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Predicting The Development Of Counselor Self-efficacy In Counselors-in-training During Their First Semester In Practicum Using Embedded, Rich Media In A Distributed Learning Environment.

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PREDICTING THE DEVELOPMENT OF COUNSELOR SELF-EFFICACY IN COUNSELORS-IN-TRAINING DURING THEIR FIRST SEMESTER IN PRACTICUM USING EMBEDDED, RICH-MEDIA IN A DISTRIBUTED LEARNING ENVIRONMENT.

by

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ABSTRACT

The first semester of practicum is a difficult time for counseling students as they learn to integrate knowledge and theory into clinical practice, often evoking high levels of anxiety (Barbee, Scherer, & Combs, 2003; Ronnestad & Skovholt, 1993) and limiting counselor self-efficacy (Bernard & Goodyear, 2009; Melchert et al., 1996). Practicum is the first opportunity counselors-in-training have to apply theoretical knowledge in a professional setting, use new clinical skills, and test how well they fit into the field of counseling (O'Connell & Smith, 2005). Additionally, if counselor educators do not fully understand the process counselors in training develop counselor self-efficacy, they may be overlooking opportunities to educate a new generation of counselors or using their time, energy and resources in areas that may not be the most efficient in counselor development.

The purpose of this study was to examine the effect of an embedded, rich-media distributed learning environment added to practicum had on the development of counselor self-efficacy, reduction of anxiety and effect on treatment outcomes for counselors in training in their first semester of practicum. This study found the use of distributed learning to extend education beyond the classroom significantly and positively affected the development of counselor self-efficacy, had mixed statistical results on the reduction of anxiety and did not have an affect on treatment outcome. Furthermore, the study used hierarchical linear modeling to see if the characteristics of individual practicums affected the three main constructs, the results did not find a significant effect from the groups.

The results of the study produced several implications for counseling. First, if counselor educators help counselors in training become more aware of counselor self-efficacy, the students can better understand how the construct affects their anxiety, their comfort with expanding or improving their clinical skills and the approach they take to a client, session or treatment plan. A second implication is that using an embedded, rich-media learning environment may help the counselors in training to develop their clinical skills. The results of this study imply that utilizing technology and discussions beyond the classroom is beneficial for (a) increasing the students' counselor self-efficacy, (b) normalizing the emotions the students may experience and (c) improving the methods for development through vicarious learning. Also, as technology continues to evolve and as education continues to adapt by integrating technology into the classrooms, counselor educators should begin exploring how to best use technology to teach students during practicum. Traditionally, based on the nature of counseling, practicum has been an interpersonal experience, but the results of the current study imply the methods of extending learning beyond the traditional class time is beneficial. Finally, as counselor educators strive to increase students' counselor self-efficacy early in practicum, in an environment that contains anxiety and self-doubt (Bernard & Goodyear, 2009; Cashwell & Dooley, 2001) using vicarious learning through video and online discussions can assist in accomplishing the goal.

This is dedicated to the many things L. Boyd Kidwell taught me about life. One of the most important was the value of education and making the most of it regardless of a person's age. I was blessed to call him Grandpa.

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CHAPTER ONE: INTRODUCTION

Overview

The Council for Accreditation of Counseling and Related Educational Programs' (CACREP, 2009) professional standards requires master's level counseling students to engage in professional practice (practicum and internship), as an applied part of the curriculum. The standards further require that the pre-internship experience or practicum includes a minimum total of 100 clock hours for a semester with; (a) 40 hours of providing counseling services to actual clients, (b) one hour weekly of individual or triadic supervision to develop counselors skills and ensure quality client care, (c) one and a half hours weekly of group supervision for developing professional identity and clinical skills, (d) the program utilizes audio/video tapings and/or live observation for use in supervision to review the students interactions with the client, and (e) formative evaluations of the student through the practicum and a summative evaluation of the students knowledge and skills at the end of practicum (CACREP, 2009). The challenges facing counselor educators are (a) identifying instructional methods that meet the CACREP standards, (b) providing the foundation for state licensure, (c) ensuring graduates provide quality care to future clients, and (d) maintaining student's interest in learning throughout the program (Baker, Daniels, & Greeley, 1990). Practicum is defined as a course in a college or university that provides practical experience in a specific field ("Practicum," n.d.).

