorders [CAPCSD], 2017). Such encounters are important for teaching the skills needed to successfully manage the client's case, such as goal writing, deciding therapeutic interventions, writing reports, and developing strategies for behavior management. This becomes important when addressing how to maintain a labor-intensive training program in light of the continued decrease in higher education funding at the State and Federal levels in public as well as private institutions. In part due to the Great Recession of the early 2000s, there is an increased expectation that many clinics generate their own source of revenue, most likely due to the decreases in the aforementioned funding (McAllister, 2005).

Overview of the Dissertation

This dissertation was organized into five chapters and a reference list. The first chapter introduces the profession of SLP and the theoretical framework of the study as well as the purpose and significance of this study. The second chapter offers a review of the literature pertinent to clinical educators and clinical education in SLP in the U.S. and delineates the gaps in research surrounding the time spent by CEs to educate students within the clinical environment. The third chapter provides the methodology for this survey-based quantitative study. Results of this research are provided in chapter four. The concluding chapter, chapter five, is a discussion of the implications of this research for both the profession of SLP and higher education.

Theoretical Framework

Clinical education is the bridge from didactic, lecture-based academic learning to the preliminary stages of professional careers in SLP where minimal guidance is needed (Falender, 2014; Ho & Whitehill, 2009; Strohschein, Hagler, & May, 2002). There are two relevant theories that serve as the underpinnings for this proposed study. The first is andragogy. The second is the use of constructivism as a theory for knowledge acquisition. While Gordon-Pershey and Walden (2013) evaluated clinical education using andragogy and constructivism to address student experiences, none have used these theoretical frames to examine the role of CEs in SLP clinical training facilities. Both are foundational for developing a deeper understanding of the role of CEs within said programs.

Andragogy refers to the learning styles of adults (Baumgartner, Lee, Birden, & Flowers, 2003; Knowles, 1970, 1984; Taylor & Laros, 2014). Walden and Gordon-Pershey (2013), scholars in CSD, have suggested andragogy is a relevant lens for clinical education. They presented conceptual pillars of adult learning that find their origins in Knowles' first writings that are relevant to clinical education. Knowles's 1970 pillars of adult learning state that adult learners (a) move from dependency to self-direction, (b) bring past learning experiences to learning activities, (c) enter learning which is time-specific, (d) enter learning that is task specific, and (e) are more internally versus externally motivated.

Two of these pillars, moving from dependence to self-guidance and bringing past learning experiences to new learning tasks, are in direct alignment with the primary focus

of the clinical education aspects of SLP. The reality is that students must move from dependency to minimal guidance for degree attainment. They do this by carrying their past learning experiences from clinical observations, classroom education, and newly acquired clinical skills into each new clinical learning experience (Gordon-Pershey & Walden, 2013). Social constructivism is a theoretical frame for learning that takes into consideration the need of students to work collaboratively to move from dependency to self-guidance through the learning experience.

Social constructivism requires a shared context where new knowledge is socially co-constructed (Ensslen, 2013; Fosnot & Perry, 2005; Rismiyanto, Saleh, Mujiyanto, & Shofwan, 2017; Vygotsky, 1962). In clinical education, CEs guide students from dependency to minimal guidance by providing opportunities for them to practice and learn clinical skill sets in a controlled, real-world environment. Furthermore, the CE and the student engage in a collaborative education process outside of direct patient/client contact through discussion of the clinical setting. These encounters typically address student specific needs through providing client-specific feedback and student self-reflection. Clinical education is driven by the student's need to learn in a time sensitive setting, which aligns with the pillars of andragogy.

Statement of Problem

Clinical education is under-investigated, and little is known about the time spent in the clinical education of SLPs (Baldwin, Daugherty, & Ryan, 2010; Ho & Whitehill, 2009). Little research has been devoted to determining the most effective clinical training model or the efficient use of CEs in clinical training facilities (Fredrickson &

Moore, 2014). Current research largely addresses students' perception of clinical education and student perception of need (Allen, Szollos, & Williams, 1986; Ellis, 2001; Farnan et al., 2012). To date, there is no research in the discipline of SLP addressing CE's use of time in supervisory encounters with students outside of direct supervision of direct patient/client care within the clinical setting. Supervision of direct patient/client care hours is dictated by the national accrediting body, the CAA, and related to the direct hours students provide evaluation and treatment to clients (Taylor, White, Kaplan, & O'Rorke, 2012). Research across related medical and allied health fields with clinical training components suggests that a lack of time in supervisory encounters leads to poor student outcomes and potentially is detrimental care of the clients they serve (Baldwin et al., 2010). Yet, within these studies, there is no mention of how the time needed for supervisory encounters affects CEs in clinical training programs in terms of adequate staffing and CE to student ratios.

Statement of Purpose

Understanding the time spent between CEs and novice clinicians is imperative to shaping clinical education for the discipline of SLP. Furthermore, increasing the understanding of time CEs must spend with students in supervisory encounters will aid clinical training programs in ensuring adequate faculty to student ratios exist within the clinical training environment. Therefore, the intent of this study is to shed light on how much time is spent by CEs in face-to-face supervisory encounters with their students and how that time is utilized. Additionally, there is some debate about the possibility that novice and experienced CEs may approach the task of clinical instruction differently, at

least in other allied health professional training programs (Greenfield et al., 2014). As such, this study identified similarities and differences between novice and experienced CEs as well and offers a first-time quantitative analysis of the amount of time CEs in SLP training programs are spending in these encounters and how that time is being utilized.

The aforementioned was done by collecting data through a national survey of CEs working with novice clinical students in their first clinical training experience within on-campus clinical training facilities located at private and public higher education institutions across the U.S. CEs working with first-semester student clinicians were selected due to the fact that students in their first semester enter the clinical environment with little to no past experience in the clinical setting. As such, they are truly dependent on their CEs to build the knowledge and skills required for the profession.

Initial dependency is a key factor that supports the need for CEs and students to work together in a social context to construct knowledge. It also supports a constructivist approach. All first semester student clinicians need to learn approximately the same foundational proficiencies to gain success in their first clinical experience. These foundational skills include learning how to plan and organize a therapy session; developing clinical writing skills; and, learning how to manage client behaviors. Once the first semester is completed, students will enter their subsequent clinical learning experiences with varied levels of skill depending on the progress made in the first semester. In addition, student needs may be specific to meeting their clients' individual and unique needs as opposed to basic clinical skill acquisition.

This study used a national survey to collect data on CE's use of time. Quantitative measures identified the average amount of time CEs spend with students in supervisory encounters and how that time is spent. Additionally, this study compared practice patterns (i.e., how CEs used time to complete supervisory encounters) of CEs who identify as novice, emerging, or experienced through the use of an online survey format. Additional data on type of institution as well as additional programmatic variations that may be program specific were collected as these differences could impact the amount of time CEs spend with their student clinicians. Once the data set was collected, it was analyzed through descriptive statistics to identify trends in clinical education and correlational statistics in order to compare novice and experienced CEs as well as similarities and differences in CSD programs across higher education.

Research Questions

As previously stated and expanded upon in the review of literature to follow, there is a dearth of information regarding the time CEs spend in supervision, specifically regarding the amount of time spent in supervisory encounters and how that time is used. This study answered the following primary questions:

1. What are the current practice patterns (e.g., how much time is used for supervisory encounters and what is discussed in those encounters) of clinical educators in graduate level SLP programs in regard to time usage for supervisory encounters?
2. What are the attitudes and beliefs of CEs regarding the time allotted to complete supervisory encounters?

3. What do clinical educators perceive to be preferred practices for clinical education at the graduate level?
4. Are there differences between novice, emerging, and experienced clinical educators specific to the amount of time spent in supervisory encounters with graduate students in their first semester of clinical education?
5. Does variability exist across higher education in how clinical educators are engaging in supervisory encounters?

Statement of Significance

Over the past decades, decreased funding sources and increased productivity expectations in on-campus clinical training facilities have placed clinical education at risk of extinction (Ferguson, 2010). Such training facilities, common to traditional training models, are important to the education of new student clinicians as these environments provide the groundwork to developing foundational clinical skills (Geller, 2014). In addition, as funding dwindles across all of higher education, decisions on how to operate clinics and staff the necessary number of CEs to maintain adequate learning must be made by these programs. Findings from this research will assist the field of CSD in managing educational resources within training facilities by identifying the current trends regarding the use of supervisory encounters across the U.S. Specifically, the amount of time CEs spend with students in these labor-intensive encounters was identified. Furthermore, understanding what is discussed in supervisory encounters will aid in clarifying how that time is being spent. Such information is necessary to the preservation of clinical training facilities on university campuses. Deepening the understanding of this

aspect of clinical training will aid higher education administrators in appropriate staffing of clinics and in return, allow for policy development that encompasses the needs of such training centers. In addition, this seminal work establishes a baseline for further research on best practices in clinical education.

Definition of Terms

The following terms were used throughout this study and are defined by the researcher:

Clinical Educator—Also known as CE, this is the person whose role it is to train SLP students how to use the information gained in academic coursework in university clinical settings. In some settings the CEs are faculty; in others, they are administrative staff.

Direct Patient/Client Care—Services provided either in face-to-face or telepractice settings where the student is engaged in evaluation and or treatment of a client.

Direct Supervision of Clinical Performance—This is the CEs' time spent directly observing students engaged in service provision with a client as regulated by ASHA. Students must be directly supervised a minimum 25% of the time they are providing direct service

Emerging Clinical Educator—A CE who possesses between two and five years of clinical education experience

Experienced Clinical Educator—A CE who possesses five or more years of clinical education experience

Novice Clinical Educator—A CE who possesses less than two years of clinical education experience

Supervisory Encounter—This is the time CEs spend with individual students in face-to-face meetings used for direct teaching time. This time does not include direct supervision of clinical performance (i.e., patient/client care) or the time required to review students' written work. It is solely the time spent in meetings where students' progress and performance are discussed and skills are taught outside of direct patient/client care.

Assumptions

1. All possible participants were accessible by using the email address provided on university/college websites,
2. Participants honestly answer all survey questions to the best of their ability,
3. Participants provided accurate demographic information, and
4. Participants were representative of programs from across the U.S.

Limitations

The results of this study may be limited to those who choose to participate. Attempts were made to assure the maximum number of participants was obtained. It should be noted that research with regard to supervision is a challenging task for a variety of reasons. It is unethical to withhold supervision to trainees as a controlled condition preventing the manipulation of independent variables (Falender, 2014). In addition, clinical education is difficult to research due to the confines of each individual clinical

context, university system, and the variations across training settings (Ho & Whitehill, 2009).

Conclusion

Clinical education in SLP is under-researched. Specifically, no published research exists looking at the amount of time CEs spend with students outside of direct supervision, in CSD. Through this study, the body of knowledge on clinical education was expanded through participants' responses to the two main and four sub-questions posed by the researcher. Specifically, the results of this study offered a deeper understanding of time spent by CEs working in graduate programs in SLP.

CHAPTER II

REVIEW OF LITERATURE

> We [speech-language pathologists] are consumed
> by evidence-based practice when working with our clients,
> yet we have none for our own clinical education [process].
> -Amy Tepper, Ed.D. (personal correspondence, 2017)

For many allied health professions, including speech-language pathology (SLP), the pinnacle of the learning journey comes in the form of clinical education. It serves as a bridge from didactic learning to the early stages of professional careers where minimal guidance is a requirement (Falender, 2014; Ho & Whitehill, 2009; Strohschein et al., 2002). However, what constitutes clinical education and what demands are placed on clinical educators (CEs) to move students from didactic classroom learning to independent critical thinking and continued life-long learning in the clinical setting is not well understood. Experts in clinical education have stated that research regarding clinical supervision is difficult for many reasons, including the varied settings and many variables that may differ between learners (Falender, 2014; Ho & Whitehill, 2009). Despite this, additional research into the role of the CE and clinical education in general is needed (Emm & Cecconi, 2011; Ho & Whitehill, 2009; Lincoln & McCabe, 2005).

The following review of literature illustrates the complexities surrounding clinical education. It includes: an introduction to the topic of clinical education; a discussion of adult learning theories; and, an in-depth explanation of the clinical learning processes in SLP. The lack of research focusing on the amount of time required of CEs for quality clinical education is revealed through a review of current literature and served as the

impetus for this research. Through this research, higher education administrators will be better able to structure clinical training programs to meet the varied clinical learning needs of their students more effectively.

Brief Overview of Clinical Education

The supervisory process in clinical education is complex (Brasseur, McCrea, & Mendel, 2005).

> Clinical supervision is generally believed to be an essential component of clinical training, occurs weekly, and is where the rubber meets the road with opportunity for the supervisee to consolidate graduate learning, knowledge, skills, and attitudes and put it all into action as a professional (Falender, 2014, p 143).

Per Levendosky and Hopwood (2016), supervision should connect declarative knowledge to the clinical process. Critical learning occurs in clinical training settings where students gradually accept the professional role of clinical decision-maker under the direct guidance of a seasoned professional (Baldwin et al., 2010). Evidence-based, clinical, decision-making skills are learned within the genuine context of the clinical setting (Gillam & Gillam, 2008). This setting allows for the development of students' critical-thinking skills, problem-solving skills, and the ability to make evidence-based decisions (O'Sullivan, Peaper-Fillyaw, Plante, & Gottwald, 2014). Barnett (2014) cautions us to remember the role of CEs should not be taken lightly. Training programs are set in place to ensure transfer of skills from academic settings to the workplace (Abudi, 2010; Barnett, 2014; Geller, 2002; Hill, Davidson, McAllister, Wright, & Theodoros, 2014).

Many in the allied health professions such as SLP, physical therapy, clinical psychology, and occupational therapy, seek to understand the factors associated with effective clinical education via clinical supervision (Falender, 2014; Rieck, Callahan, & Watkins, 2015). In fact, a general description of supervision is not easily found and there are no current measurements specific to the impact of supervision across disciplines (Falender, 2014). Due to this deficit, there has been an increased focus on supervision and clinical education since the early 2000's (Emm & Cecconi, 2011). Still, few empirical studies exist in this area of research (Ho & Whitehill, 2009).

Research related to supervision is a challenging task for a variety of reasons. It is unethical to withhold supervision from trainees in a controlled experimental context, making the manipulation of independent variables difficult at best (Falender, 2014). In addition, clinical education is difficult to research due to the confines of each individual clinical context, university system, and variation across training settings (Ho & Whitehill, 2009). It would be negligent not to mention the copious number of additional variables as well, such as the specific skills that need to be learned, the attitudes of CEs and students, prior learning of students, motivations of both CE and student, learning theories ascribed to by CEs, and the amount of time and energy expended by CEs.

Irrespective of the multitudinous factors, the amount or duration of supervision provided to young clinicians and the intensity of supervisory support necessary to ensure successful clinical education outcomes remains unknown (Ho & Whitehill, 2009). In consideration of the amount of time needed for supervisory support, three key concepts should be kept in mind:

1. Students rely on CEs to teach them critical skills to be successful within the clinical learning setting (Vågstøl & Skøien, 2011);
2. The quality of supervision students receive impacts learning (Walden & Gordon-Pershey, 2013); and,
3. There exists a trend for undervaluing clinical education by those (i.e., administrators) within the university as well as workplace settings (Hakim et al., 2014; Lincoln & McCabe, 2005; McAllister, 2005).

In addition, current supervisors in the SLP community report a need for more opportunities to learn about supervision (Victor, 2010). As such, it is important to clearly identify all aspects of clinical education (specific to student education as well as supervision). Lincoln and McCabe (2005) call for universities to increase the importance of clinical education as both an academic need and a research area.

The Clinical Learning Experience

Learning within the clinical environment requires the student to acknowledge he or she is an adult learner, carrying with him or her a need to learn (Gordon-Pershey & Walden, 2013). It requires an advanced level of knowledge regarding SLP that encourages the use of lower level knowledge, such as memorized facts, to create a plan of action for the client being served (Anderson et al., 2001). Additionally, clinical learning requires students to engage with materials that are potentially difficult for individuals to comprehend. This comprehension of unfamiliar information is critical for the development of novel understanding, which must occur for new learning to take place (Mezirow, 2000). These are skills that cannot be solely developed in a classroom setting.

This type of learning requires a collaborative approach to clinical education in which seasoned professionals and novice student clinicians work together to build clinically relevant knowledge that is new for the student.

What is Clinical Education?

Clinical education encompasses a close interpersonal interaction between CEs and students (Ferguson, 2010; Geller, 2014). It is a "balance of support and challenge" to encourage clinical skill development (Rieck et al., 2015). This concept of providing needed supports along with appropriately challenging students to encourage individual growth and learning was first introduced by Sanford (1967) who suggested persons strive to return to equilibrium when faced with uncertainty. Clinical education aims to develop skills in reasoning, ethical decision-making, application of knowledge from coursework, and values in terms of professional needs (Barnett, 2014; Ferguson, 2010). Many times, students begin with a *black and white* thinking process, as if there were only one way to solve the problem at hand. During the course of clinical training, these students learn problem solving is dynamic and they become better able to acknowledge there are multiple answers for any given clinical situation (Geller, 2002). Students also learn professional, moral, and ethical values through clinical education (Ferguson, 2010).

Clinical education is a collaborative process where the student and the CE construct clinical knowledge (Geller, 2002; Rieck, et al., 2015). Interactions between CE and student are the strongest element in developing clinical expertise and forming a professional identity (Vågstøl & Skøien, 2011). Yet, little is written about the relationship between CE and student (Laitinen-Vääänänen, Talvitie, & Luuka, 2007;

Vågstøl & Skøien, 2011). Just how these skills are taught is not well understood (Fredrickson & Moore, 2014).

The American Speech-Language-Hearing Association (ASHA) Requirements for Supervision

ASHA is the governing body for SLP academic programs in the U.S. ASHA's accrediting board, the Council on Academic Accreditation in Audiology and SLP (CAA) establishes the requirements for graduate programs in terms of academic and clinical content (Taylor et al., 2012). ASHA requires that the amount of supervision be appropriate for the student's level of understanding, past and present experiences, and skill level (Brasseur et al., 2005; McCready & McNamara, 2016). Of primary note, ASHA recommends CEs should be collaborative, and both CE and student be able to acknowledge the critical nature of this piece of graduate education (Taylor et al., 2012). CEs must be well versed in the skills and knowledge required for graduate students to successfully complete an accredited program. It is interesting to know that little empirical data exists on how CEs teach the skills and knowledge needed by students (Fredrickson & Moore, 2014) (See Appendix F for the ASHA Knowledge and Skills Assessment).

ASHA Requirements for Direct Supervision of Student Clinicians

ASHA (2016) requires that all students obtain a minimum of 400 clock hours in the direct provision of diagnostic and therapeutic intervention services with clients. These hours must include 25 hours of observation of a licensed practitioner typically completed prior to hands-on training. The remaining 375 hours must be client contact hours, or time

spent working directly with clients, completed under the direct supervision of a licensed, clinically competent speech-language pathologist. Although various settings (i.e., hospitals and outpatient clinics) and payer sources (i.e., private health care insurances, Medicare, and Medicaid) may require more supervision, ASHA states the minimum supervision allowable is 25% of the 375 hours of the service being provided by a student clinician. One facet of this research is to highlight the absence of guidelines from ASHA specific to the amount of time deemed beneficial during supervisory encounters, and/or requirement of time spent beyond the direct supervision of student clinicians providing client services (i.e., time spent reviewing session content and written weekly notes). Consequently, guidelines related to the clinical and educational content of these supervisory encounters have yet to be developed and do not exist.

In the traditional model of university-based clinical training programs, the first portion of the required 400 client-contact, directly supervised, clock hours are typically completed within the campus-based clinic and/or off-site partner facility under the direct supervision of university clinical faculty (Prezas & Edge, 2017). Once students demonstrate clinical skills proficiency within the campus clinic under the guidance of university faculty, they are placed at, or are transitioned to, community-based provider sites with independent supervisors, or supervisors not directly employed by the university who are working in the field and who agree to assist in training graduate student clinicians as part of their service to the profession of SLP. These off-campus sites mirror the work load and expectations of real-world environments in which the students will find gainful employment.

Currently, there are no standardized measures to determine if students are ready for the transition from the university clinic placement to a community-based placement. This transition typically occurs at a specific time in the clinicians' education process and is determined by each accredited program for its specific needs. In addition to the required minimum number of hours approved and certified by the supervisor, student clinicians must demonstrate the skills and knowledge commensurate for minimally guided practice as established, outlined, and defined by ASHA (ASHA & CAA, 2017); however, a set determination of the amount of time required between CEs and student clinicians during supervisory encounters to effectively teach the skills and knowledge needed for this transition remains unknown.

Supervisor Requirements

Supervisors and supervisees are largely uninformed about the supervisory process (Ellis et al., 2013). In 2013, ASHA's Ad Hoc Committee on Supervision published a report titled *Knowledge, Skills, and Training Considerations for Individuals Serving as Supervisors* (ASHA, 2013). ASHA uses the term CEs to define those professionals who teach graduate students clinical skills (CAPCSD, 2013; ASHA, n.d.). ASHA states that CEs should have "knowledge of collaborative models of supervision, adult learning styles, teaching techniques, and the ability to define supervisor/supervisee roles and responsibilities appropriate to the setting" (ASHA, 2013, p. 6). In addition, CEs should have skills in "relationship development, communication, establishing and implementing goals, analysis, evaluation, clinical decisions, performance decisions, and research/evidence-based practice" (ASHA, 2013, pp. 6-8).

Historically, CEs rarely received training on how to teach clinic skills (Geller, 2014). In fact, most CEs are practicing clinicians who enter clinical education with no formal training on how to teach clinical skills (Geller, 2014). In light of this fact, more recently, ASHA's position on supervision includes the recommendation for all supervisors to complete a minimum of two hours of training specific to supervision every three years (McCready & McNamara, 2016).

Who is the Clinical Educator?

Clinical Educators (CEs) are the "gatekeepers of the professions" (Barnett, 2014, p. 1027). They are called by various, generally interchangeable names. Some names found in the literature to identify CEs are: instructors (Vågstøl & Skøien, 2011); educators (Vågstøl & Skøien, 2011); teachers (Fredrickson & Moore, 2014; Vågstøl & Skøien, 2011); supervisors (Fredrickson & Moore, 2014; Vågstøl & Skøien, 2011); preceptors (Fredrickson & Moore, 2014); role models (Fredrickson & Moore, 2014); and, coaches (Fredrickson & Moore, 2014). For the purposes of this study, clinical educator is the preferred term as it highlights the need for instruction versus mere supervision and is the accepted term used by ASHA to define persons providing clinical education to graduate students.

CEs have many responsibilities. In addition to holding a master's degree in SLP and maintaining ASHA certification, they are charged with "facilitating, evaluating, guiding, and motivating" students in a clinical environment (Vågstøl & Skøien, 2011, p. 72). CEs are viewed as role models (Fredrickson & Moore, 2014). They serve as guides to aid students in the development of the skills needed to become self-sufficient users of

clinical knowledge (Ho & Whitehill, 2009). They are responsible for interpreting complex therapeutic environments for students at their specific level of understanding which varies greatly from student to student based on individual student characteristics and the student's length of time in clinical training (Vågstøl & Skøien, 2011).

Supervisory Encounters

One distinctive component to higher education for health care professional programs is the direct patient/client contact hours spent in clinical learning away for classroom environments (McCallum, Mosher, Jacobson, Gallivan, & Giuffre, 2013). These hours are provided through the use of CEs. CEs must have adequate time to provide all the supports needed to allow students to build the multitudes of schema needed to be an independent professional (Austin, 2013). Supervisors must balance the needs of students with the needs of clients (Atkins, 2001; Falender, 2014; Geller, 2002). This triadic relationship between student, CE, and client is dynamic in nature and always occurs in clinical education (Geller, 2002).

Supervisory meetings or encounters are part of the clinical education process (Atkins, 2001; Baldwin et al., 2010; Ferguson, 2010; Fredrickson & Moore, 2014; Hill et al., 2014). The need for these encounters to occur on a weekly basis was rated as very important in a study of 21 graduate SLP students entering their second year of graduate school (Atkins, 2001). Clinical education begins within intense and collaborative relationships between CEs and their graduate students (Geller, 2002). Regularly scheduled supervisory encounters (face-to-face meetings) are standard procedure for many clinical training programs (Geller, 2002). They are used to aid the student in

integrating theoretical constructs learned in a classroom setting into the clinical process through CE guided problem-solving which begins with dependency and ends in minimal guidance (Geller, 2002). Supervisory encounters are important to allow students a specific time to think critically about the clinical experience through guided reflection and direct teaching (Geller, 2002; O'Sullivan et al., 2014). Clinical supervision is not typically completed in large group settings. Quite the contrary, clinical education is grounded in close, interpersonal relationships (Fredrickson & Moore, 2014).

The traditional training model in SLP is a 1:1 student to CE engagement that includes teaching and learning of foundational skills necessary to the field and begins with the first supervisory encounter (Geller, 2002; Hill et al., 2014; Sheepway, Lincoln, & Togher, 2011). This traditional model is a commonly used model in SLP across multiple countries including the U.S. and has been shown to be perceived to the best method of supervision by 45 international SLP educators (Sheepway et al., 2011). Under this model, the CEs provide observations, evaluations, and feedback to the student on his/her clinical skills in a 1:1 interaction (Hill et al., 2014).

Graduate student clinicians need supervisors who can spend significant time answering their questions and explaining or demonstrating clinical skills necessary to the profession (Ensslen, 2013). It is true that successful clinical education relies on the relationship between CE and student (Fredrickson & Moore, 2014). In one study completed in clinical psychology on student perception of supervision, correlation was found between the amount of time spent in supervisory encounters and what students perceived to be the 'best' and 'worst' clinical experience. Findings from the fore noted

study indicated an average of 123.6 minutes per week spent with a supervisor was deemed the "best" clinical training experience and an average of 93.1 minutes per week spent with the supervisor was deemed as the "worst" clinical experience (Allen et al., 1986). Because of the sheer lack of research, the same cannot be determined for SLP. There is a significant gap in knowledge for clinical education within communication sciences and disorders. Hence, the dire need to address this critical area, or component, of training within the profession of SLP is substantiated.

Austin (2013) suggests that when not enough time is spent in supervisory encounters, foundational knowledge cannot be constructed. Students are unable to develop an automated schema when they are guided only minimally through their first clinical learning experiences (Austin, 2013). The term *automated schema* refers to information that is stored into long-term memory according to how it is used—a sort of procedural knowledge (Austin, 2013). This lack of automated schema causes working memory to be perpetually overstressed (Austin, 2013).

According to Sweller, van Merrienboer, and Paas (1998), storage of information into long-term memory requires active construction. Having automated schema for tasks allows working memory to be more accessible during new learning (Austin, 2013; Sweller et al., 1998). This type of constructed learning requires time the CE and student to actively engage with each other. Again, current research does not reveal how much time is needed for this engagement.

Effective Clinical Education

Baldwin et al. (2010) and Ellis (2001) agree that supervisory encounters are a paramount moment for teaching new student clinicians (Ferguson, 2010, p 215). As such, educators of future speech-language pathologists must understand the differences between acceptable and unacceptable clinical education. Effective clinical education allows for supervisory encounters which lead students to develop skills so that their life-long learning become self-guided. This independence is needed to successfully navigate the real-world challenges they will face in clinical decision-making throughout their careers (Ferguson, 2010; O'Sullivan et al., 2014).

In essence, clinical education leads the student to develop self-evaluation skills as part of the clinical process (Ho & Whitehill, 2009; O'Sullivan et al., 2014). Adequate time in education leads to improved patient outcomes as well as student learning outcomes (Farnan et al., 2012). In a study of 19 graduate SLP students at the University of Hong Kong, Ho and Whitehill (2009) found 2.5 hours per week to be the average amount of time spent by CEs giving SLP students verbal feedback on their clinical skills; and, providing comments on written plans and reports. They found students who participated in increased time in face-to-face supervisory encounters versus those who practiced self-reflection and received written feedback on those reflections scored significantly better on a standard clinical skills and knowledge evaluation. This is the only study currently available that specifies an amount of time CEs spend in supervisory encounters. In addition, good clinical education allows the needs of individual students to drive the style of supervision provided (Brasseur et al., 2005; Hart et al., 2008). In

effective clinical education, CEs adjust the amount and type of supervision give to students based on individual student needs (Hart et al., 2008).

Ineffective Clinical Education

If there is effective clinical education, then there is also ineffective clinical education. The lack of effective clinical supervision has been associated with risk to clients/patients and is a detriment to student learning in SLP, as well as other professions (Baldwin et al., 2010; Ellis et al., 2013; Farnan et al., 2012). Ineffective supervision increases stress, errors, and unethical behavior in students (Baldwin et al., 2010). Ellis et al. (2013) go further in their study of 34 CEs in clinical psychology and state that supervisors who do not meet with their students for a minimum of one hour per week were found to be providing inadequate supervision as demonstrated in part by failure to provide fair, ongoing, and equitable feedback to supervisees (Ellis et al., 2013).

Encompassed in the notion of ineffective clinical supervision are the concepts of inadequate supervision and negative supervisory encounters. Inadequate supervision is defined as a "supervisor's failure to provide the minimal level of supervisory care as established by his or her discipline or profession, by law" (Ellis et al., 2013, p. 420). Inadequate supervision leads to less learning (Baldwin et al., 2010). In addition, there is a correlation to less time in supervisory encounters and students' negative rating of clinical learning experiences (Baldwin et al., 2010; Ellis, 2001). Negative supervisory encounters speak to a whole host of issues. One of those issues is related to CE's use of time. Specifically, a meta-analysis of 52 studies by Allen et al. (1986) revealed students viewed CEs negatively when CEs cancelled meetings, as opposed to CEs who protected

the time allotted to supervision. It is unfortunate that none of these studies directly states how much time CEs should spend with students in supervisory encounters. Additionally, ineffective supervision violates the ethical principle of 'do no harm' a principle speech-language pathologists operate under when providing clinical services to clients (Ellis, 2001; Farnan et al., 2012).

The Novice Learner

Novice clinical learners require direct evaluation and feedback at each stage of the clinical education process to understand the complexities of the therapy environment (O'Sullivan et al., 2014). This takes more time for beginning student clinicians than those ready to enter the workforce. It is essential to the success of the novice learner to have a CE who minimizes extraneous cognitive load by reducing the hidden curriculum of how to be a professional (i.e., discussing use of professional jargon or professional dress). CEs should simplify tasks by providing clear procedural instructions for task completion to move a student from low to high independent ability (i.e., increasing the stakes at a reasonable rate to promote moving from a dependent state to minimal guidance; Austin, 2013; Sweller et al., 1998).

According to Gillam and Gillam (2008), first-year, first-semester student clinicians have greater clinical learning needs than do seasoned clinicians. These authors shared the following: To effectively meet novice clinicians' needs, CEs must engage students in supervisory encounters are often more time consuming than didactic teaching. As related to therapeutic intervention, new students need to be taught how to formulate background questions to guide their thinking to a broader topic, while also utilizing

foreground questions to aid in narrowing down a topic to a specific piece of information. The type of question a CE may use is student specific and based on the student's prior knowledge and experience. In new graduate student clinicians, this process is time consuming because they have a genuine lack of knowledge of the disorders they are treating (Gillam & Gillam, 2008).

Often, new student clinicians are unaware of what they do not know (Hart et al., 2008). For example, students may not know that there is a wealth of resources available online to help them plan for therapy. This lack of knowing what one does not know, while thinking they are knowledgeable is known as the Dunn-Kruger Effect (Kruger & Dunning, 1999). In order to mitigate these barriers to learning, Gillam and Gillam (2008) suggest students should be walked through how to access information on therapy at sites like ASHA.org (2017b) and *What Works Clearinghouse*. Students need to be taught this skill because they lack the understanding of how to formulate good questions that lead to deeper topical searches (Gillam & Gillam, 2008). To guide students in this type of thinking, CEs should understand adult learning, which will be discussed next.

Ways of Learning

In the field of CSD, adult learners complete a clinical, graduate-level education: those who are generally 22 years of age or older; are learning at a master's degree level; and, have a distinct need to learn. Whereas, a bachelor's level education in the field of CSD is often completed traditionally by adolescent/young adult learners: those who are less than 22 years of age; are learning at a foundational level; and, possess a desire to learn in order to merit entry into a graduate level program. In SLP, the adult student's

distinct need to learn is directly related to the professional skill set required to be a licensed and credentialed professional. This varies vastly from the traditional college student in CSD entering higher education in that foundational learning is a means to the end of procuring an advanced degree. As such, it is pertinent to this discussion to address the several models of adult learning.

Knowles' Assumptions of Adult Learning

Knowles believed that adult learning should be focused on learners' interests and needs (Knowles, 1984). He proposed that the best learning opportunities were cooperative in nature and guided by the educator (Knowles, 1984). In the writings of Knowles (1984), five assumptions about adult learners were defined.

Gordon-Pershey and Walden (2013, p. 18), researchers in the field of SLP, redefined Knowles' five pillars of adult learning within the context of graduate education in the field of SLP into six pillars as follows. Adults (a) are self-directed in their learning, (b) enter a learning situation with vast and varied past experiences, (c) require some impetus to trigger a *need to know*, (d) approach learning with a task-centered point of reference, (e) have a motivation to learn that is both intrinsic and extrinsic, and (f) require an understanding of why they should learn something.

These pillars complement constructivist learning in that adults arrive to the learning task with a foundation of knowledge from varied past experiences. It should be noted, that in this approach, learners still require some extrinsic motivation. They should be motivated by their client's needs in addition to CE's critiques of their work and subsequent grades that demonstrate skill acquisition. Additionally, adults require a need

to know to trigger learning. That need to know emerges as the CE provides feedback that illuminates the areas within clinical work that are in deficit. A constructivist approach to teaching and learning encourages collaboration between CE and student to develop skills and knowledge acquisition.

Constructivist Learning Theory

Constructivist theory has two primary founders, Jean Piaget, cognitive constructivism, and Lev Vygotsky, social constructivism (Fosnot & Perry, 2005). Constructivist learning theory rejects the notion that learners are mere vessels to be passively filled with knowledge (Bergman et al., 2014). Piaget (1971) believed that the state of *equilibration*, allows for individual to assimilate and accommodate incoming information, yielding cognitive growth (Bergman et al., 2014; Ensslen, 2013; Fosnot & Perry, 2005). When an individual is out of equilibrium, the cognitive system is perturbed. This perturbation causes the learner to assimilate and accommodate new information through reflective abstraction (Baumgartner et al., 2003; Fosnot & Perry, 2005). This allows for changes in thought as the person must determine how to incorporate the new information into already-established schemas (Fosnot & Perry, 2005). Fosnot and Perry (2005) eloquently summarize cognitive equilibrium as "a nonlinear, dynamic 'dance' of progressive equilibria, adaptation and organization, growth and change" (p. 18). During cognitive growth, contradictions to current understanding arise. These contradictions cause disequilibrium and the need for *re-equilibria* (Fosnot & Perry, 2005). These contradictions may be due to the introduction of information that contradicts current knowledge or may illuminate that prior knowledge is no longer sufficient. Still, one will

attempt through self-organizing behaviors to find similarities between old and new knowledge, and only after that begin to reorganize one's knowledge (Fosnot & Perry, 2005).

Vygotsky's (1962) work focused on the social dynamics at play in learning. His notion of the *zone of proximal development* (ZPD) suggests that new knowledge is co-constructed within a social environment and within the context of guided learning. The ZPD is defined as the difference between what a learner can achieve on his/her own versus what can be learned with guidance and support from a teacher and/or mentor (McLeod, 2014). Guidance occurs as the student recognizes the need for assistance to learn additional information. In the zone of proximal development, new meaning is constructed from known schemas. Learning occurs through engaging in collaborative dialogue with a competent tutor, for example, a skilled CE (Vygotsky, 1978). Vygotsky also suggests that difficult and critical instruction be provided within the zone of proximal development (McLeod, 2014).

In constructivist learning, there is a reciprocal relationship between individuals and their environment (Ensslen, 2013), and learning is achieved by integration and adaptation of new information (Baumgartner et al., 2003). There must already be a foundation of knowledge present for this type of learning. In clinical education, academic coursework obtained throughout undergraduate and graduate programming is the foundation for students' first clinical learning experiences. These first clinical experiences then become the foundation for future, more complex clinical learning. In the constructivist model, students must be given opportunities to develop critical thinking

through discussion and analysis of new material (Baumgartner et al., 2003). This takes the time and effort of both teacher and student to fully develop the learning paradigm through a shared context. And, as aforementioned, a deep understanding of the amount of time needed by the CE to educate students has not been well researched and is not well understood.

Transformative Learning Theory

The final theory to be discussed here is transformative learning. It is based on the notion that learning is two-fold: instrumental and communicative (Mezirow, 1981). Instrumental learning involves problem-solving, and communicative learning involves understanding the intent of what is said. Both problem-solving and understanding intent are essential for transformation (i.e. learning) to occur (Baumgartner et al., 2003). Mezirow (1981) began the discussion on transformative learning theory as an adult learning theory by positing adult learners reflect on prior assumptions about the world to develop new views on the world around them (Baumgartner et al., 2003). According to Mezirow (2000), there are ten steps an adult traverses for transformation. These steps begin with experiencing a perplexing situation and end with integration of new knowledge into who he or she is.

This model is relevant to clinical learning as demonstrated by multiple writings on transformative learning in health care professions (Barnett, 2014; Baumgartner et al., 2003; Mezirow, 1997; Plack, 2008). As with the models of Knowles, Piaget, and Vygotsky, Mezirow's model takes a considerable amount of time to implement. It becomes clear that constructing knowledge is a time-consuming task for CEs, especially

when taking into consideration CEs must repeat this process with multiple students and for each client each student works with. To date, there have been no studies completed looking at just how much time CEs spend with students, let alone if any one model of teaching allows CEs to be more time efficient in supervisory encounters with students.

Models of Clinical Supervision

Varied models of clinical training exist, but there is no empirical data present to say one is better than another (Sheepway et al., 2011). The current belief of those serving as CEs in higher education settings is that the needs of individual students should drive the style of supervision provided (Brasseur et al., 2005; Geller & Foley, 2009; Sheepway et al., 2011). Geller and Foley (2014) suggested that four types of clinical supervision models exist in various allied health professions, each with distinct levels of focus on the supervisory encounter. The traditional medical model or administrative model defines a situation where the student is assessed through performance review. Here there is no focus on relationship. The reflective/relationship model relies on a two-way exchange of information and relationship is key for development. The traditional mental health model looks for deeper understanding of internal states including the dynamic and relational interactions between people. The mindfulness model stresses the ability to tolerate the *not knowing*. It encourages learners to maintain presence during discomfort and compassion for self and others in those moments. It takes time to develop an environment that allows for reflective interactions because the reflective process always opens new opportunities to explore new concepts, thoughts, and attitudes (Geller & Foley, 2014).