Beyond the academic requirements, counselor educators must strive to reduce anxiety and bolster self-confidence in an environment where evaluation, video recording and self-observation are required (Cashwell & Dooley, 2001). One indirect method for reducing anxiety is to increase counselors-in-training's (CIT's) counselor self-efficacy (Larson & Daniels, 1998).

Counselor self-efficacy (CSE) is a construct originating from Social Cognitive Theory (Bandura, 1986). The term means the degree to which a person believes he or she can effectively counsel a client in the near future (Larson & Daniels, 1998; Larson et al., 1992; Melchert, Hays, Wiljanen, & Kolocek, 1996a). Counselor self-efficacy is a construct that contributes to improving the practicum experience (Kozina, Grabovari, Stefano, & Drapeau, 2010), the reduction of anxiety as the CIT begins the transition from foundational knowledge to clinical skills (Larson & Daniels, 1998) and the development of a professional counselor identity.

Professional Identity and CSE

In addition to teaching counseling skills during the practicum experience, developing the counselor's professional identity is a primary goal of counselor education programs (Bernard & Goodyear, 2009; Granello & Young, 2012). The practicum experience is pivotal in the development of a professional identity as the practicum is where the CIT transfers theoretical knowledge to the application of clinical skills when working with actual clients (Trepal et al., 2010). During the practicum, the transfer of knowledge to skills begins the CITs adopting the identity of a counselor and this process contributes to the development of self-confidence and CSE (Bischoff, Barton, Thober, & Hawley, 2002). Defining what constitutes professional identity can be ambiguous, however, three central themes appear in literature, which include (a) identifying as a counselor, (b) integrating the skills and knowledge of a counselor with a congruent personal worldview, and (c) creating a contextual identity within the counseling community (Gibson, Dollarhide, & Moss, 2010). The challenge for counselor educators is fostering the growth of professional counselor identities in students with a wide variety of

demographic characteristics, personal and professional interests, maturity levels, and learning styles.

Professional identity development is both an interpersonal and intrapersonal process (Gibson et al., 2010). The interpersonal process in identity development occurs as the new professional integrates into the professional counseling community and acquires an internal locus of control. Often, practicum is the first experience a CIT can begin integrating the counselor identity. The intrapersonal process of identity development is interesting to counselor educators as this phase occurs while in graduate school and occurs as the student moves between cycles of dependence and autonomy (Barnes, 2004; Crook, 2010). During the cycling phase, the CIT is in a structured educational environment that includes supervision, allowing the supervisor the opportunity to affect the CITs development of CSE, assisting in their development of a professional identity. During the first semester of practicum the student seeks guidance and approval from counselor educators and uses an external locus of control in developing a sense of counselor self-efficacy (Bernard & Goodyear, 2009; Trepal et al., 2010). This study examined the development of self-efficacy for CITs during their first semester of practicum. Practicum is a phase of the educational process where the four sources for acquiring self efficacy (Bandura, 1986; Larson & Daniels, 1998) naturally occur. The four sources for developing self-efficacy are: (a) mastery, (b) vicarious learning, (c) social persuasion, and (d) emotional arousal (Bandura, 1986). Furthermore, the purpose of this study was to identify methods for assisting counselors-in-training in gaining competence, decreasing anxiety, persevering in the face of a challenge, and improving client outcomes, all of which contribute to developing qualified and professional counselors.