Cognitive Load Theory

Cognitive load theory is theory of learning which states that for learning to occur, new information must be processed within the working memory where it is organized into schemas and ends with storage of that new information in long-term memory (Austin, 2013; Chandler & Sweller, 1991; Sweller, 1988). Sweller (1988) identified two types of cognitive load: intrinsic and extraneous. Intrinsic is critical for learning while extraneous is non-essential and can deter the learning process. To aid the learner, it is important to provide supports that decrease extraneous load and promote the learner's intrinsic abilities for new learning. These supports are scaffolded, or gradually layered, into the learning process as needed to move the student toward being a knowledgeable and minimally guided clinician (Austin, 2013). This minimal guidance is an essential component to constructivism. Scaffolding is imperative to the development of more advanced skills (Austin, 2013). This framework for learning is evidenced in Bloom's Taxonomy (Anderson et al., 2001). Clinical education is well-suited to this learning structure (Leppink & Van den Heuvel, 2015).

One specific model of cognitive load theory used in SLP training is Anderson's Continuum Model of Supervision. This model is structured to lead learners from dependency to self-supervision and independence in the students' ability to problem solve and think critically about the services they are providing to their clients (Brasseur et al., 2005; O'Sullivan et al., 2014). Brasseur et al. (2005) recommends the use of Anderson's five phases of supervision. They are as follows:

1. Understanding: previous experience, academic preparation, self-assessment, needs/expectations of student and supervisor;
2. Planning: development of goals for the student and supervisor so there is systematic addressing of goals;
3. Observing: objective data is collected on skills and knowledge of student/s
4. Analyzing: use of observations to draw conclusions about the therapy event observed; and,
5. Integrating/Renewing Planning: revising and beginning the process again.

This systematic method of supervision urges CE and student toward purposeful communication through the use of the data collected in regard to supervisory goals (Brasseur et al., 2005). The resultant new knowledge leads the dyad back to Phase I and the process continues. Anderson's model can be reduced to three stages: evaluation-feedback, transition, and self-supervision (Geller, 2014; O'Sullivan et al., 2014). Using this model, time in weekly supervisory encounters includes review of client goals, review of data collected, discussions on the effectiveness of intervention, and determining the needs for goal modification. It also includes identifying strengths, areas of growth, and weaknesses in student performance as well as how these connect to the client's progress (O'Sullivan et al., 2014). This is done by systematically moving through the various phases.

Reflective Supervision Model

Geller and Foley (2014) share that a reflective supervision model allows the clinical process to be viewed from many different vantage points and encourages best

clinical practices. It hinges on a safe space and compassion that allows for enough time for students to learn (Geller, 2014). This requires time to build a *working alliance* where the supervisory dyad can develop a shared understanding of goals and tasks as well as develop trust and respect for each other (Geller & Foley, 2014; Rieck et al., 2015). Students must get to the reflective state of learning to reach the top tier of Bloom's taxonomy. Simply remembering and understanding are not enough for fully developed, critical, clinical thinking abilities (Walden & Gordon-Pershey, 2013). This requires an important shared social context which students may learn through observation and imitation (Ensslen, 2013).

Kolb's Experiential Learning

Kolb's experiential learning model is well-suited for discussions around learning in discipline-specific academics. Not only is the student to learn about the skills and knowledge of a field, but he or she also must become socialized to the tacit knowledge of their prospective field (Evans, Forney, Guido, Patton, & Renn, 2010; Kolb & Fry, 1981). This concept of experiential learning is rooted in constructivist learning. It requires that learning occur through shared experiences between the CE and student (Geller & Foley, 2014). In Kolb's concept of experiential learning, learning occurs through experiences, and knowledge is constructed and built upon the learner's prior knowledge (Geller & Foley, 2014). This is important for novice clinic learners who do not have a foundation yet. As a student enters the clinical environment, it is imperative that enough time and caring be dedicated to helping him or her establish the foundation that all clinical learning will be built upon. In constructivist theory, the CE is a facilitator who comes alongside

the student to construct his or her knowledge by working through real-world problems that present in the clinic (Geller, 2002, 2014; Vågstøl & Skøien, 2011).

Current State of Affairs in Clinical Education

As noted, the current state of affairs in clinical education has been under-researched. Clinical education is extremely time consuming (Gillam & Gillam, 2008; Gordon-Pershey & Walden, 2013). CE requires multiple educators dedicated to training novice students how to develop and use a skill set they will access for the remainder of their careers.

Time

In a recent meta-analysis of clinical education and allied health fields, there was no reported, agreed-upon way to supervise, and no unilateral support for specific content to be covered in the clinical supervisory encounter (Pearce, Phillips, Dawson, & Leggat, 2013). Unfortunately, "growing financial and resource constraints [are] beginning to be experienced by many universities" and this has a direct effect on clinical training programs (McAllister, 2005, p. 143). As such, in a review of current issues in SLP training programs, McAllister (2005) reported CEs believe that decreasing staff-to-student ratios may affect the quality of education students receive. Ferguson (2010) furthers this notion stating that individual supervisory encounters may no longer be practical due to changing productivity requirements of CEs. There is a noted push to increase productivity through increased workloads across settings (e.g., schools, hospitals, clinics) due to changes in funding and available resources. This includes increasing both the number of students and the number of clients served by CEs. In

addition, increased stressors of CEs in workplace settings outside of university clinics (e.g., hospital therapists serving as CEs in a dual capacity) have been related to clinical education in off-campus placements being devalued (Lincoln & McCabe, 2005).

Missing Time

A recent study at Valdosta State University revealed direct teaching time by CEs has dropped from 73% to 53% of their overall time spent working due to increased responsibilities of the CEs in training clinics (Livingston et al., 2011). Some CEs have posed the notion of using group conferencing as a means to potentially have more time within supervisory encounters (Ferguson, 2010; Sheepway et al., 2011). However, in the higher education setting, group conferencing becomes problematic as it has been argued that it could potentially interfere with students' rights to privacy when critique of individual students' skills may be involved (Ferguson, 2010). Those rights are protected by the Family Education Rights and Privacy Act of 1974 (Family Educational Rights and Privacy Act of 1974 – FERPA, 20 U.S.C. § 1232g, 1974). In addition, in an international study of clinical education in SLP across seven countries and 45 institutions of higher education, Sheepway et al. (2011) identified students' preference for one-to-one supervision over group learning.

Additionally, two ancillary factors may impact time spent in supervisory encounters: institution type and region of accreditation. A review of current literature did not reveal any research on how institution type based on the Carnegie Classification system or region of accreditation as defined by the Council of Regional Accrediting Commission (2018) impacts how CEs provide supervisory encounters.

Conclusion

While much is understood in regard to adult learning theory, missing from the literature is how much time it takes to train students to become competent clinicians through clinical education. Despite the many professions anchored in clinical skills and services, there is a dearth of research available to define good clinical education. The fields of clinical psychology, medicine, nursing and more closely related fields of physical, occupational, and music therapy were investigated through literature review to illuminate the current truths about clinical education. One fact brings to light a very real and concerning concept. Ferguson (2010) shared that individual supervisory conferencing may be at risk for elimination due to changes in service delivery (Ferguson, 2010). At this time, further research is needed to understand the time spent in these conferences (i.e., supervisory encounters).

There is a clear difference between the learning styles needed in academic and clinical learning as noted by the fact that clinical education operates under different rules of student engagement than those common to didactic classroom lectures (Vågstøl & Skøien, 2011). In addition, clinical supervision is essential in developing professional competencies (ASHA, 2016; Barnett, 2014; Vågstøl & Skøien, 2011). What is not clear is an understanding of the time and effort CEs put into their students to make the needed clinical learning gains the students required to become minimally guided professionals post-graduation. It is clear that time in supervisory encounters is an important aspect to clinical education. However, there are no current guidelines for the amount of time CEs must spend in supervisory encounters (Ensslen, 2013). All of the positive qualities

identified as necessary for supervision as noted above, take time but there is no indication of how much time is needed to build a healthy and beneficial supervisory encounter.

Because very little empirical data exists regarding supervision in medical fields (Baldwin et al., 2010; Farnan et al., 2012), more research on the supervisory process is needed to aid in the construction of "comprehensive teaching curricula" for clinical education (Allen et al., 1986, p. 98). Ellis (2001) lists several key research recommendations for clinical psychology that easily speak to the needs in the SLP profession as well:

1. the need to further define the context that is associated with harmful and/or bad supervision;
2. the need to define what constitutes good and effective supervisory practice (Ellis, 2001; Falender, 2014); and
3. the need to establish guidelines for clinical supervision, which will be guided by the research completed in this dissertation.

Ellis et al. (2013) additionally recommend a cross-disciplinary definition of minimally adequate clinical supervision be developed.

Finding the answers to the identified research questions will assist programs, colleges, and universities to compare their current process to national data. It could help to determine if programs are over- or under- staffed to meet student needs. It may illuminate more questions that need to be asked about supervision on college campuses. This research may aid graduate SLP programs to identify time spent in student to client to CE ratios (i.e., the clinical triad) within their programs that would optimize teaching time.

This time may and should vary according to student aptitude and client needs as well as the needs of individual SLP programs. Many of the articles and books available on the topic of supervision discuss theories for educating in the clinical environment but none address what is current practice in terms of how much time is being spent, how that time is being spent, and what is truly discussed during supervisory encounters away from direct supervision. Collecting this national data will assist the field in beginning to fine tune terminology and in allowing colleges and universities to analyze and compare their programs against the national average.

CHAPTER III

METHODOLOGY

Chapter 3 provides a description of survey research, review of the research questions, definition of terms and variables, participants and sampling procedures, and instrumentation for this web-based survey. Additionally, the data analysis procedure, reliability and validity, ethics of research, and potential limitations were discussed.

The purpose of this descriptive, survey research was to add to the body of knowledge on clinical education practices in SLP by identifying current trends regarding the use of time in clinical education to further communication sciences and disorders (CSD) professionals' understanding of perceived preferred practices across higher education in the U.S. in the provision of clinical education. Specifically, this study revealed the duration of time spent by clinical educators (CEs) with their students in supervisory encounters beyond direct supervision as well as utilization of that time. Additionally, this study revealed if there were differences between novice and experienced CEs specific to the manner in which they address supervisory encounter time. Currently, there is no published research describing the supervisory encounters of CEs. Therefore, a descriptive survey was proposed to be the best method for collecting the necessary data.

Research Questions and Hypotheses

Solid research foundations grow from clear research objectives that guide and form research questions (De Leeuw, Hox, & Dillman, 2008). The questions for this research were developed for the objective of defining current practices in the clinical

education of first-time graduate student clinicians as perceived by CEs. A detailed description of each data analysis procedure follows in the Data Analysis portion of this chapter. The two preliminary questions were as follows:

1. What are the current practice patterns (e.g., verbal feedback, formal feedback, formal & personal feedback) of clinical educators in graduate level SLP programs?
   - It was expected that there would be a large amount of variability in practice patterns – which could suggest there is no standard for clinical education, implying there are no ASHA standards for time spent in supervisory encounters.
   - Analysis Type: Descriptive analysis
2. What do clinical educators perceive to be best practices for clinical education at the graduate level?
   - Again, variability in perceptions of best practice was anticipated because there may be no standard for practice patterns, which would substantiate the need to define and develop a standard training program
   - Analysis Type: Descriptive Analysis

Additionally, several primary questions were explored.

Primary Question 1

Are there differences between novice, emerging, and experienced clinical educators in the amount of time spent in supervisory encounters with graduate students in their first semester of clinical education?

- Analysis Type: Between-Subjects ANOVA:

Hypothesis Ha: No significant difference was expected between Novice and Emerging, and Emerging and Expert clinicians, because emerging is a transitional phase meaning they are not quite novice and not quite experienced. There will be significant difference between Novice and Expert CEs.

Primary Question 2

Are there differences between Novice, Emerging, and Expert clinical educators in how time in supervisory encounters is spent with graduate students in their first semester of clinical education?

- Analysis: MANOVA

Hypothesis H_a: There will be similarities among everyone, but Expert clinical educators may address fewer topics.

Between Subjects ANOVA: If no differences in MANOVA, then the data would be transformed to proportions reflecting the frequency of topics covered per supervisory encounter per level of experience.

Hypothesis H_a: Novice CEs will have a higher proportion of number of topics covered because new CEs may not understand that not every topic is appropriate for every individual learning need.

Primary Question 3

What variability in time spent with students is predicted by the clinical instructors' region (based on the Council of Regional Accrediting Commission (CRAC)

(2018) location), Institution Level (based on the Carnegie classification), and how time is spent (proportion of tasks selected)?

- Analysis Type: Multivariate Regression

    Hypothesis H_a: All predictors should significantly predict the amount of time spent. But, research institution level will be the strongest predictor (highest semi-partial), accounting for more variance in time spent than region and how time is spent. Then, how time is spent should be the second strongest predictor, accounting for more variance in time spent than the region.

Type of Higher Education Institution

Although all CSD programs are designed to develop skills of student clinicians, some programs place an important level of importance on research, while others stress the value of developing future SLPs. As such, time constraints for teaching clinical skills through supervisory encounters may vary based on the emphasis each university places on teaching, service, and scholarship. This is likely reflected to some degree by the universities' classification. According to the *Basic Classification of Higher Education Institutions*, based on the Carnegie Classification System, six different types of higher education institutions exist (The Carnegie Classification of Institutions of Higher Education, 2017). See Table 1 for classifications.

Table 1

Basic Classification System for Programs Which May Grant Master's Degrees in SLP

Classification	Highest Level of Degree Granted	Research or Degree Granting Productivity
R1	Doctoral Universities	Highest research activity
R2	Doctoral Universities	Higher research activity
R3	Doctoral Universities	Moderate research activity
M1	Master's Colleges and Universities	Larger programs
M2	Master's Colleges and Universities	Medium programs
M3	Master's Colleges and Universities	Smaller programs

Regions of Accreditation

The CRAC is a collective of seven regional organizations, dedicated to assuring continued quality and improvement in institutions of higher education (CRAC, 2018). Six of these are specific to institutions that may grant master's level degrees. These six include: The New England Association of Schools and Colleges; Higher Learning Commission; Middle States Commission on Higher Education; Northwest Commission on Colleges and Universities; Southern Association of Colleges and Schools Commission on Colleges; and, Western Association of Schools and College Senior College and University Commission. Each region is home to multiple colleges and universities that offer graduate degrees in SLP.

Ethics

Student researchers must be mindful of the ethical processes that are in place at their higher education institution (Drake, 2010). Protection of human subjects is a requirement of good research (Creswell, 2014). It is also a legal requirement for all

institutions, which receive U.S. government funding according to the *Protection of Human Subjects section of the Code of Federal Regulations*, Title 45, Part 46.103 (U.S. Department of Health and Human Services. (2009). This research underwent Kent State University's Institutional Review Board's (IRB) review process prior to the researcher's subject identification and data collection.

Qualtrics is a web-based survey platform, which allows for the anonymous collection of survey responses (Qualtrics, n.d.). The identities of all participants who completed the survey were kept confidential and all responses were made anonymous as data were aggregated. Once all data were collected, any identifiers such as IP addresses, which may be present in Qualtrics, were removed from the data set. All data were stored on an encrypted hard drive and/or removable storage drive when electronic. Additionally, participants' full names were not recorded; only email addresses of those wishing to take part in the monetary incentive were saved. Once the incentive drawing was completed and incentives emailed to recipients, those data points were also removed from the data set. All CEs signified informed consent to take part by pressing "submit/next" at the end of the informed consent document.

There was minimal risk to participants regarding potential harm. The potential for slight discomfort related to the time it takes to complete the survey may have existed for some participants. Additionally, participants may have experienced unease if reporting information they felt may affect job security should their program superiors become aware of individuals' responses. Participants who experience increased

discomfort secondary to time requirements or sensitivity related to questions were able to voluntarily withdraw from the study.

Instrumentation

The National Survey on Time Usage in Clinical Education is an original survey specifically developed for this study using Qualtrics Survey Software. Refer to Appendix A for the survey. Qualtrics was chosen as data are easily transferrable to Statistical Package for the Social Sciences (SPSS) for analysis. The aim of this research was to collect data relevant to deepening the understanding of the role of CEs in graduate SLP programs across the U.S. The survey consisted of 18 questions of diverse types allowing for the collection of demographic and non-demographic information related to the use of time in supervisory encounters with first semester, graduate-level, clinical students. This included all time outside of the direct supervision required by ASHA and not related to review of written work (i.e., weekly progress notes, plans, and reports). Supervisory encounters may include a range of formats, from a few minutes immediately following a student's session to formal meeting time. The survey questions developed and posed referred directly back to the stated research questions as recommended (Creswell, 2014; Dillman, Smyth, & Christian, 2014; Patten, 2001). Refer to Appendix B for a complete summary of variables, related research questions, and survey items.

Communication is a critical component to survey research. As such, best practices were followed in the development of the survey questions. How respondents may answer questions should be considered. Therefore, Grice's maxims for communication were considered when creating the survey questions. Grice's maxims

follow the cooperative principle and propose four maxims for communication (Grice, 1975; Schwarz et al., 2000). These four maxims operate with the assumption that participants will provide answers that are relevant to the question (maxim of relation); provide the right amount of information (maxim of quantity); be clear in their response (maxim of manner); and, be truthful in their response (maxim of quality). The survey used in this research was designed in a way to encourage participants to provide relevant information in the right amount in a clear and truthful way by utilizing multiple-choice questions and asking for specific information when allowing for answers to open-ended questions. A well-designed questionnaire reduces the risk of measurement error (De Leeuw et al., 2008). As such, it was important to create survey questions participants could easily comprehend; and, ask for information that was easily accessible from their memories (Patten, 2001; Schwarz et al., 2000).

Patten (2001) offers 14 guidelines for writing survey questions to aid in clarity. Dillman et al. (2014) also share a list of guidelines for creating good survey questions. Based on recommendations from these authors, this questionnaire attempted to ensure each question was time-referenced, asked only one question, and provided response options that were mutually exclusive. In addition, questions were organized in such a way as to encourage ease of response and decrease risk of habituation of response choice by altering question formats throughout the questionnaire. Patten (2001) adds that for collecting demographic information, researchers should only collect that which is absolutely necessary and place those questions at the end of the survey, as demographic

information may be viewed as sensitive material which some participants may choose not to answer.

The survey went through several processes such as review by experts, completion of a pilot study, and engagement in a think aloud process to ensure the questions were user-friendly and obtained the responses they were designed to obtain (Patten, 2001). Expert reviewers were given a hard copy draft version of the proposed survey with room for comments for the experts to point out difficult wording, ambiguities, typos, and other unforeseen survey issues (Patten, 2001). A *think aloud* is an opportunity for the researcher to read the survey questions aloud to a volunteer with general knowledge of the topic who is not part of the study. As the researcher read the questions, the volunteer answered the questions and told the researcher what she was thinking as she did so. This process identified ambiguities that were present in survey item wording (Patten, 2001). Once the expert review and think aloud were completed, survey item revisions were made as indicated and a pilot study conducted with 10 CEs was completed to ensure usability of the survey by potential participants (Thabane et al., 2010).

The pilot study CEs were chosen from two universities in Northeastern Ohio that represented two different Carnegie basic classifications. The pilot survey was sent to all known CEs at both universities and the first 10 submitted were used as the pilot data. No significant changes needed to be made to the data collection process post-pilot study. Additionally, pilot study subjects were asked to be part of the full study as a way to measure reliability through test-retest measurements to provide concurrent validity

(Jacobsen, 2017). Data from the pilot participants were then removed from the full study, as they were not needed due to the considerable number of respondents.

Research Design

A non-experimental quantitative research design using a cross-sectional survey methodology was chosen to allow for the collection of descriptive statistical data necessary to define the practice patterns of CEs across the U.S. In addition, correlations between years of experience and time in supervisory encounters were completed. Comparisons between institutional types were also completed.

Consideration for Survey Research

Jacobsen (2017) suggests survey methodology is an acceptable way to collect and analyze new data to begin primary research on a topic. This type of research is termed demography or "the study of populations and population dynamics" (Jacobsen, 2017, p. 2). Survey research provided many benefits to the researcher for collecting data nationally. It allowed for the collection of nominal and ordinal data. It was an efficient, economical way to collect responses from many participants covering a large geographical area. It also allowed for ease of analysis and encouraged truthfulness of responses due to the anonymity surveys provided (Jacobsen, 2017; Patten, 2001). Additionally, the data collected via this survey afforded the use of descriptive statistics to determine averages and variability in the data, as well as the ability to describe relationships between variables (Patten, 2001).

Cornerstones of survey research. While survey research may appear "deceptively simple," when done correctly, it is well-constructed on four cornerstones

which aid the development of solid survey research (De Leeuw et al., 2008, p. 1). The cornerstones defined below include coverage, sampling, response, and measurement (De Leeuw et al., 2008; Dillman et al., 2014). *Coverage* requires that all members of a group have equal opportunity to be surveyed. Errors may occur if all members are not included in the population list. *Sampling* entails a large enough sample be accessed for statistical analysis and the entire target population is surveyed, also referred to as a *census*. *Response* refers to the notion that those who are non-responders are no different than those who responded. A nonresponse error would indicate that the participants did not represent the group as a whole. The final cornerstone *measurement*, suggested that the questionnaire was designed to facilitate participant accessibility and response accuracy. An error in measurement may be due to poorly developed questionnaires, participant error in responding, or method of data collection (De Leeuw et al., 2008; Dillman et al., 2014).

Quality in survey research. In addition to the cornerstones, quality in survey research is of foremost importance. Quality speaks to the *fitness of use* of the survey (De Leeuw et al., 2008, p. 3). Biemer and Lyberg (2003) suggest there are many models available for measuring quality. At a minimum, surveys must provide accurate data that allows for the intended purpose of the study to be realized, be accessible to all participants and be available in a timely manner to meet the needs of the research (Biemer & Lyberg, 2003).

Tailored design. Dillman et al. (2014) suggest all survey research be customized specifically to meet the needs of the individual research being completed because surveys

differ greatly based on multiple variables. These variables may include decisions ranging from using standard mail, phone, or web-based platforms to the content of individual survey questions. Tailored design is a recipient experience-focused process of designing survey research with an emphasis on all aspects of formulating and implementing the survey. It operates on a social exchange perspective in that there is an assumption that participants are motivated to participate based on the benefits of responding in a truthful manner (Dillman et al., 2014). Tailored design is based on three primary concepts (Dillman et al., 2014). The first concept is that tailored design aims to reduce survey error in coverage, sampling, nonresponse, and measurement. The second concept involves the development of survey procedures that encourage participants to respond to the survey by attending to all aspects of communicating with the population. Finally, a positive social exchange is developed through careful consideration of all relevant aspects of the population, as well as the content of the survey. The concept of tailored design allowed the researcher to develop procedures that encourage responsiveness and positive social engagement. According to Dillman et al. (2014), survey researchers must consider the reasons behind respondents' engagement, then devise a procedure that urges others' participation while diminishing the costs of said participation and increasing perceived benefit.

This survey research utilizing tailored design required the researcher to take into consideration the cornerstones of good survey research and the need for quality by customizing a research design that begins with the identification of the objectives of the research, develops sound research questions and ends with the dissemination of the

results of the survey (Dillman et al., 2014). By honoring the cornerstones of survey research and staying true to the underpinnings of quality, the study addressed the research questions posed.

Web-Based Survey Research

Web-based survey research has been in use since the mid-1990s, and its use has increased significantly over the past 20 years (Krantz & Reips, 2017). Web-based surveys are widely used across various fields of study (Krantz & Reips, 2017). Some highly-rated factors noted as reasons to perform this type of research include: affordability; accessibility to participants; and ease of distribution of web-based surveys (Krantz & Reips, 2017).

Benefits to web-based survey. Web-based surveys have the potential to reach a large number of participants which aided in increasing the validity of the study as demonstrated statistically by a decreased mean squared error (De Leeuw et al., 2008; Patten, 2001). Furthermore, web-based research provided access to subjects who otherwise may be logistically hard to reach due to financial and time constraints of mailed paper surveys (Hoonakker & Carayon, 2009), or distance as was the issue for the traditional face-to-face administration of questionnaires until the 1980's (de Rada & Domínguez-Álvarez, 2014).

Limitations to web-based survey. Nonresponse in all survey research may be a limitation (De Leeuw et al., 2008; Dillman et al., 2014; Krantz & Reips, 2017). The type of survey format that yields the highest nonresponse rate is debatable (de Rada & Domínguez-Álvarez, 2014). However, Dillman et al. (2014) suggest the tenets of tailored

design decrease the rate of nonresponse because they attend to issues related to coverage, sampling, response rate, and measurement as recommended by De Leeuw et al. (2008). Hoonakker and Carayon (2009) also suggest lack of computer literacy for respondents may be a disadvantage to using web-based survey techniques; however, it is expected that most if not all respondents taking part in this research study will have a minimum basic level of computer skills and proficiency given they are employed as CEs in a higher education setting.

Definition of Variables

This study aimed to identify current practices of CEs in relation to time spent in supervisory encounters with first semester graduate student clinicians. As such, the variables were identified in Table 2 and Table 3 on the following pages. In addition to the noted variables, specific confounding variables existed. These included, but were not limited to, individual differences between CEs as well as the differences between graduate communication sciences and disorders programs in general. These confounds were compensated for by a large sample size (Schenker, 2016).

Table 2

Independent Variables Defined

Name of Variable – Independent Variables	Definition
Type of supervisory encounter	Delineate if supervisory encounters are completed in small groups, individual meetings, or a combination of the two
Foundations coursework	Identify programs that offer a clinical skills foundation class prior to or concurrently with the first semester of clinical education
Years of supervisory experience	The number of years of experience the CE has specific to working in an on-campus training facility.
Years of Experience as an SLP	The number of years a CE has worked as a licensed SLP
Job Title	This is the term used to identify the titles used by institution for those who serve in clinical educator capacities
Type of Institution	This variable refers to the type of institutions of higher education where the CEs are employed according to the Carnegie Classification of Institutions of Higher Education (2017).
Higher Education Accreditation Region	This variable refers to the six accreditation regions in the U.S.
Total number of all students supervised by CE in given semester	This is the number of undergraduate and graduate students a CE supervises in a given semester.
Total number of clinical experiences each first semester graduate student has per week	This is the number of points of client contact each student has every week.
Attitudes and beliefs about supervisory encounters	This variable identifies CEs' attitudes and beliefs about the amount of time allotted for supervisory encounters.
College or School:	This variable identifies where within the higher education institution the program is housed.

Table 3

Dependent Variables Defined

Name of Variable – Dependent Variables	Definition
Time spent in supervisory encounters with first semester graduate student clinicians	This dependent variable is the amount of time CEs spend with first semester graduate students in small group and/or individual meetings or a combination of the two. This time does not include direct supervision of clinical performance or the time required to review written work. It is solely the time spent in meetings where students' progress and performance are discussed, and skills are taught beyond the mandated supervision of direct client contact.
Content of supervisory encounters with first semester graduate student clinicians:	This dependent variable identifies the topical content of supervisory encounters including but not limited to: writing skills, behavior management, counseling, and other content taught through the clinical education process.

Data Collection Procedures

The process of collecting data is important to quality research. As such, the following process was completed.

Identifying the Target Population and Sampling

The target population for this study included all CEs who work in SLP clinical training facilities located at university and college campuses across the U.S. of America. Currently, 267 institutions offer graduate level training in SLP (ASHA, 2017c). In an attempt to gain a census of CEs, each program's faculty and staff were identified through a review of all 267 graduate SLP program department websites to identify those qualifying as faculty. CSD programs are required to make public general information about faculty (CAPCSD, 2017). Available email addresses were collected to develop a

source population or sample frame (De Leeuw et al., 2008; Jacobsen, 2017). This type of sampling is considered single-staged as the researcher has access to the population directly and at one point in time (Creswell, 2014).

There was potential for CEs to not be listed on a web page (i.e., if a new faculty member's profile was not yet uploaded). As such, the sample population was then determined to be those CEs who had a current and accurate higher education email address. From the sample population, the study population was developed based on those who met criteria and consented to participate in/complete the web-based survey (Jacobsen, 2017). Although identifying each potential participant was time consuming, following this process aided in avoiding sampling bias and allowed for the recruitment of the largest sample possible; both factors are essential to sampling (Jacobsen, 2017).

Recruiting

Recruiting is a key element to assuring maximum sampling of the target population (Jacobsen, 2017). While recruiting can be completed through multiple avenues, it is recommended that recruiting be commensurate to the medium of the survey used (Jacobsen, 2017). Accordingly, a notification for potential study participation email was sent to all identified possible participants two weeks prior to the survey to alert possible participants of the upcoming opportunity. Announcements regarding the study were also sent out twice through the Council for Academic Programs in Communication Sciences and Disorders (CAPCSD), the ASHA Special Interest Group on Administration and Supervision, and the ASHA Special Interest Group on Issues in Higher Education web sites.

Recommendations for Reducing Noncompliance

Survey research is completed within a specific cultural context (De Leeuw et al., 2008). Lynn (2008) recommends researchers identify the social responsibility of participants to respond to reduce the incidence of nonresponse. This begins at the recruiting stage. As indicated in chapter two, multiple authors within the field of CSD call for research regarding clinical education in SLP programs. Identifying that call to action within the recruitment materials proved beneficial.

Recruiting materials defined the purpose of the study and the value and importance of the study to individuals and to graduate level programs and higher education in general (refer to Appendix C for recruitment materials). These materials also identified additional monetary incentives for participation. Offering incentives as a token of appreciation was one way to decrease nonresponse and legitimize the survey (Lynn, 2008). Additionally, the time commitment to complete and the risks involved in completing the survey were explained in the recruiting materials. Nonresponse to the survey was decreased by following these procedures (Jacobsen, 2017; Lynn, 2008).

Participants

The criteria, and the sample frame, for participation in this study was that the individual was a clinical educator (CE) in a CSD program within the U.S. Recruitment began once this research study was approved by Kent State University's Institutional Review Board (IRB). Participants were included regardless of gender, ethnicity, religious beliefs, and cultural practices.

All CE participants were identified as those who work with graduate students enrolled in their first semester of clinical training. Selecting the first semester as a time frame was important as recent research suggests that the first clinical experiences students have strongly affect long-term student success in the development of clinical skills in communication sciences and disorders programs (Geller & Foley, 2009). Additionally, use of this time frame allowed for some control of confounding variables, such as prior clinical knowledge.

In 2016, ASHA reported a membership of 162,473 speech-language pathologists (SLPs) of which 2.7% are employed by colleges or universities at 267 institutions of higher education (ASHA, 2017b). In 2016, the Council of Academic Programs in Communication Sciences and Disorders and the American Speech-Language-Hearing Association published data from a 2015-2016 survey on CSD programs in higher education (ASHA, 2017b). Their survey had a response rate of 93% and reported that there were 5,213 full- and part-time faculty employed in higher education settings as either educational or clinical faculty. This is just slightly higher than the aforementioned numbers reported by ASHA. Of the 5,213 faculty appointments, 2,122 respondents reported primary appointment as clinical faculty. It should be noted that ASHA did not capture how many faculty served in both an academic and clinical role. As such, this current survey sample included all CSD faculty currently employed in higher education who had publicly available email addresses.

Survey Dissemination

Once pre-survey recruiting was completed, the survey and an informed consent letter were emailed to all members of the census using Qualtrics Survey Software. Please refer to Appendix D for the informed consent letter. Those who did not respond within two weeks were sent a reminder email requesting their participation. Thank you emails were sent to all those who participated. Furthermore, if a participant completed the survey and provided his/her email, he/she was entered into a drawing for the financial incentive. Emails collected for the incentive program were not housed in the data set. Those who entered the drawing were emailed one final time to announce when the drawing was completed. At the same time email addresses were confirmed for those who won one of five $50.00 electronic gift cards to allow for delivery of incentives.

Data Analysis

Quantitative data analysis is a dynamic and creative process using such practices as summarization of data, inference, and correlation; data analysis can also include variance and factor analysis techniques (Bryman, & Cramer, 1990; Yilmaz, 2013). The goal of this quantitative study was to examine the collected data, testing hypotheses consisting of variables measured and analyzed numerically in order to determine if a theory explains or predicts the phenomena of interest (Creswell, 2014). In this way, quantitative data can be statistically analyzed; however, such data, when compared to qualitative analyses, are oftentimes limited in scope (Goertzen, 2017). Within this study data analysis was completed to ascertain similarities and differences of CEs based on years of experience, accreditation region, and institution research level.

Descriptive Statistics

Descriptive data were collected for the two preliminary questions: (1) What are the current practice patterns of clinical educators in graduate level SLP programs, and (2) What do clinical educators perceive to be best practices for clinical education at the graduate level? This descriptive data for all independent and dependent variables provided the ability to determine averages and variability across participants (Creswell, 2014; Patten, 2001). This was a crucial factor as there is currently no published research regarding CEs' use of time in SLP programs. Mean and standard deviations in addition to median and interquartile range were used to discuss the average amount of time spent and the topics discussed by CEs in supervisory encounters. Which statistics were employed was dependent on the data obtained (Jacobsen, 2017; Patten, 2001). It was expected that there would be a wide range of variability in time spent and topics covered within the supervisory encounters.

Between Subjects One-Way ANOVAs

Between subjects one-way analyses of variance (ANOVAs) allow a researcher to compare multiple categorical independent (predictor) variables across a continuous dependent variable. These were used to answer question 1: Are there differences between novice, emerging, and experienced CEs in the amount of time spent in supervisory encounters with graduate students in their first semester of graduate education? and question 2: Are there differences between novice, emerging, and experienced CEs in how time is supervisory encounters is spent?

Multivariate ANOVA (MANOVA)

Multivariate Analysis of Variance (MANOVA) is used to determine if there are differences between predictor variables on more than one dependent variable. A MANOVA was used to evaluate the responses to question 2: Are there differences between novice, emergent, and experienced CEs in how time in supervisory encounters is spent? This initial MANOVA was conducted because there were multiple topics of discussion that could be chosen (i.e., professional writing). The MANOVA evaluated the topics of discussion as a means to test for differences at each level of the CE experience. It was expected that there would be no differences in topics of discussion. As such, types of practice were transformed into a proportion of the number of types of practice, which yielded a frequency of topic items chosen. That frequency was then analyzed in a between subjects one-way ANOVA (discussed above).

Multiple Regression

Multiple regression allows a researcher to determine how much influence or effect each independent variable has on the dependent variable (Ruel, Wagner, & Gillespie, 2016). It is widely used in correlational work to study the influence of two or more independent variables on a dependent variable (Dimitrov, 2013). The amount of variance each independent variable was responsible for in this study was determined using multiple regressions.

The last research question 3: Is there variability in the amount of time spent and how that time is spent (proportion of topics selected) with students predicted by the

clinical instructors' region (based on the Council of Regional Accrediting Commission location) or Institution Level (based on Carnegie classification)?

This question evaluated the relationships between time spent (dependent variable) and region, institution level, and how time is spent, all predictor variables. The amount of variance (R^2) each predictor variable (expressed by semi-partials – sr^2) is responsible for was determined using multiple regression. It was expected that all variables (Region, Level, and Type) would be predictive of time spent. However, it was expected that Level would have accounted for more variance in time spent because teaching institutions are by nature more focused on teaching relative to predominantly research institutions. Proportion of types was hypothesized to be the second strongest predictor because the more subjects covered in an encounter, the longer the supervisory encounter would be. Lastly, Location could have been predictive as different state/region mandates might regulate requirements for CE differently than other states/regions.

Reliability and Validity

Multiple resources were consulted to increase the accuracy of this survey. Survey questions were developed to be directly related to the primary and secondary research questions to ensure participants' responses to the survey (De Leeuw et al., 2008; Patten, 2001). Reliability and validity of the survey tool were essential to good survey research (De Leeuw et al., 2008; Jacobsen, 2017; Patten, 2001). Authorities in survey research recommended that questionnaires be checked by experts in the field of study, researchers with knowledge on survey research, and future users of the information to determine if the survey really provides data for the study objectives (De Leeuw et al., 2008; Jacobsen,

2017; Patten, 2001). This method of checking provided face validity, or how effective the survey was in measuring what it says it purported to measure (Jacobsen, 2017). Reliability was determined by test-retest measurement where subjects from the pilot study will be asked again as part of the full study to complete the survey. This reliability measure is defined as concurrent validity (Jacobsen, 2017).

Research Limitations

As stated prior, nonresponse may be a limitation in all survey research (De Leeuw et al., 2008; Dillman et al., 2014; Krantz & Reips, 2017). Participants' ability to access the web-based survey format could also have been a limitation. However, surveys were sent via work related emails, which suggested all invited participants had Internet access. In addition, internal validity could have been threatened in this study if CEs did not abide by Grice's maxims of quantity and quality. This would have occurred if CEs provided erroneous information because they believed it might benefit them in some way within their own academic program. For example, a CE who intentionally overestimated the amount of time he or she spent in supervisory encounters in an attempt to skew the data to suggest he or she need more time with students in supervisory encounters would have constituted a departure from Grice's maxims.

Conclusion

National data on how CEs operate within graduate SLP programs was relatively non-existent. A web-based survey was an appropriate tool to gather data at a national level. As such, this study used survey methodology to answer the previously noted research questions and thereby add to the body of knowledge available regarding CEs in

SLP programs. Additionally, this chapter discussed the benefits and limitations to survey research and identified the population to be surveyed and the variables to be used.

CHAPTER IV

RESEARCH FINDINGS

Chapter 4 includes a summary of the findings for the research completed using the *National Survey on Time Usage in Communication Sciences and Disorders in Clinical Education*. This descriptive research identifies common practices and beliefs of current day Clinical Educators (CEs) in graduate level speech-language pathology programs across the U.S. Descriptive statistics and between subjects analysis of variance (ANOVA) identify common practices and compare these practices across levels of CE experience and higher education regions according to the CRAC (2018). Addressed were the following research questions:

1. What are the current practice patterns (i.e., amount of time spent in supervisory encounters, topics covered in supervisory encounters) of clinical educators in graduate level speech-language pathology programs?
2. What are the attitudes and beliefs of CEs in regard to the time they are allotted to complete supervisory encounters?
3. What do clinical educators perceive to be best for practice for clinical education at the graduate level?
4. Are there differences between Novice and experienced clinical educators in the amount of time spent in supervisory encounters with graduate students in their first semester of clinical education?
5. Does variability exist across higher education in how clinical educators are engaging in supervisory encounters?

The findings related to fore-noted questions follow in the discussion below.