CACREP and CSE

CACREP standards outline the usage of time and resources in practicum (Council for Accreditation of Counseling and Related Educational Programs, 2009), however CACREP does not address the method for producing students with CSE. The construct of CSE was investigated heavily in the 1990s, but has become a topic of less interest as the focus has transitioned into CSE areas with specialized interests, such as school counselor self-efficacy, multi-cultural counselor self-efficacy, multi-cultural school counseling self-efficacy, career counselor self-efficacy (Bieschke, Bishop, & Garcia, 1996; Crook, 2010; M. J. Heppner, Multon, Gysbers, Ellis, & Zook, 1998). The attention in literature and research interest has transitioned away from identifying methods for increasing counselor self-efficacy to developing the specialized interests and usage of specific counselor self-efficacy rather than identifying methodology for increasing the overarching construct of CSE. This is unfortunate because counseling scholars did not fully understand the process or the components necessary for developing CSE, before focusing on specializations within the construct. Thus, the development of CSE has been ignored as scholars moved quickly to developing school counseling self-efficacy, multi-cultural counseling self-efficacy, and other specializations within self-efficacy. Without fully understanding how CSE develops and methods for developing the necessary counseling attribute there has been a gap in developing professional and effective counselors. To assist in the development of this construct, this study investigates the development process to better understand the existing gap.

Statement of the Problem

The first semester of practicum is a difficult time for counseling students as they learn to integrate knowledge and theory into clinical practice, often evoking high levels of anxiety (Barbee, Scherer, & Combs, 2003; Ronnestad & Skovholt, 1993) and limiting counselor self-efficacy (Bernard & Goodyear, 2009; Melchert et al., 1996). Practicum is the first opportunity counselors-in-training have to apply foundational knowledge in a professional setting, use new clinical skills, and test how well they fit into the field of counseling (O'Connell & Smith, 2005). Through educational and developmentally appropriate support, counselor educators strive to improve students' CSE early in the practicum experience (Bernard & Goodyear, 2009; Cashwell & Dooley, 2001), allowing smoother growth for the student toward the professional counselor identity. If anxiety can be reduced and self-efficacy stabilized, perhaps the practicum experience can then be used for growth and development instead of merely mitigating feelings of fear and anxiety. Additionally, if counselor educators do not fully understand the process CIT's develop CSE, they may be overlooking opportunities to truly educate a new generation of counselors or using their time, energy, and resources in areas that may not be the most efficient in counselor development. Specifically, research identified that lower amounts of CSE in the first semester of practicum creates the emotions of anxiety and fear (Bischoff et al., 2002), these feelings inhibit the CIT from experimenting with the role of a professional counselor in an environment that is nurturing, supportive, and educational. One of the main purposes of the practicum experience is to facilitate the transition from foundational knowledge to practical application, a process that may be slowed down by fear and anxiety. The lack of previous research in understanding the method of developing CSE may obstruct the practicum experience, thus, finding a method of

increasing the CSE will encourage professional growth (Larson & Daniels, 1998; Larson et al., 1992).

Purpose of the Study

The purpose of this study was to further understand the process of a CIT developing counselor self-efficacy and make a contribution to the body of knowledge. The study examined if a difference existed in the levels of counselor self-efficacy, anxiety, and treatment outcomes between practicum students who participated in knowledge and skill building experiences than those practicum students who did not.

Constructs

In this section the major constructs of this study are examined as an understanding of the constructs facilitates a clearer perspective on the purpose of the study. A construct is a theoretical and abstract concept that cannot be directly observed but can be studied (Gay, Mills, & Airasian, 2006). A construct can be better understood in the following examples; constructs are intelligence, knowledge, motivation, and personality. The example of knowledge cannot be directly observed but it can be tested and studied. This study centers on the constructs of (a) counselor self-efficacy, (b) anxiety, and (c) client outcomes a further explanation of each construct below.