Data Collection Procedure Explained

Survey methodology was determined to be the most effective way to collect the necessary data to answer the aforementioned questions. *The National Survey on Time Usage in Communication Sciences and Disorders in Clinical Education* was developed and disseminated to 3561 potential participants representing all of the 267 graduate speech-language pathology programs across the 50 U.S states. Initial distribution occurred on March 10, 2018 with a two-week follow up distribution on March 25, 2018, for those who had not completed the survey. An email request for participants to respond to emailed survey was sent via ASHA's Special Interest Group for Administration and Supervision, as well as the Special Interest Group for Higher Education prior to each distribution.

A total of 610 responses (17.13% response rate) were completed. Of the 610, 464 (13.03% response rate) respondents self-identified as active contributors to clinical education within their university graduate program. All states, and the District of Columbia, were represented in the data with the exception of Alaska (Alaska does not yet have an independent graduate level speech-language pathology program), Hawaii, Nebraska, Rhode Island, and South Dakota. All six regions as defined by the CRAC (2018) were represented as well and indicate a valid sample for the U.S.

Data Cleaning

Missing, incomplete, or incongruent data were received from a small portion of participants. Less than 1.7% of the respondents provided data that was inconsistent with

expectations for the type of question presented. For example, participant 117 reported supervising over 2,000 therapy sessions per week (average reported by sample = 17.82). An additional 10.3% of participants failed to respond to a considerable number of questions. These participants represented 12% of the data pool. These participants were removed due to spurious and/or missing data. An *F post-hoc* power analysis was conducted with means and sample size per clinical educator group (Novice, Emerging, Expert) and entered to calculate effect size. Results indicated $F(5,47)$, $\alpha = .05$, $1-\beta = .95$, actual power observed = .99, indicating sufficient power despite removing 12% of the data.

Preliminary Questions

Several preliminary questions were posed to identify current practice patterns of CEs across the U.S. These questions were asked to glean insight into the typical practices of CEs. The results of that data follow.

Preliminary Research Question 1

Preliminary research question 1 defined clinical educators/education via descriptive statistics. To gain insight into the current practice patterns of clinical education in graduate speech-language pathology programs, three preliminary questions were posed to identify practice patterns and beliefs/attitudes of CEs across the U.S. Descriptive statistics were used to analyze the data collected.

The following is a summary related to professionals working in graduate level speech-language pathology programs who self-identify as providing clinical education to first semester graduate students. Several questions were asked to identify participants'

level of experience, job title, and job-related tasks including clinical education as well as location of university (see Table 4). For the purposes of this research, the following working definitions were used to delineate levels of experience. Novice CEs were those who have worked as a CE for less than three years. Emerging CEs were those who have worked as a CE for three to five years. Expert CEs were those who have worked more than five years as a CE.

Table 4

Number of Clinical Educator Participants by Region and Experience Level

	Novice	Emerging	Expert	Total
Middle States Commission	14	12	44	70
New England Association	6	0	9	15
Higher Learning Commission	44	19	79	142
Northwest Accreditation Commission	8	5	13	26
Southern Association of Colleges and Schools	29	16	72	117
Western Association of Schools and Colleges	7	4	13	24
No Response	2	3	8	13
Total	110	59	238	407

As demonstrated in Table 4, each region of accreditation was represented across all levels of CE experience with the exception of New England Association (i.e., no CEs reported to be in the Emerging category). This may be due to the small number of programs within this region. Participants from the Higher Learning Commission and Southern Association of Colleges and Schools represented nearly two-thirds of the

participants when combined. This again is most likely due to the substantial number of programs in each of those regions.

There is some debate within the profession of speech-language pathology as to what title meaningfully applies to those who serve as CEs (ASHA, n.d.). Data were collected to reveal the various titles used by respondent CEs. Participants disclosed a variety of titles in use including: Supervisor (64%), Educator/Instructor or Clinical Educator/Instructor or Teacher (28%), Professor/Faculty (6%), Preceptor (1%), and Other (2%). Titles included in "Other" were Staff, Master Clinician, Doctoral Student, Teacher, and Mentor (see Figure 1).

These titles were grouped into five primary categories of "Educator," "Supervisor," "Professor," "Preceptor," and "Other." Of interest was one response from participant 245 who shared "Supervisor—trying to transition to Educator to alert admin [*sic*] to their role." This suggests that CEs may have an increased awareness of the profession's need to better define the role of the CE to adequately capture the emphasis on teaching that is more often completed through the use of supervisory encounters (i.e., only two participants indicated that supervisory encounters were not part of their teaching process) than through other means (i.e., only written feedback on clinical skill development (i.e., only two participants reported not using supervisory encounters to educate students in a clinical setting.) Various titles current Clinical Educators use across the U.S. within the higher education setting. The majority of Clinical Educators reported using the title of Supervisor or Clinical Supervisor. Those who reported an educational component to their title were the next largest group.

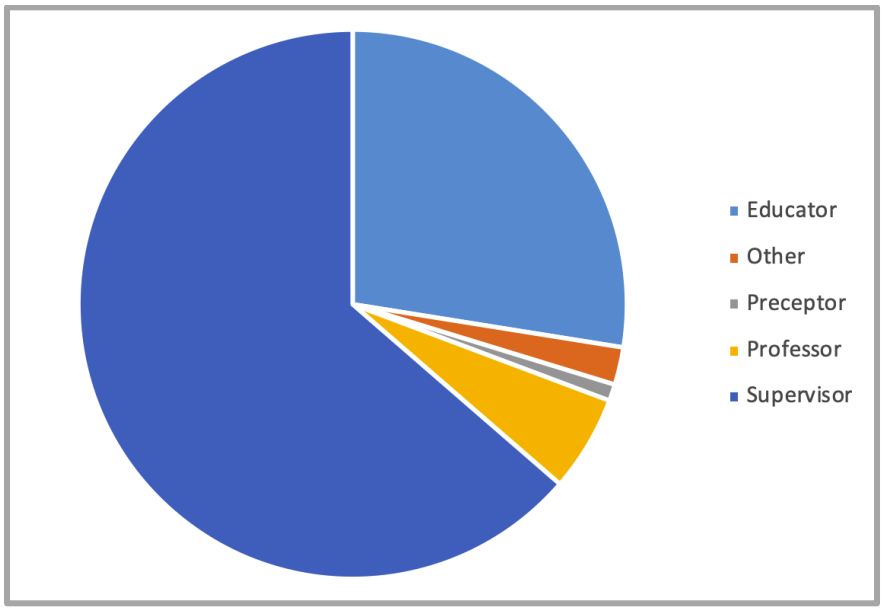


Figure 1. Clinical Educators by Title

A final consideration for the amount of time spent in supervisory encounters was additional tasks individuals perform aside from clinical education. It may be that time in supervisory encounters is dictated to some extent by tasks completed outside of direct clinical education and time it takes to complete these tasks. Therefore, data was analyzed specific to additional job tasks that may affect CEs. CEs were asked to identify the percentage of time they spent on various tasks (typical to higher education settings) including: clinical education; teaching academic coursework; service to program; service to school/college; service to university; service to profession; research; administration; and other. This data was configured into the following main categories: clinical education; teaching academic coursework; service; research; administration; and, other. Descriptive statistics were run according to level of experience to answer the question of the amount of time spent completing all job tasks (see Table 5 and Figure 2). These

findings show CEs are not only charged with clinical education, but also with a variety of additional work responsibilities that may impact time availability for completing supervisory encounters.

Table 5

Percentage of Time Spent on Job Tasks by Level of Experience

	Clinical Education	Academic Teaching	Research	Administration	Other	Service
Novice	56.28	18.19	5.27	3.74	2.30	14.65
Emerging	50.76	20.56	3.30	6.21	2.86	18.84
Expert	42.94	24.67	5.24	10.20	1.31	15.23
Grand Total	47.71	22.34	4.96	7.89	1.80	15.55

Table 5 includes data for the average percent of time spent across job tasks and Figure 2 is a visual representation in shift of tasks as CEs advance to Expert level of experience. Of note, findings revealed that as CE experience level increases, their time dedicated to clinical education decreases. Novice CEs reported an average of 56.28% of their workload is related to clinical education while Expert CEs reported an average of 42.94%. Experts spend significantly less time on clinical education—$F(2, 6933.10) = 9.02$, $p = < .05$. While the percentage of time spent on teaching decreased with increased level of experience, it was noted that there was no significant difference between groups in the number of students supervised [$F(2, 8.37) = .225$, $p = .80$] or the total number of sessions supervised by each group—$F(2, 731.47) = .79$, $p > .05$). This finding, in conjunction with the finding that Experts spend less time in supervisory encounters than

Novice and Emerging CEs suggests Experts may become more efficient in their use of time in clinical education as they gain supervisory skill.

When considering the roles of CE faculty new to higher education (i.e., Novice CEs), it is reasonable that they would have an increased focus on clinical education, the typical primary responsibility of those to work full-time and in adjunct roles as CEs. This is demonstrated by the high percentage of time spent in clinical education tasks of the Novice (see Table 5). Additionally, many CEs are master's level faculty who may be non-tenure track. They do not have the same requirements for research and service as those on the tenure-track. This may also explain why service activity increases for Emerging CEs as they move toward promotion and tenure and then decreases again once promotion and tenure are achieved. Additionally, increases in time completing administrative tasks from Novice to Expert most likely represent those who begin to assume administrative duties within the university clinic (e.g., those who become clinic coordinators for services provided, those who take responsibility to place students in internship/ externship placements). Such responsibilities are typically given to more senior CE with a deeper understanding of the program and its needs than a novice or emerging CE would have. Figure 2 is a visual representation of various job tasks completed by Novice, Emerging, and Expert CEs.

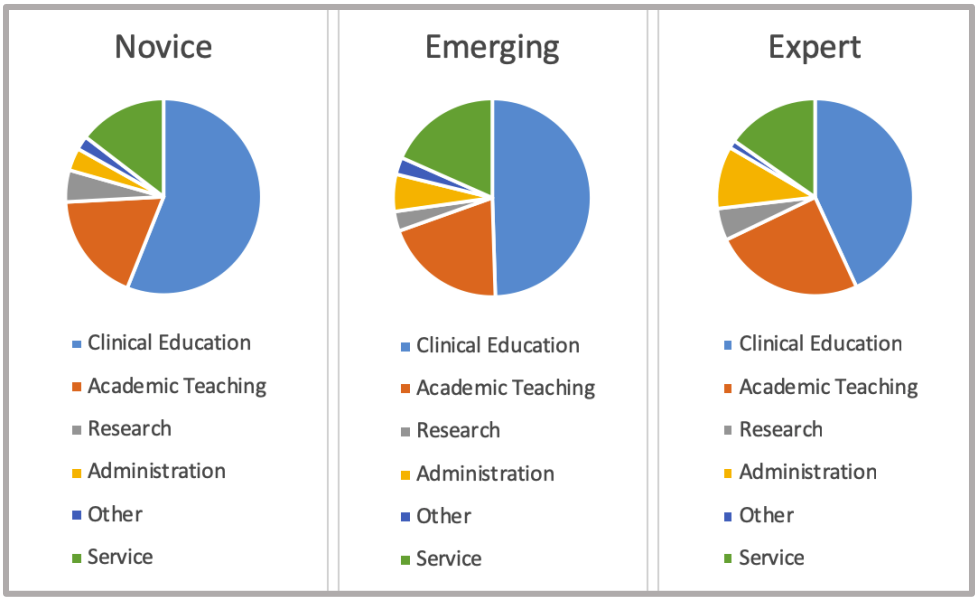


Figure 2. Percentage of Work-Related Tasks by Level of Experience

Preliminary Question 1

What are the current practice patterns (e.g., written/verbal feedback, formal feedback, formal & personal feedback) of clinical educators in graduate level speech-language pathology programs?

Descriptive statistics were used to identify current practices in the amount of time CEs use for supervisory encounters, as well as the content of those encounters to explain current practice patterns (e.g., written/verbal feedback, formal feedback, formal and personal feedback) that exist among clinical educators in graduate level speech-language pathology programs. This question specifically allowed for data collection that revealed the amount of time spent in supervisory encounters and the topics covered by CEs during these encounters (see Table 6; see Figure 4).

Data were adjusted to proportions secondary to unequal *n* between the groups. Without this adjustment, Expert CEs appeared to cover a disproportionate number of supervisory encounter topics (see Figure 4). Participants who indicated "Other" identified activities related to overall student health and well-being; stress and anxiety management; family matters; social conversation; ethics; clinical application of coursework; absenteeism; transition to graduate school/career and future plans; barriers to learning; specific disorder types/special populations; sanitation procedures; professionalism; work life balance; billing; interdisciplinary work; and, overall function as a graduate student academically and clinically.

Table 6

Summary of Time Spent in Supervisory Encounters in Minutes

	N	Average Minutes in Encounters (SD)	Average of Topics Covered (SD)
Novice	110.00	71.33 (101.45)	11.5 (3.20)
Emerging	59.00	59.01 (71.56)	12.05 (3.19)
Expert	238.00	57.23 (54.84)	11.58 (3.18)

No significant differences were found between groups in the amount of time spent in supervisory encounters using an ANOVA [F (2, 404) = 1.67, p = .19]. Although, it should be noted that there is a downward trend in time spent from novice to expert in the amount of time spent (see Table 6). This may suggest that experts become more efficient in their ability to cover essential topics to address during encounters. It is also interesting to note that standard deviations decrease as levels of experience increase suggesting that

each level begins to regress to the mean. Additionally, there is no significant difference in the average number of topics covered in each encounter, which may reflect the Experts' ability to cover the same amount of content in a more concise way.

In addition to time and topics addressed in supervisory encounters, the manner (i.e., one-to-one, small group, both one-to-one and small group) in which supervisory encounters were fulfilled was also addressed. Two participants reported they did not complete supervisory encounters as part of their clinical education practices. The remaining participants reported varied use of only one-to-one meetings, only group discussion, or both one-to-one meetings and group instruction to complete their supervisory encounters. The predominant format for supervisory encounters was reported to be both one-to-one meetings and group instruction across all three experience levels of CEs (see Figure 3). Only disproportionate number of Novices (39%) appears to use more one-to-one encounters as compared to Emerging (22%) and Experienced/Expert (26%) CEs. As there is no significant difference between levels of experience on the amount of time spent in supervisory encounters, it appears that novice CEs are spending a larger part of their day in supervisory encounters than those who complete group only or both one-to-one and group supervisory encounters. This is noted by the fact that all three CE groups reported similar time spent per student. For example, those who use group format would be providing their students each one hour of supervision at one time. By using the group format, they could meet with three or more students at one time, giving them the same amount of time to each student but using only one hour of their work day. Figure 3

displays encounter types by CEs' experience levels categorized by (a) one-to-one, (b) group, (c) both group and one-to-one, and (d) neither.

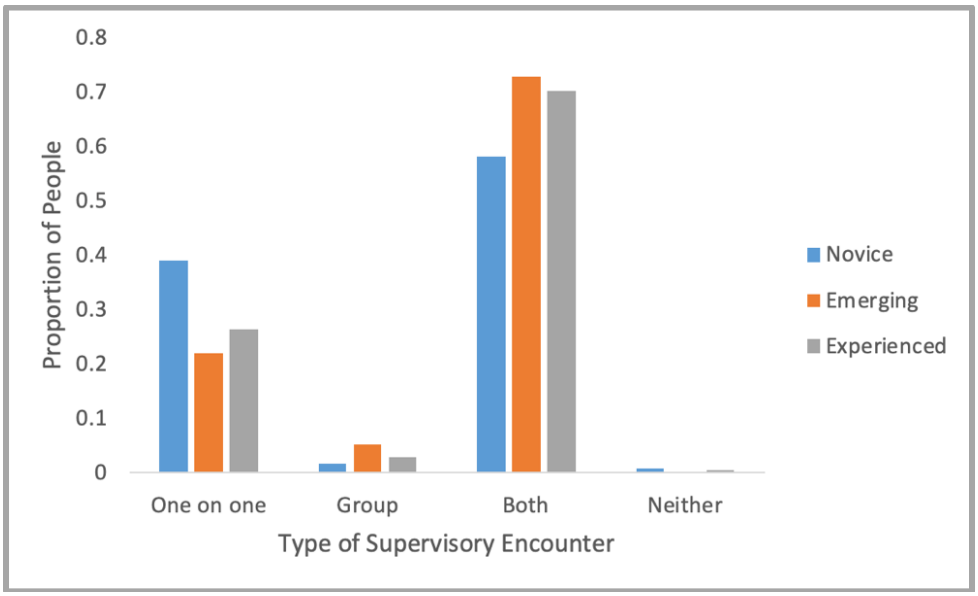


Figure 3. Encounter Type by Clinical Educators' Experience Level

Preliminary Question 2

What do clinical educators perceive to be best practices for clinical education at the graduate level?

Participants were asked to share their opinions on the current time demands of clinical education. Descriptive statistics revealed the opinions of participants regarding the amount of time allotted in their schedules to complete supervisory encounters; the amount of time they would prefer for supervisory encounters; and, their opinions regarding the need for required continuing education specifically addressing how to provide clinical education (see Table 7). Approximately two-thirds of participants indicated they currently have enough time to complete supervisory encounters with their

students. Overall, CEs reported they preferred to have just over an hour (average = 66.45 minutes) per student per week to complete supervisory encounters. The standard deviation suggests a wide range of variability regarding the preferred amount of time. Over 80% of participants agreed that there is a need for ongoing continuing education specific to clinical education for those actively engaged in the process.

Table 7

Beliefs on Clinical Education

	Average	SD
Enough Time Given (yes)	0.67	0.47
Preferred Time Allotted	66.45	48.39
Need for Continuing Education (yes)	0.82	0.38

Preliminary Questions Conclusion

CEs across varied levels of experience reported covering a similar number of topics within supervisory encounters. They reported covering these topics via three main formats including only one-to-one meetings, only small group meetings, and a combination of the aforementioned. CEs at all levels of experience reported covering additional topics during supervisory encounters including those related to the clinical environment (i.e., special populations) and topics not related to the clinical environment (i.e., personal care and mental/physical health of student). This would suggest that CEs find it necessary to cover a wide variety of topics during supervisory encounters.

Across all levels of experience, CEs indicated that they currently have enough time to complete supervisory encounters, regardless of encounter format. They also

reported that the preferred amount of time for weekly one-to-one and/or group supervisory encounters would be just over an hour per student; this number falls within the range of current amount of time used for encounters by all three CE levels of experience (see Table 6). One question not addressed is if CEs felt there was a time allotment that they would consider as not enough time to complete adequate supervisory encounters. This may be interesting to investigation in the future. Additionally, no data were taken as to whether or not this time would change based on specific student characteristics such as those who enter with some prior clinical experience or those who have been identified as needing more than average support. Time needs based on varied student characteristics could be investigated at a later date and compared to the average now that this current research is completed.

Primary Questions

Primary questions were posed to identify differences in practice patterns of CEs at various levels of experience as well determine if differences in practice could be related to accreditation region or Carnegie research level. The results follow.

Primary Research Question 1

What are the differences between novice, emerging, and expert clinical educators in the amount of time spent in supervisory encounters?

A between subjects one-way analysis of variance (ANOVA) was run to analyze the differences between Novice, Emerging, and Expert clinical educators on the amount of time each use to complete supervisory encounters. The between subjects one-way ANOVA was chosen due to the use of one categorical independent variable (i.e., clinical

experience) and one continuous variable (i.e., time spent in supervisory encounters) given multiple participants within each level of clinical experience group (i.e., Novice, Emerging, and Expert).

Results indicated no statistically significant difference between Novice, Emerging, or Expert CEs – [F (2, 403) = 1.447, p = .24]; however, there was a notable trend for less time to be spent in supervisory encounters as experience in providing clinical education increased (see Table 6). This downward trend in time usage may reflect increased efficiency toward addressing the needs of students during supervisory encounters (see Table 6 for the downward trend in time usage). Yet, it is difficult to state this with certainty due to the noted trend that occurs with increased additional work-related tasks (i.e., research, administration) completed as years of experience increased. Additionally, individual variability, as noted by standard deviations for the amount of time spent in encounters, at each level may account for some of the marginal difference.

Primary Research Question 2

Are there differences between novice, emerging, and expert CEs on how time is spent?

A multivariate analysis of variance (MANOVA) was completed to determine if there were differences on how time is spent in supervisory encounters. It was hypothesized that there might be a significant difference between Novice and Expert but that no significant differences would be found between Novice and Emerging and Emerging and Expert as the Emerging CEs would likely have characteristics of both

Novice and Experts. Originally, as noted in the methods section, if no differences were found using a MANOVA, a between-subjects ANOVA would be employed to determine statistical significance between Novice, Emerging, and Expert. However, significance was found on two of the 15 variables using the MANOVA. The results of this statistical analysis are displayed in Figure 4.

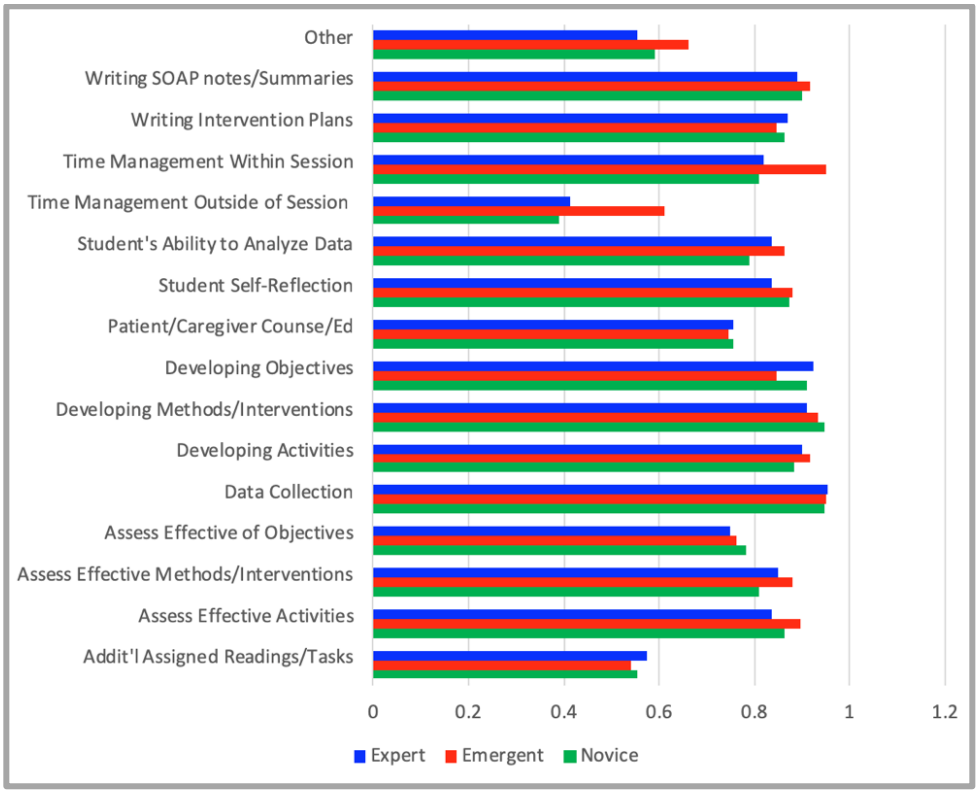


Figure 4. Proportion of CEs Engaged in Specific Topics Related to Clinical Education

Results of the MANOVA revealed no statistically significant differences between experience levels across all 15 topics listed in the survey with the exception of topics 9 [$F(2, 404) = 3.31$, $p = .038$] and 10 [$F(2, 404) = 4.44$, $p = .012$]; time management within sessions (e.g., allowing time to address all therapy goals, counseling) and time

management outside of sessions (e.g., time preparing for sessions, writing clinical documentation; see Figure 4). It should be noted that Box's Test of Equality of Covariance was used to test for homogeneity of variance. This analysis was significant—$F(240, 95004.59) = 2.92$, $p = .001$)—suggesting homogeneity was violated; most likely due to unequal *n*. Therefore, Dunnett's T3 post hoc test was used to determine significant differences between groups.

Statistically significant differences were found for topic 9, time management within sessions, between Emerging and Experts (mean difference = .13, $p = .05$), but only marginal between Novice and Emerging (mean difference = -.14, $p = .06$). Additionally, there were significant differences between Novice and Emerging (mean difference = -.22, $p = .02$) and Emerging and Expert (mean difference = .20, $p = .02$) for topic 10, time management outside of sessions. In both instances, emerging CEs discussed time management more than novice or expert CEs (see Table 8). It is interesting to note that time is a factor in both statistically significant findings. This may indicate an increased awareness of the effect students' time management skills on learning for successful clinical education as CEs enter the Emerging level. It was noted that there was no significant difference between novice and Expert in addressing time management which may suggest that as emerging CEs addressed these issues, perhaps they saw no appreciable gain in student performance and thusly, CEs returned to prior performance level when addressing this topic in supervisory encounters; or, that time management was effectively addressed, and students no longer required additional discussion on this topic.

Table 8

Mean Proportions of CEs by Level of Experience Who Address Time Management During Supervisory Encounters

	Novice	Emerging	Expert
Time Management Within Sessions	0.81	0.95	0.82
Time Management Outside of Sessions	0.39	0.61	0.41

Primary Research Question 3

What variability in time spent is predicted by region and institution level?

To determine if a significant difference in practice pattern is present across the U.S., participants were asked to report their state of employment and the average number of minutes spent in supervisory encounters with each first semester graduate student under their supervision (see Table 4 for region of employment; and Table 6 for average amount of time spent in encounters). States identified were then translated into six regions as defined by the CRAC (2018). Results of a linear regression indicate there were no statistical difference [$F(1, 391) = 931.00$, MSE 4861.06, $p = .34$] in the amount of time spent in supervisory encounters based on accreditation region (see Table 9).

Table 9

Results of Linear Regression Comparing Regions and Time Usage

Model	B	SE	ß	*t*	*p*
Constant	68.75	9.06		7.60	0.00
Region	-2.30	2.40	-0.05	-0.96	0.34

These data suggest CEs are providing similar time to first semester graduate students in supervisory encounters, despite potential differences that may occur due to regional accreditation standards; or, in State and ASHA regulations regarding supervision. It is important to recall that ASHA does not have a standard in place for how to structure supervisory encounters that may explain a large part of the variability noted in this study. It is also important to note that many States follow ASHA's guidelines for supervision regarding supervision of direct patient care suggesting variability is most likely limited in this aspect.

One factor that may dictate the amount of time spent in supervisory encounters may be at what type of institution CEs work. It was hypothesized that the more research-focused the institution is, the less time would be spent in supervisory encounters secondary to the focus on research. A substantial proportion of participants, sixty-eight percent, responded "I do not know" in response to the question asking for Carnegie Classification of their current institution (see Table 10). Due to this limitation, no statistical analysis was run to determine if there were differences based on type of institution. This may be an area to explore in future research.

Table 10

Participants by Carnegie Classification

Type of Institution	Number of Participants
Do Not Know	275
R1	69
R2	27
R3	11
M1	20
M2	3
M3	1

Primary Questions Conclusion

No statistical difference was noted in the amount of time used to complete supervisory encounters across all levels of CE experience and all regions of higher education as defined by the CRAC (2018). However, it was noted that Experts appear to use less time than both Novice and Emerging CEs. There were significant differences in how time was spent in supervisory encounters for two of fifteen variables; time management within session; and, time management outside of the clinical sessions. Results indicated that Emerging CEs addressed these two topics more than either Novice or Expert CEs.

Conclusion

This research aimed to identify common practices related to CEs in graduate speech-language pathology programs as well as if differences across these practices exist depending on the amount of experience CEs possess. Through descriptive statistics,

common practices related to time and the use of time in supervisory encounters were identified. Additionally, CEs beliefs on several factors: whether they have enough time for supervisory encounters, how much time they prefer to have for supervisory encounters, and beliefs on need for continuing education related to supervision, was identified.

Through statistical analysis using ANOVA and MANOVA, comparisons of time usage between levels of experience (i.e., Novice, Emerging, and Expert) and region of the U.S. were completed. No statistical differences were found on the amount of time spent in supervisory encounters by level of experience or region. However, statistical differences were found for two topics addressed by CEs in supervisory encounters specific to students' ability within and out of clinical sessions. Several questions remain regarding clinical education as alluded to throughout this chapter. A full discussion of those questions follows in chapter five.

CHAPTER V

DISCUSSION

This study was completed to address the dearth of research regarding current practices of clinical educators (CEs) in graduate speech-language pathology programs across the U.S. (Atkins, 2001; Baldwin et al., 2010; Ferguson, 2010; Fredrickson & Moore, 2014; Hill et al., 2014). Data were analyzed specific to: use of time during supervisory encounters; potential differences in encounters based on CEs' experience; variability in CEs' approaches based on regional location in the U.S.; and, potential variance of clinical training programs based on institution type.

Supervisory encounters, structured meetings held between CEs and students to address clinical learning needs, are an important aspect to the clinical education process; however, there are no current guidelines for what must happen in regard to supervisory encounters and no procedures to guide the amount of supervision that must take place in a face-to-face environment (Ensslen, 2013). Research in the area of clinical education has been reported as difficult to complete due to the confines of individual clinical contexts, university systems, and the variations across training settings (Ho & Whitehill, 2009). Despite the fore noted, research into clinical education is needed to identify the complexities of the supervisory process (Brasseur et al., 2005), and is imperative to understanding and improving the clinical education process. CEs who work with first-year, first-semester student clinicians were chosen because those students have greater clinical learning needs than do experienced student clinicians. Furthermore, novice student clinicians have greater need for supervisory encounters and these encounters are

more time consuming for CEs due to the novice students' genuine lack of knowledge (Gillam & Gillam, 2008).

The following discussion details the research conducted and explains potential implications for higher education, specifically graduate-level speech-language pathology training programs, and for the profession of speech-language pathology across the U.S. Additionally, limitations of the study are considered. Finally, recommendations for future research are addressed.

Review of Research Questions

This study was intentionally designed to derive data sets specific to the following questions:

1. What are the current practice patterns of clinical educators in graduate level speech-language pathology programs?
2. What are the attitudes and beliefs of CEs regarding the time allotted to complete supervisory encounters?
3. What do clinical educators perceive to be best practices for clinical education at the graduate level?
4. Are there differences between novice, emerging, and experienced clinical educators specific to the amount of time spent in supervisory encounters with graduate students in their first semester of clinical education?
5. Does variability exist across higher education in how clinical educators are engaging in supervisory encounters?

Significance of Identified Trends in Clinical Education Practice Patterns

Clinical education is an experiential learning opportunity that builds novice student clinicians' skills and knowledge through shared experiences between CEs and students (Geller & Foley, 2014). It is a collaborative process where the student and the CE construct clinical knowledge and develop increasingly complex clinical schemas (Geller, 2002; Rieck et al., 2015). Vågstøl and Skøien (2011) suggested that the interactions between the CE and student are the most influential element in developing clinical expertise. Currently, Anderson's Continuum Model of Supervision and reflective supervision models are two paradigms commonly implemented in supervision (Brasseur et al., 2005; Geller & Foley, 2014). Both of these supervisory formats require time for CEs and students to build and maintain a productive and meaningful working relationship, which is common to the constructivist theory of learning.

ASHA identifies practices that must be included in clinical education, specifically, the amount of direct supervision that must be provided to student clinicians as they work with clients (ASHA, 2017c). However, there are no current guidelines indicating the amount of time CEs should be spending with their students in supervisory encounters and no guidelines as to how that time should be spent. The descriptive data collected as part of this study provides a basis for defining several practice patterns common to clinical education. Those common practices include the average amount of time spent in supervisory encounters with first-year first semester graduate speech-language pathology students; how time in supervisory encounters is spent; and the format used to conduct supervisory encounters. Additionally, similarities and differences

among and between Novice, Emerging, and Expert CEs with regard to supervisory encounters were identified.

Amount of Time Used by Clinical Educators for Supervisory Encounters

The most important finding of this research was in regard to time usage in supervisory encounters. It was hypothesized that there would be great variability in the amount of time CEs spent in supervisory encounters with first-year, first-semester graduate students. Austin (2013) suggested that when not enough time is spent in supervisory encounters, foundational knowledge cannot be built. Raw data from this study suggested CEs spend anywhere from zero minutes to 10 hours per week per student for supervisory encounters which substantiates the hypothesis that there would be great variability among participants. However, no significant differences were found between Novice, Emerging, and Expert CEs in the time spent with each student. The mean time spent per student per week ranged from 71.33 minutes for Novice to 57.23 minutes for Experts. This is a substantial decrease from Ho and Whitehill's finding of 2.5 hours or 150 minutes per student in 2009. Yet, it is unclear from their data exactly how much of that time was used in supervisory encounters and how much of that time was in written feedback.

Two points of interest regarding the amount of time used include the downward trend for time spent in encounters from Novice to Expert, and the fact that the standard deviations of time usage diminish with increased CE experience. This difference in standard deviation in time may be due to the unequal number of participants in each group. However, it may suggest that CEs become more efficient in completing

supervisory encounters over time. It also may suggest that CEs, as a group, have less variability in time spent in supervisory encounters as they gain experience. These results may imply that this group of CEs believes that approximately one hour per student per week is beneficial for teaching clinical skills within the supervisory encounter context. Further research via repeating this study or using groups with equal numbers may prove beneficial in understanding this result further. This finding is important when addressing implications for training facilities and will be discussed further in the Implications for a Paradigm Shift section of this document.

Implications for the profession. The findings from this research provide a useful benchmark for determining the time needed to complete supervisory encounters. Administrators establishing and CEs adhering to an expected amount of time to be used for these encounters would convey to all involved the importance of spending adequate time teaching the skills of the profession to novice student clinicians. A general guideline could be based on an optimum amount of time and will be discussed further in this document. Given the numerous clinical topics potentially covered (to be discussed in the following section), establishing a time standard and systematic approach to completing supervisory encounters would aid in guiding CEs in student engagement within the supervisory process. While these guidelines, to be discussed in the Implications for a Paradigm Shift section of this document, may be relevant only to CEs working with first-year, first-semester graduate students, the guidelines could be adjusted to reflect the needs of students beyond the first semester, or to effectively meet the needs of student clinicians working with an unfamiliar client population. This would be in

concert with the common usage of Anderson's Continuum Model of Supervision as students transition from dependency to self-supervision.

Implications for higher education. Licensed speech-language pathologists (SLPs) employed in the U.S. must successfully complete both academic and clinical graduate level education as a prerequisite for licensure and certification (ASHA, 2017c). Clinical education is the foundation for graduate students' education in speech-language pathology (Prezas & Edge, 2017). Knowing the amount of time CEs spend with novice student clinicians may afford programs the ability to determine staffing needs. The amount of time used in supervisory encounters should be considered when assigning workloads to CEs. While not statistically significant, Novice CEs appeared to use more time to complete encounters than did Emerging and Expert CEs, suggesting that Novice CEs may benefit from a guide developed by Expert CEs outlining common practices to aid in refining the time spent in these encounters. As stated by prior researchers, CEs must have adequate time to provide students the needed support to build clinical skills (Austin, 2013).

One hour per student per week spent in supervisory encounters was identified as customary practice by current CEs. Whereas, it is still unknown if one hour is sufficient or needed to achieve acceptable student learning outcomes. Schools that offer graduate speech-language pathology degrees can use this finding to engage in program assessment that would guide decision-making regarding their clinical education component. Programs that choose to move toward the national average of one hour per student per week should be aware that this may have many implications for their program, depending

on their institution's needs. Future research is needed to investigate these implications that may include a need to increase or decrease the number of CEs in a program; and, the need to examine how use of supervisory encounters impacts workload; tenure and promotion; expectations for scholarship and service; the differences that may exist between tenure and not tenure track faculty; and, faculty rank, among other implications. Additionally, further research on the effects of time in supervisory encounters on learning outcomes is needed to identify how much time may be needed to develop student clinicians' skills and aptitudes.

CEs' Thoughts on Time Needed for Supervisory Encounters

Many founding researchers in learning theory have discussed learning as a time-intensive, collaborative process (Knowles, 1984; Mezirow, 2000; Piaget, 1971; Vygotsky, 1978). Results of this research suggested that CEs want approximately one hour of time for supervisory encounters and that CEs value having enough time in these encounters. CEs reported spending an average of approximately one hour, per week, per student; they reported they believe approximately one hour per week to be the preferred amount of time for supervisory encounters with first-year, first-semester graduate students. The CEs who participated in this research would agree that approximately one hour of time per week per student would be beneficial to both CEs and students to engage adequately in the collaborative learning process through supervisory encounters. Also, just over two-thirds of participants shared that they currently have enough time to complete supervisory encounters. Future research should investigate the reasons some CEs perceived having a lack of time to meet the needs of their students as well as their

students' perspective on the amount of time needed for supervisory encounters. Additionally, research into identifying the learning outcomes associated with time in supervisory encounters is also needed.

Implications for the profession. While there may be many variables that lead CEs to spend less time in supervisory encounters (i.e., other job requirements, following a reflective model of supervision), CEs do not participate in formal training as part of their licensure and credentialing for their roles as CEs (Geller, 2014), including adult learning theory and therefore may be missing a necessary understanding of the collaborative learning process. Unfortunately, this assertion has not been researched in the field and needs verification. This may be an area to be further investigation.

Implications for higher education. Clinical education is a necessary component to attaining a master's degree in speech-language pathology. While most CEs indicated having adequate time for supervisory encounters, a percentage believed that they did not. This research highlighted the necessity for the open discussion of the needs of individual training programs current practices to ensure these programs are truly allowing enough time for CEs to meet the needs of novice clinicians. It should be noted that budgetary and staffing constraints within each program may dictate that CEs utilize a hybrid approach to supervisory encounters (i.e., using both one-to-one and small group formats) versus the completely one-to-one format that Sheepway et al. (2011) discussed in their research. This is an area that future research could address.

Aspects of Supervisory Encounters

Clinical educators should have skills in "relationship development, communication, establishing and implementing goals, analysis, evaluation, clinical decisions, performance decisions, and research/evidence-based practice" (ASHA, 2013, pp. 6-8). CEs must have time to adequately provide all the supports needed for student growth and development of independence (Austin, 2013). The time spent in supervisory encounters allows for facilitation, evaluation, guidance, and motivation of students in the clinical environment (Vågstøl & Skøien, 2011). As identified in the data obtained in this study, this is done by covering a variety of topics such as how to document assessment and intervention sessions; use cuing hierarchies to advance client skills and abilities; and goal writing for clinical sessions during supervisory encounters.

It was hypothesized that there would be great similarity in the number of topics covered, as every novice student requires similar education opportunities, but that Experts would cover fewer topics because they would be more able to identify specific needs. The results of this research indicated that all levels of CEs addressed an average of 11.7 topics per supervisory encounter with their first-semester, first-year graduate students. The only statistically significant difference between Novice and Emerging and Emerging and Experts was found on two variables: time management within sessions and time management outside of sessions. Emerging CEs covered these topics significantly more so than Novice or Expert, which may suggest that Emerging CEs have an increased awareness of the impact of time management on student performance beyond their novice colleagues. This difference may also suggest that Experts already have supports in place

to aid students in time management (i.e., deadlines for documentation, structured session formats, etc.), removing the extraneous cognitive load of time management from the learning environment.