Counselor Self-efficacy

The first construct the study focused on was counselor self-efficacy that is defined as one's belief about the ability to counsel a client in the near future (Larson et al., 1992; Larson &

Daniels, 1998; Melchert et al., 1996) and can be measured with assessments such as the *Counselor Self-efficacy Scale* ([COSES] Melchert, Hays, Wiljanen, & Kolocek, 1996) and the *Counselor Self-efficacy Inventory* ([COSE] Larson et al., 1992). To better understand counselor self-efficacy, examining how the construct is different from similar concepts can better explain the construct. A logical question to ask is about the relationship of self-esteem to self-efficacy. In fact, often in conversation and literature, self-efficacy and self-esteem are used interchangeably (Larson & Daniels, 1998), however there is a difference. Self-esteem is how a person feels about their self and self-efficacy is the value the person places on the ability of to successfully perform a task (Maddux, 2009). Self-esteem is a term that is more synonymous with self-worth. While these two constructs are close, a remarkable difference exists and may be more apparent in this example. A person who achieves a high score on the Graduate Record Exam (GRE) may feel a great deal of self-efficacy in taking the exam as the person believes they can successfully recall knowledge to get a high score on an exam. However, if the same person places a great value on athletics and little value on knowledge, he or she may feel an increase in self-efficacy in test taking because the person now believes he or she has the ability to successfully pass tests. But the high score will have little or no affect on self-esteem, as the achievement has not affected the feelings or belief about the self. This person's emphasis on athletic ability strengthens the beliefs and feelings they hold about the self and positive reinforcement of athletic ability, not academic achievement contributes to self-esteem. Self-esteem is the belief one holds about the value placed on a certain domain and self-efficacy is the degree to which one believes they can effectively perform in a certain domain.

Anxiety affects CSE

The second construct the study focuses on is anxiety that is explained as a feeling one has when nervous or uneasy, usually about an upcoming event or a behavior with an uncertain outcome (Freud, 1933). Anxiety causes multiple psychological and physiological effects such as, elevated blood pressure, sleeplessness, fatigue, nausea, feelings of dread and irritability (Van Gundy, Morton, Liu, & Kline, 2006). In counselor education, anxiety has a great affect on CITs during practicum and is rooted in: (a) the CITs questioning their competence; (b) the views supervisors, clients and colleagues hold of them; and (c) worries of being able to affect change in the client (Kelly, 2004). Anxiety can stunt or derail the professional growth a practicum experience intends to foster in the CITs. An understanding of anxiety is important, but also measuring the levels of anxiety existing in practicum students is important to this study. Anxiety can be measured by several instruments, but the State-Trait Anxiety Inventory ([STAI] Spielberger, Gorusch & Lushene, 1970), is widely used in studying counselor self-efficacy and anxiety (Larson & Daniels, 1998). The STAI measures both the state anxiety and trait anxiety. Anxiety can be identified as *state*, which is temporary and is moderated by the individual, or *trait* which is more an attribute of an individual's personality and is not easily moderated by the person (Spielberger, Gorsuch, & Lushene, 1970). Research has shown that anxiety has a negative correlation to CSE (Larson & Daniels, 1998) and this study examines the relationship that exists between CSE and anxiety.

CSE affects Treatment Outcomes

Experts agree that outcome measurement is the most important way to determine if counselors are effective (Lambert & Cattani-Thompson, 1996). Treatment outcome is broadly defined as (a) the act of measuring the effectiveness of the counseling process, (b) measuring symptom reduction, and (c) assessing the client's view of the counseling process' success (M. J. Heppner et al., 1998; Lambert & Cattani-Thompson, 1996; Shimokawa, Lambert, & Smart, 2010). The construct of treatment outcome derives from the Outcome Research body of literature that originated in the 1930s from the desire of psychotherapists and researchers to determine the success rate of client treatment (Lambert & Cattani-Thompson, 1996). Through the decades, the interest in the topic was fueled by therapists' goal of quantifying the effectiveness of counseling and managed care's desire for implementing evidenced based treatments (EBT). Managed care is the variety of techniques used by health care systems to reduce health care costs and improve the effectiveness of providing health benefits (Shimokawa et al., 2010). Both managed care and the researchers contributing to Outcome Research place a high value on measuring client's improvement and creating a level of accountability for the counseling profession (Shimokawa et al., 2010). Lambert and Thompson (1996) noted the research on treatment outcome showed that counseling is effective and that when compared to those who are waiting for treatment or receive a placebo, that those who are working with a counselor see an improvement. Also, when comparing those clients who received treatment to those who did not receive treatment, those in treatment were 80% better off than those in the control group.