CEs across all levels of experience spent approximately the same amount of time discussing a similar number of content areas during supervisory encounters. Assuming Experts have had time to develop a honed, reasonably consistent list of topics that need to be addressed with novice clinicians, a practical clinical skills facilitation guide could be developed to direct Novice and Emerging, as well as Expert CEs through the supervisory encounter process to ensure all pertinent topics are addressed in an efficient manner. Currently, a guide such as this does not exist and should be considered for future research. This type of practical guide would be beneficial to ensure all students are receiving similar content, as well, and would allow for additional focused development for unique needs of student clinicians working with special populations. A discussion guide may also improve efficiency in supervisory encounters by keeping CEs focused on the necessary topics to cover based on individualized student learning requirements and the needs of specific client populations. A further discussion of a topic guide will follow in the Implications for a Paradigm Shift section of this chapter.

Demystifying CE Labels

There is some debate as to what title should be given to CEs in graduate programs in speech-language pathology (ASHA, n.d.). The predominant titles reported by the respondents of this study were Supervisor (64%) and (Clinical) Educator/Instructor (28%). These results show that actual practice in the field varies from what ASHA has

reported as the preferred term of Clinical Educator (ASHA, n.d.). The findings of this study support the notion that the profession has not yet settled on an accepted term for CEs, perhaps due to the lack of training CEs receive on how to be clinical educators. It should be clear from the vast list of topics covered during, and the amount of time needed in, supervisory encounters that CEs are far more than supervisors. A supervisor is a person who supervises workers, or the work done by others (dictionary.com, 2018). By definition, students are not "workers" but "students," incapable of working alone in the clinical environment. Supervision suggests some level of ability on the part of the supervisee; that students are able to complete the work with minimal guidance. CEs do not merely monitor the work of others; they teach and build skills in novice student clinicians with little to no work experience, especially those who are first-semester, first-year graduate student clinicians. This notion of educating dependent students, those in their first semester of clinical education, is further supported by the well-known Anderson's Continuum Model for Supervision used within clinical education environments.

In Anderson's Model, students begin at a dependent level. Offering only supervision to a dependent person will not increase his or her skills. However, this paradigm shift places a greater impetus on the CE to teach clinical skills to a student when those involved in the educational process view CEs as educators or skills facilitators, Tenets of constructivism would suggest that new student clinicians need time to build foundational knowledge and develop new schemas for new knowledge in evolving from student to clinician; this constructing of knowledge requires the facilitation

and support of a CE. Once foundational knowledge is established, a transition to a more collaborative approach to teaching and learning can occur. The concept of shared experiences and collaboration is further supported by Anderson's Model of Supervision as a student moves from direct teaching to a level of self-supervision.

Furthermore, ASHA states that CEs should have "knowledge of collaborative models of supervision, adult learning styles, teaching techniques, and the ability to define supervisor/supervisee roles and responsibilities appropriate to the setting" (ASHA, 2013, p. 6). By definition, if the profession is to follow ASHA's recommendation, members of the profession should consider a title reflective of all of the recommended knowledge requirements for CEs as put forth by ASHA. The notion that CEs continue to use the term "supervisor" as a title may reflect the lack of progressive change within the field that McAllister (2005) referenced in her writing. Further investigation into the similarities and differences between those who call themselves supervisors and those who call themselves educators is warranted to determine if the title truly affects the work being done.

Implications for the profession. The profession of speech-language pathology would be strengthened by discussion at the national level to develop unified terminology that clearly denotes the teaching involved in clinical education. Currently, 64% of CEs use the title of *supervisor*. *Supervisor* may be an appropriate term when discussing the role of CEs at the end of students' educational process or as students transition into their clinical fellow year. It is not necessarily an accurate description of the work CEs do with novice student clinicians. The reasons why the title of supervisor is in current use were

not addressed in this research. However, it could be that those in administration, and potentially those serving as CEs are unaware of the vast educational supports that CEs provide to their students. In fact, one respondent emphasized his or her program is attempting to move from *supervisor* toward the term *educator* to convey this message to others. Further research as to why each term is used may prove beneficial in advancing the profession's understanding of CEs. Additionally, it could be that the term *supervisor* was used historically as the profession developed under the supervision of others (i.e., teachers, psychologists) and was never changed as formal education for SLPs evolved.

The role of the CE working with new graduate students is more complex than merely saying CEs are supervisors or educators. CEs will serve as both educators and supervisors to meet the individual learning needs of their developing students throughout the clinical education process. The title of Clinical Education Facilitator may serve that purpose. Using the term Clinical Education Facilitator, within the context of a university setting, might encourage CEs to be seen as both educators, providing direct teaching in the preliminary stages of learning, and supervisors, overseeing the later work of students as they prepare to enter the profession. As facilitators, CEs work collaboratively with their students to identify points in learning where the students may require more structured education to yield exceptional performance. As facilitators, CEs provide the necessary supports to allow students to do their best thinking; and encourage CEs to find ways to work inclusively with their students in a sustainable collaboration.

In fact, a facilitator is one who provides support to others to encourage and enable high quality decision making that yields outstanding accomplishment (Bens, 2017;

Godden-Webster & Murphy, 2014). Kaner, Lind, Toldi, Fisk, and Berger (1996), as cited by Godden-Webster and Murphy (2014), further the definition by stating that facilitators encourage everyone to think and work to the best of their ability. They do this through collaboration with group members, which leads to sustainable and comprehensive outcomes.

Implications for higher education. Defining the role of CEs by establishing an appropriate term may offer some clarity to the position of CE for administrators on campuses and encourage administrators to classify CEs appropriately by the work they do. For example, a *supervisor* might be easily seen as a part of administrative staff, overseeing the work of others versus an *educator* who might be more easily seen as a part of the faculty, charged with imparting knowledge to students. Adopting a term that clearly identifies the teaching component of the work done by CEs may more readily allow programs to classify CEs as faculty, demonstrating the shared responsibility of both clinical and academic faculty for educating students. Streamlining how CEs are viewed in terms of a title that incorporates the emphasis on educator versus supervisor might encourage universities to move toward redefining these roles.

Varied Formats of Supervisory Encounters

The traditional model of one-to-one supervisory encounters used in speech-language pathology programs internationally has been perceived by clinical educators to be the best method of supervision/clinical education and is the model identified as favored by students (Sheepway et al., 2011). In this format, students receive instruction and feedback on clinical skills in a one-to-one interaction (Hill et al., 2014).

Group conferencing is a second most preferred paradigm, one in which CEs complete supervisory encounters with small groups of students (Ferguson, 2010; Sheepway et al., 2011).

This study revealed that CEs use a variety of formats for completing supervisory encounters with a combination of one-to-one meetings and small group encounters appearing to be the most common formats. This is a departure from Sheepway et al.'s 2011 international study of CEs, which revealed one-to-one supervisory encounters being the preferred format, and may suggest that while one-to-one encounters are preferred, CEs conduct supervisory encounters differently. This may be due to time constraints or other factors within individual programs. However, the reason as to why those differences exist remains unanswered and further investigation into why CEs prefer various formats is warranted.

CEs Want CEUs (Continuing Education Units) on Providing Clinical Education

As you see in the following section, CEs value the idea of continuing education requirements for those who serve as CEs. This demonstrates that while some continuing education is currently available specific to CEs, as a group, CEs believe that required continuing education is needed. This voiced need for additional training in clinical education should be a call to action to the profession at a national level to provide such a program. Currently, ASHA and Council for Academic Programs in Communication Sciences and Disorders (CAPCSD) as well as the Ohio Speech-Language-Hearing Association are working to develop such training programs

A question of whether or not CEs should be required to complete on-going continuing education specific to their roles as clinical educators was posed in the survey as well. A resounding 82% of respondents reported there is a need for required continuing education. This key finding suggests that CEs are aware of needing more education to adequately perform or better perform the task of clinical education. The topic of continuing education requirements for CEs is a current trending topic at the national level within ASHA and CAPCSD and these results substantiate the need for further development of training materials and tools. The findings of this research suggest that while materials for continuing education are available, they may not provide the type of information CEs are looking for. Judith Brasseur, CAPCSD Executive Board Member, revealed no current continuing education exists that focuses on adult learning theory as it relates to clinical education (Judith Brasseur, personal correspondence, 2017). This dearth of information available on adults learning theory should be investigated further.

The field of communication sciences and disorders has historically asked CEs to perform a job that they may have a limited understanding of how to complete. This may be evidenced by the substantial number of respondents who agreed that there is a need for continuing education on clinical education. Improving CEs' ability to actively engage with students in a more meaningful way will improve job satisfaction and increase retention (Cai & Zhou, 2009). Continuing education within the profession of SLP and specifically for faculty of universities is often covered under professional development.

As such programs may need to investigate increased access to funds for CEs to enhance their teaching skills.

Lack of Variability by Region

One final point of discussion relates to the lack of variability in time used by CEs across regions of higher education. It was hypothesized that the region in which respondents were employed might have affected time used for supervisory encounters as regions might have varied requirements for institutional accreditation, as well as for continuing education for those who serve in supervisory roles. However, results indicated no statistically significant differences between regions in time spent in supervisory encounters. To date, no published research exists with which to compare these new findings. The findings of this research suggest that while some variability between regions exists, most CEs operate very similarly with regard to the use of supervisory encounters. While the content of therapy sessions varies based on client population, there is quite a bit of common ground regarding the manner in which supervisory encounters are conducted due to the notion that assessment and intervention follow a somewhat standard format within the SLP profession. Additionally, fundamental understanding of disorders treated by SLPs is taught through academic coursework and then applied to clients in the clinical setting. This consistency across regions suggests that developing and following a more standardized approach to completing supervisory encounters may be beneficial, especially for Novice CEs. This will be discussed further in A Paradigm Shift in Clinical Education: Call to Action section of this chapter.

Limitations

Chapter 3 outlined several limitations that may be present when participants complete survey research. Those limitations are reviewed here as well. Additionally, several limitations were identified after the data were collected. A discussion of those limitations is included below for further consideration.

Limitations of Survey Research

As stated in chapter three, nonresponse may be a limitation to all survey research (De Leeuw et al., 2008; Dillman et al., 2014; Krantz & Reips, 2017). However, the current survey resulted in a response rate of 17.13% suggesting an adequate response rate for finding statistical significance. Additionally, survey research must follow the principles of tailored design (Dillman et al., 2014). Tailored design allows for the development of a recipient experience-focused process. This survey allowed respondents to answer posed questions written in language customary to the profession of speech-language pathology, specifically for those who serve as CEs, by following tailored design. Additionally, the survey, while posing many questions was short enough to allow most respondents to finish it. The average amount of time for survey completion was 12 minutes as identified in a pilot study and shared with potential participants in the cover letter that accompanied the request for participation. Keeping the survey short enough to complete in a reasonable amount of time should have served as motivation for respondents to participate (Dillman et al., 2014).

Internal validity may have been threatened if participants offered erroneous information. A potential lack of truthfulness in responses could have occurred if

respondents believed providing erroneous information would help them in some way (e.g., reporting spending more time than they actually do in supervisory encounters). To counter this possibility, questions regarding CEs' attitudes and beliefs of how much time should be used for supervisory encounters were collected. This was done to offer an opportunity for respondents to share their opinions of what they felt were optimal practices, even if their beliefs and what they actually do were different.

Limitations Identified After Data Collection

Once data were analyzed, an additional limitation was identified. There was a lack of response to the question related to the type of institution in which CEs were employed. Nearly two-thirds of the respondents did not answer the question regarding their institutions' classification. Contrary to researcher's assumptions, the majority of respondents were unable to identify what kind of institution they worked at, using the Carnegie Classification system. It may be plausible that CEs' title is related to the inability to identify institution type. Two-thirds of the respondents self-identified as *supervisor* and two-thirds were also unable to identify institution type. It could be that those who are classified as supervisor do not talk about their learning community in the same way as those who are classified as educators do. Many CEs are not actively engaged in research, which may also be a reason CEs are unaware of their university's classification. As such, it remains unclear as to whether or not type of institution impacts the amount of time spent in supervisory encounters. This limitation may provide cause for future research, which is discussed later in Implications for Future Research.

A Paradigm Shift in Clinical Education: A Call to Action

This study sought to identify current trends in clinical education in graduate speech-language pathology programs across the U.S. The data revealed a relatively homogenous group of educators in terms of the average amount of time used for supervisory encounters and how they used their time within those encounters. To date, guidelines for how to complete supervisory encounters do not exist. Findings of this research provide support that those who are invested in the clinical education of graduate SLP students may be able begin to develop those guidelines. The following are recommendations for speech-language pathology program across the U.S. The hope is to guide programs in better defining the role of CEs; to provide direction on completing supervisory encounters in an efficient manner; to provide foundational continuing education that is needed for improved supervisory encounters; and, to enhance student learning outcomes.

Toward Redefining the CE Role by Name

The terms *supervisor* and *educator* were the two primary titles used by the respondents of the study. However, as noted above, neither term adequately encapsulates the true roles and responsibilities of CEs. To that end, it is recommended that future research be completed to determine if the term Clinical Education Facilitator may be more appropriate title for those who serve in CE roles. Future research addressing which title CEs believe accurately reflects the work they do as well as their opinion on moving toward the term Clinical Education Facilitator is needed to solidify if this is truly the

direction SLP programs should go. As noted previously, adopting such a title may have many implications for higher education.

Toward Structuring the Supervisory Encounter

The results of this study suggest that CEs complete supervisory encounters similarly across levels of experience (i.e., Novice, Emerging, and Expert) and across the U.S. in terms of time spent and content. However, Experts appeared to be more efficient in completing supervisory encounters. Additionally, CEs report the need for more continuing education on supervision and many do not have basic training in teaching pedagogy and/or adult learning theory to guide their processes. Using the data obtained, a guide could be developed to efficiently walk CEs through the collaborative process of supervisory encounters.

Including a brief overview of ASHA's standards along with a review of Anderson's Model, and insight into the learning styles of current students as well as information on supervisory/teaching skills will help fill a need for continuing education for CEs and those who wish to become CEs. Additionally, developing a systematic way to track the content of supervisory encounters would be beneficial, especially for Novice CEs. While this guide may not be specific to every student CEs may encounter, it will encourage CEs to think more critically about their students and how to engage them in the learning process.

Implications for Future Research

The profession of speech-language pathology is relatively new and requires a master's level education for licensure and credentialing (ASHA, 2017c; McAllister,

2005; O'Neill, 1987). Many have called for research into the role of the CE (Emm & Cecconi, 2011; Ho & Whitehill, 2009; Lincoln & McCabe, 2005). This research is crucial to the profession now as there is a trend for undervaluing time for clinical education within the university setting as evidenced by increased productivity/work load (Hakim et al., 2014; Lincoln & McCabe, 2005; McAllister, 2005).

This research provided a foundation of knowledge about current practices of CEs serving roles as educators within graduate level speech-language pathology programs. The questions posed to respondents allowed for the collection of the data describing *average* practices. However, the question still remains as to how CEs may need to alter their time in supervisory encounters when working with students who are not achieving and/or learning at the expected rate. As stated by Hart et al. (2008), clinical supervision must be adjusted based on the individual needs of each student clinician and the clients being served. Respondents shared they believed just over an hour of time per student is needed for supervisory encounters each week when working with first-year, first-semester graduate students. However, no data were collected on what respondents believed to be too little time spent per student or if they thought that students' learning outcomes could be achieved through group rather than one-to-one formatted encounters. This would be of interest as programs are looking to become more efficient in time usage. Additionally, there may be a point of too little time that impairs students' ability to acquire the skills and knowledge they need to progress toward a successful career and self-supervision, the final stage in Anderson's Continuum model.

No data were collected regarding how current practices may be different when discussing student clinicians beyond the first semester. Collecting this data would allow for a comparison between essential learning for first time student clinicians and those who possess a fundamental understanding of the clinical environment. It may be that students beyond their first semester continue to require more direct teaching similar to that of first semester students, especially when considering students are required to work with new and sometimes complex client populations throughout their clinical experience. Further research into practice patterns of CEs working with students in their second, third, and fourth semesters would answer that question. Additionally, implications for clinical education beyond the university clinic setting may also exist (i.e., being able to provide a more definitive expectation on how much time each CE/extern supervisor may need to set aside weekly to adequately meet student needs).

Finally, as stated before, the question remains regarding the influence of institutional research level on the amount of time spent in supervisory encounters. Further research that would allow for better collection of this information would provide insight into the differences that may occur between research-focused programs and those that may focus solely on the training of young professionals. As many CEs are master's level professionals, it could be that research level may not have an impact. Knowing this information may aid specific institutions in marketing their program to potential students (i.e., letting students know they provide more time with CEs than do other types of institutions).

Summary

A lack of change in clinical training approaches over the past 30 years has been reported (Pew Foundation, 2015). A dearth of empirical data on clinical educators and the time spent in supervisory encounters with students may be at the base of this lack of change. Until this dissertation research was completed, there was no current research on the time spent in or the perceived time needed for SLP supervisory encounters at the graduate level. Results indicate that CEs, regardless of level of experience, use approximately one hour per student per week to complete supervisory encounters that cover a multitude of teaching/learning objectives (e.g., professional writing, time management, personal care). With this foundational knowledge, future research can now focus on the differences between novice and experienced CEs and potentially the learning outcomes achieved through the use of varied amounts of time or supervisory encounter formats.

Additionally, several more potentials for future research were identified. First, research into students' perspective on time spent in supervisory encounters may yield another layer of understanding to clinical education. Research looking at comparing the opinions of CEs and students in clinical education dyads when CEs have additional training in adult learning theory is also needed. This research may support the proposal that continuing education specific to adult learning theory would be beneficial to all within the clinical learning environment. Finally, future research regarding classification of CEs in terms of tenure track, non-tenure track, and/or adjunct and how that influences their role as CEs as well as their access to continuing education may prove beneficial.

Conclusion

At present, many SLP training programs utilize a common model for training future SLPs which begins with clinical education within a university clinic (Prezas & Edge, 2017). However, it has been suggested that decreased funding to higher education (Pew Foundation, 2015) may be negatively impacting the ability for programs to maintain these clinics (McAllister, 2005). ASHA dictates how students should be supervised during direct client care within these clinics (ASHA, 2017c). However, much of the clinical education provided occurs during supervisory encounters, away from client-centered sessions. This doctoral research serves as a platform to enact transformative clinical education processes which McAllister (2005) reports to be currently lacking in the field of CSD. Additionally, results of this research provide needed data for program assessment and a foundation for furthering the discussion of what clinical education should look like within the higher education environment.

APPENDICES

APPENDIX A

THE NATIONAL SURVEY ON TIME USAGE IN COMMUNICATION SCIENCES AND DISORDERS CLINICAL EDUCATION

Appendix A

The National Survey on Time Usage in Communication Sciences and Disorders

Clinical Education

Welcome and introduction page:

Thank you for your willingness to participate in this survey. The following consent will inform respondents about the research being conducted. Once you have read the document, you may select "submit/next" at the end of the page to proceed to the survey. By pressing "submit/next" you are giving informed consent to be a participant in this study. All participants may choose to not respond to any questions they are uncomfortable answering and may withdraw from the study at any time.

Instructions: Please read each question and respond, keeping in mind this survey is about working with graduate students in their first semester of clinic. Some questions will allow for a single response and others for multiple responses. You are able to go back to previous answers if you accidently click an incorrect response. If you would like to be entered in the drawing for one of 5-$50.00 e-gift cards, please make sure to respond to the final question with your current email address. Thank you in advance for your participation.

Survey Questions

1. In the **past six months**, have you served as a clinical educator (i.e., instructor, supervisor) with at least one graduate student in his/her first semester of clinical practicum (student participating in clinical setting for the first time)?
    i. If the respondent answers "no," he/she will be sent to the thank you page
2. Please check the primary term/title used by your program to identify clinical educators. Please check "other" and enter the descriptive term if it is not listed.
    a. Teacher
    b. Instructor
    c. Educator
    d. Supervisor
    e. Preceptor
    f. Coach
    g. Mentor
    h. Other:
        i. Please enter primary term/title here.
3. Is clinical education your primary role at your institution?
    a. Yes
    b. No

    c. Other
        i. Please describe
4. How many years have you **served in your capacity as a clinical educator** with graduate students within a university/college setting? (Please enter time rounded to the nearest half year as in 1.0, 1.5.)
    a. open box response
5. How many years have you **held licensure as a speech-language pathologist?** (Please enter time rounded to the nearest half year as in 1.0, 1.5.)
    a. open box response
6. Thinking back to **the most recent semester** in which you were assigned student clinicians in their first semester of clinical education (students participating in clinic for the first time), what is the **total number of students** (undergraduate and graduate) that were assigned to you for clinical supervision?
    a. open box response
7. Thinking back to the **most recent semester** in which you served as a clinical educator, how many **total sessions—diagnostics and treatments** (i.e., the total number of group or individual sessions) did you supervise in a given week?
    a. open box response
8. Thinking back to the **most recent semester** in which you served as a clinical educator, what was the average **total number of hours per week** each graduate student in his/her first semester of clinical education spent in direct patient contact in your program? (Please enter time rounded to the nearest half hour as in 1.0, 1.5.)
    a. Open box for response
9. Supervisory encounters consist of the times during the week that you engage in 1:1 or small-group consultation with your student clinicians to discuss issues related to their clinical performance. This includes all time outside of the direct supervision required by ASHA **and not** time required to review of written work (i.e., SOAPs, plans, reports). Supervisory encounters may include a few minutes immediately following a student's session to formal meeting time. On average, how much time each week do you spend with **each first-semester graduate student clinician** in supervisory encounters? (Please enter time in number of minutes (e.g., 20, 35, 80)
    a. open box response
10. Do you complete supervisory encounters in 1:1 or small group settings or both when working with first semester student clinicians?
    a. One to one, individual meetings
    b. Small group settings
    c. Both
    d. Neither, I do not use supervisory encounters as part of clinical education

    i. If neither, is there an alternative method for educating clinical students?

11. When considering first semester graduate student clinicians, what topics do you discuss in your supervisory encounters? Please **check all items** discussed/covered during supervisory encounters **that apply**. Check and enter "other" to add topics not listed but covered.
    a. Writing Intervention Plans (1)
    b. Writing SOAP notes/Weekly Summaries (2)
    c. Developing Objectives (3)
    d. Developing Activities (4)
    e. Developing Methods/Interventions/Approaches (5)
    f. Assessment of Effectiveness of Activities (6)
    g. Assessment of Effectiveness of Objectives (7)
    h. Assessment of Effectiveness of Methods/Interventions/Approaches Used (8)
    i. Time Management Within Session (9)
    j. Time Management Outside of Session (prep, documentation, etc.) (10)
    k. Data Collection (11)
    l. Student's Ability to Analyze Data Obtained During Session (12)
    m. Student Self-Reflection (13)
    n. Patient/Caregiver Counseling/Education (14)
    o. Additional Assigned Readings/Tasks (15)
    p. Topics Unrelated to Clinic (e.g., family vacation, health issues, etc.). Please describe. (16) _____
    q. Other: Please enter any topics covered in supervisory encounters that are not listed above (17) _____
12. Does your program require new student clinicians take an academic-based clinical skills foundation class for credit?
    a. Yes
    b. No
13. Do you feel your schedule allows for enough time with first time clinicians to provide adequate clinical supervision/education?
    a. Yes
    b. No
14. How much time in minutes per week do you feel should be given to each new student clinician for supervisory encounters?
    a. Open box for response
15. In regard to continuing education for clinical educators, do you believe completing continuing education directly related to supervision is essential to providing adequate supervision?
    a. Yes

    b. No
16. In what state is your university or college located?
    a. open box response
17. What is your institution's research ranking according to the Carnegie Commission's Basic Classification System?
    a. R1
    b. R2
    c. R3
    d. M1
    e. M2
    f. M3
    g. Do not know.
18. I am a
    a. Full-time employee of the university or college
    b. Part-time employee of the university or college
        i. If part-time, how many hours per week do you work?
19. Please share the percentage of your time spent on each activity **per semester** (you may record an average of time across one academic year). Your total must be equal to 100%.
    a. Clinical education
    b. Teaching academic coursework
    c. Service to program
    d. Service to school/college
    e. Service to university
    f. Service to profession
    g. Research
    h. Administration of CSD programs
    i. Other
20. Please enter your email here if you would like to be entered into a drawing for one of five $50.00 Amazon e-gift cards.
    a. Open for email address
    b. No thank you
21. Thank you for your participation.
22. Forced completion will be embedded to assure participants answer all questions

APPENDIX B

SUMMARY OF RESEARCH QUESTIONS, VARIABLES, AND SURVEY QUESTIONS

Appendix B

Summary of Research Questions, Variables, and Survey Questions

Research Sub-Questions	Variables	Survey Questions
1. What are the current practices of CEs in SLP programs in regard to time usage?		
1a. Are there differences between novice and experienced CEs in how much time is spent in supervisory encounters with first semester graduate students?	1. Years of supervisory experience 2. Years of experience as an SLP 3. Time spent in supervisory encounters with first semester graduate student clinicians 4. Total number of students supervised by CE in given semester 5. Total number of clinical experiences each first semester graduate student has per week 6. Total number of clinical experiences supervised by CE	1. How many years have you served in your capacity as a clinical educator with graduate students in a university/college setting? 2. How many years have you held a license to practice as a SLP? 3. On average, how many minutes per student do you spend each week in supervisory encounters? 4. How many total students (undergraduate and graduate) in a semester do you supervise? 5. How many total clinical experiences (group or individual) do you supervise in a given week?
1b. Are there differences between novice, emerging, and experienced CEs in how time is spent in supervisory encounters with first semester graduate students?	1. Years of supervisory experience 2. Years of experience as an SLP 3. Content of supervisory encounters with first semester clinical graduate students	1. How many years have you served in your capacity as a clinical educator with graduate students in a university/college setting? 2. How many years have you held a license to practice as a SLP? 3. When considering first semester clinical students, what topics do you discuss in your supervisory encounters?
1c. What is the current terminology used to define the role of clinical educator across settings?	1. Job title	1. Please check the current term used by your program to identify clinical educators. Please check "other" and enter the descriptive term if it is not listed.
2. What are the current practices patterns utilized with first semester graduate students?		
2a. What variability exists across higher education in how CEs are engaging in supervisory encounters with first semester graduate students	1. Type of supervisory encounter 2. Type of institution 3. Total number of all students supervised by CE in a given semester	1. Do you complete supervisory encounters in 1:1 or small group settings or both when working with first semester student clinician? 2a. Does your program require a skills foundation class for beginning clinicians

Research Sub-Questions	Variables	Survey Questions
	4. College or School	for credit? 2b. According to Basic Classification of Higher Education Institutions, how is your institution classified? 3. On average, how many minutes per student do you spend each week in supervisory encounters? 4. How many total students (undergraduate and graduate) in a semester do you supervise? 5. How many total clinical sessions (group or individual) do you supervise in a given week? 6. In what state is your university or college located? 7. Are you full-time or part-time?
What do CEs perceive to be common practices for clinical education?		
2b. What do CEs perceive to be common practices for clinical education?	Attitudes and beliefs about supervisory encounters	1. Do you feel your schedule allows for enough time with first time clinicians to provide adequate supervision? 2. How much time in minutes per week do you feel should be given to each new student clinician for supervisory encounters? 3. Do you believe that requiring continuing education directly related to supervision is essential to providing adequate supervision?

APPENDIX C

COVER LETTER

Appendix C

Cover Letter

September 22, 2017

Dear Potential Participant:

My name is Amy Vaughn and I am a doctoral student in higher education administration at Kent State University. For my dissertation, I am examining clinical educators' use of time in graduate level SLP programs across the United States. Because you are listed on your department's web page on your university/college web site and may serve as a clinical educator, I am inviting you to participate in this research study by completing the attached survey.

The following questionnaire will require approximately 20 minutes of time to complete. There is no compensation for responding nor is there any known risk. A drawing at the completion of the data collection phase for one of five $50.00 e-gift cards is offered as a monetary incentive to those who wish to participate.

In order to ensure confidentiality, please do not include your name at any time. Copies of survey responses may be provided to my dissertation chair and/or Institutional Review Board if necessary. If you choose to participate in this project after reading the informed consent, please answer all questions as honestly as possible.

Your participation is strictly voluntary, and you may refuse to participate at any time.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide the field of communication sciences and disorders as well as higher education administrators with useful information regarding the time clinical educators spend to teach skills outside of the ASHA mandated 25% direct supervision.

Completion of the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me at the number listed below.

Should you have any concerns or complaints about this research, please contact Dr. M. Merrill, listed below, or the Kent State University Institutional Review Board at 330-672-2704.

Sincerely,

Amy Vaughn, M.A., CCC-SLP
Doctoral Candidate
Kent State University, Kent, OH
440-826-5938

Martha Merrill, PhD
330-672-2012
mmerril@kent.edu

APPENDIX D

INFORMED CONSENT

Appendix D

Informed Consent

Study Title: Understanding Clinical Education from the Clinical Educator Perspective: A National Survey

Principal Investigator: Martha Merrill, PhD, Principal Investigator, Amy Vaughn, M.A, Co-Investigator

You are being invited to participate in a research study conducted by the investigators at Kent State University. This consent form will provide you with information on the research project to assist you in determining if you want to participate. Your participation is voluntary. Please read this form carefully as it will identify the purpose of this study, the risks and benefits to participating in the study, and your rights as a participant. It is important that you fully understand the research in order to make an informed decision. If you have any questions, please request additional information from the co-investigator.

Purpose:
We are inviting you to participate in this study because you are listed on your college/university's web-page and may serve as a clinical educator within a graduate SLP program in a university setting. The purpose of the following study is to look at the amount and usage of time spent by clinical educators outside of the ASHA mandated direct supervision requirement in order to address the lack research available on clinical education.

Participation Parameters:
Should you agree to participate in this study, you will be asked to complete a one-time, online survey related to your work as a clinical educator in a graduate level SLP program. The survey is brief and should require no more than 20 minutes to complete.

Procedure:

1. Subject selection: All persons within graduate SLP programs who are identified through the review of college and university web sites as faculty and/or staff that are involved in clinical education across the United States will be given the opportunity to participate. Persons, whose role is unclear based on available data, will be included in subject selection.
2. Prior to participation, participants will be given the opportunity to review the informed consent document. Participants will verify willingness to participate via accepting the offer to participate provided on the first page of the survey. Record of informed consent will then be housed as part of the data.
3. Participants will participate in data collection through the completion of The National Survey on Time Usage in Clinical Education via Qualtrics on-line surveys. Participants are free to skip any questions they may prefer not to answer.

4. All data collected will be maintained in a secured location via an encrypted hard drive if electronic or locked cabinet if in paper form until all analysis is completed.
5. Participants will remain anonymous through the use of Qualtrics settings with the exception of those who desire to be included in an incentive drawing at the conclusion of data collection. Those who chose to participate in the incentives will remain confidential and all identifying information will be removed from data as soon as it is no longer needed.

Benefits

The potential benefits of participating in this study may include actively engaging in deeper thought on the supervisory process. Insights from this research will add to the limited body of knowledge that exists in regard to the supervision of graduate SLP students and the requirements of adequate clinical training. Additionally, professions outside SLP that utilize a clinical education model may also benefit from the growth of this knowledge base.

Risks and Discomforts

There is minimal risk to participants in regard to harm due to the level of anonymity offered. Participants will be asked to complete the National Survey on Time Usage in Clinical Education which will take a nominal amount of time to complete. Additionally, participants may feel a sense of uneasiness if reporting information they feel may affect job security should their program chair or department head obtain their results. Any participant who identifies discomfort due to completing this survey is able to voluntarily remove themselves from the study.

In accordance to the ethics of care, the minimally low risks for discomfort are greatly outweighed by the benefits to the individual participants as well as the field of SLP and higher education as a whole. Subjects also have the right to refuse answering any questions they feel are not reasonable to answer.

Compensation

Participants will not be paid for completing this survey. All participating Clinical Educators, regardless of completeness of survey, will have the opportunity to enter into a drawing after all data has been collected. The drawing will be for five $50.00 gift cards.

Voluntary Participation

Your participation in this study is strictly voluntary. You have the expressed right to dis-enroll from the study for any reason throughout the course of the study without penalty or loss of benefits to which they are otherwise entitled. You will be informed of any new, relevant information that may affect your health, welfare, or willingness to continue your study participation.

Contact Information

If you have any questions or concerns about this research, you may contact co-investigator, Amy Vaughn at 440-826-5938 or principal investigator, Dr. Martha Merrill at 330-672-2012. The Kent State University Institutional Review Board has approved this

project. If you have any questions about your rights as a research participant or complaints about this research, you may call the IRB at 330-672-2704.

Consent Statement and Agreement

I have read this consent form and have had the opportunity to have my questions answered to my satisfaction. I voluntarily agree to participate in this study. By clicking the "continue" icon below, I provide informed consent to participate in this study.

APPENDIX E

IRB APPROVAL

Appendix E

IRB Approval

RE: Protocol #18-079—entitled "The National Survey of Clinical Educators: A Look at Clinical Education in Speech-Language Pathology"

We have assigned your application the following IRB number: **18-079**. Please reference this number when corresponding with our office regarding your application.

The Kent State University Institutional Review Board has reviewed and approved your Application for Approval to Use Human Research Participants as Level I/Exempt from Annual review research. **This approval is good for 3 years from date of approval.** Your research project involves minimal risk to human subjects and meets the criteria for the following category of exemption under federal regulations:

- Exemption 1: Educational Settings
- Exemption 2: Educational Tests, Surveys, Interviews, Public Behavior Observation

This application was approved on **February 8, 2018**.
***Submission of annual review reports is not required for Level 1/Exempt projects. We do NOT stamp Level I protocol consent documents.*

For compliance with:
- DHHS regulations for the protection of human subjects (Title 45 part 46), subparts A, B, C, D & E

If any modifications are made in research design, methodology, or procedures that increase the risks to subjects or includes activities that do not fall within the approved exemption category, those modifications must be submitted to and approved by the IRB before implementation. Please contact an IRB discipline specific reviewer or the Office of Research Compliance to discuss the changes and whether a new application must be submitted. Visit our website for modification forms.

Kent State University has a Federal Wide Assurance on file with the Office for Human Research Protections (OHRP); FWA Number 00001853.

To search for funding opportunities, please sign up for a free Pivot account at http://pivot.cos.com/funding_main

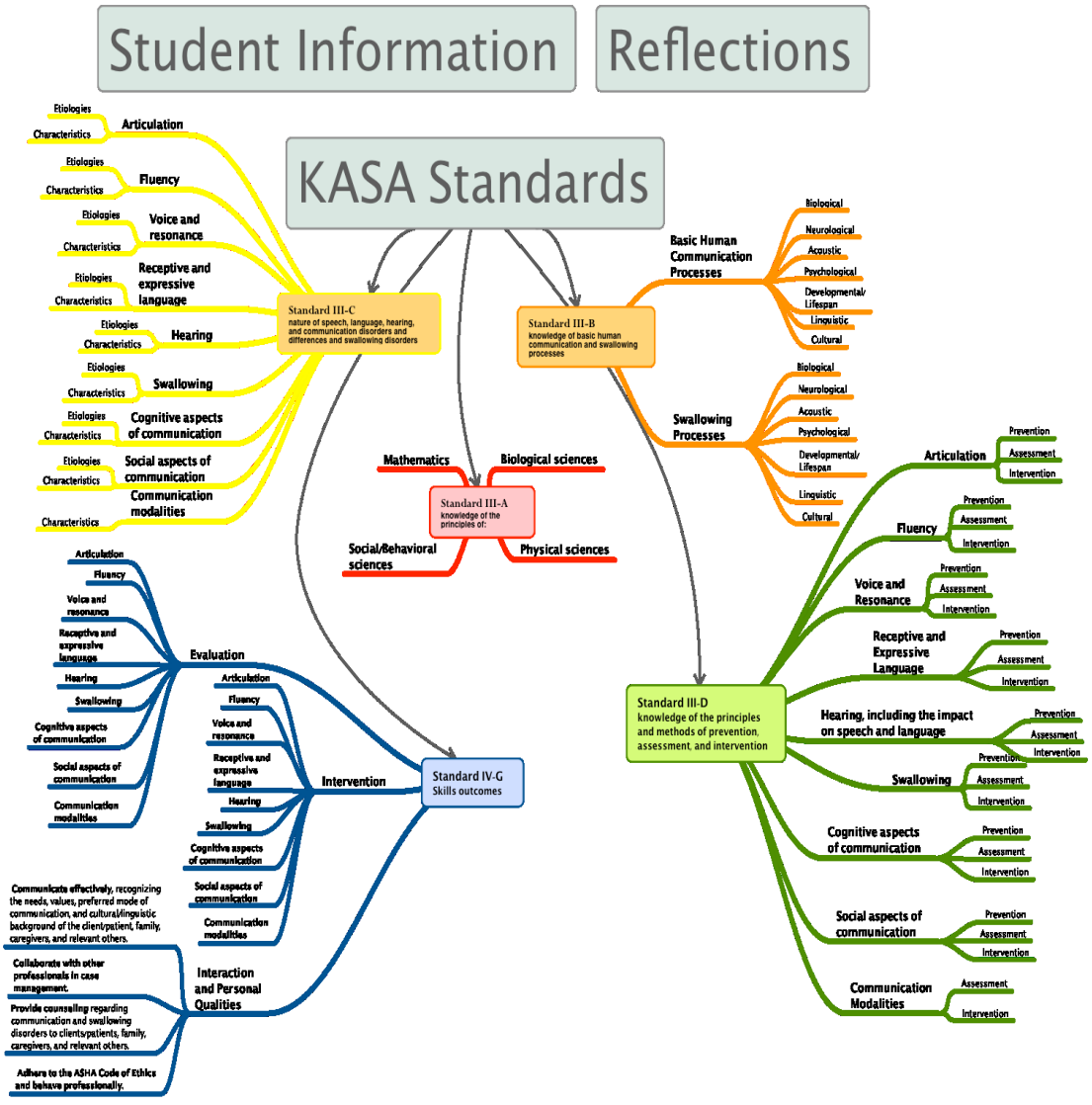
If you have any questions or concerns, please contact us at Researchcompliance@kent.edu or by phone at 330-672-2704 or 330.672.8058.

APPENDIX F

ASHA KNOWLEDGE AND SKILLS ASSESSMENT (ASHA 2005)

Appendix F

ASHA Knowledge and Skills Assessment (ASHA, 2005)



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