Treatment outcomes are measured by several instruments, such as the Outcome Questionnaire 45.2 ([OQ-45.2] Lambert et al., 2004). The instruments measure the construct by quantifying the change attributed to therapeutic factors. The OQ-45.2 measures treatment outcome by assessing the levels on the subscales of symptom distress, interpersonal relations, and social role, then assigns a total to the subscales and a sum for the assessment giving the counselor an indication of the improvement or deterioration the client experienced during the counseling process.

Treatment outcome is important to this study and to the counseling profession for several reasons. First, treatment outcome provides a viable alternative to the manualized treatments managed care systems prefer in that using a systematic evaluation of the client's response to treatment allows the counselor to flex and adapt the treatment plan. The flexibility allows for a more organic intervention appropriate for the client's change. Additionally, for counselor education programs, the importance of CITs developing and using good clinical skills is superseded by assuring the clients welfare is protected and the clients perceive the counseling process to be effective (M. J. Heppner et al., 1998); treatment outcomes facilitate this process. Finally, assessing and monitoring treatment outcome is beneficial for counselor education programs as the process assists in monitoring if the program's counselors are performing efficaciously (M. J. Heppner et al., 1998).

Rationale

After understanding the constructs in the study, one might question the necessity of examining the value self-efficacy adds to counseling, to support the rationale for the study there

are several bases worth considering. First, self-efficacy affects personal and professional development (Zunker, 2006), an inherent goal in the practicum experience. Furthermore, low self-efficacy affects the selection of a career and the ability to develop and succeed in their career choice (Zunker, 2006). The level of development one achieves results from the cycle between self-efficacy and goals (Maddux, 2011). The cycle exists as the higher goals one sets, the greater self-efficacy if the goal is achieved; the higher self-efficacy one has, the loftier the next goal is set. Moreover, self-efficacy influences the levels of perseverance a person has when facing a challenge (Bandura, 1982), self-efficacy is an important element contributing to the resources a person uses and their ability to persevere (Maddux, 2011). The above factors support that self-efficacy is relevant to human development and counseling.

Also, counselor self-efficacy affects the development of CITs in several important modes. First, a direct correlation exists between anxiety and counselor self-efficacy (Bandura, 1986). Bandura (1986) stated there is an inverse relationship between anxiety and self-efficacy and research has shown that high levels of anxiety decrease counselor's self-efficacy (Barbee, Scherer, & Combs, 2003; Barnes, 2004; Betz, 2004; Greason & Cashwell, 2009; Larson & Daniels, 1998; Tang, Addison, Norman, Connell, & Stewart-Sicking, 2004). Based on this relationship, lowering a CIT's anxiety will increase the level of CSE the CIT has. Counselor self-efficacy is a lens which facilitates understanding how confidence and competence develops for CITs (Melchert et al., 1996a). An important role of counselor education is to develop effective counselors (Bernard & Goodyear, 2009), CSE assists in the development of counselors in training (Cashwell & Dooley, 2001) and helping the CIT translate their self-efficacy into confidence and competence (Melchert, et al., 1996). However, practicum supervisors often see

high levels of anxiety in first semester practicum students (Daniels & Larson, 2001) and based on anxiety's inverse relationship to CSE, the students will have lower levels of CSE. Thus, high levels of anxiety impair counselor development (Ronnestad & Skovholt, 1993). Furthermore, to avoid and reduce the impairment of development, increasing CSE increases CITs' abilities to solve problems and make better decisions (Melchert, et al., 1996), contributing to better clinical skills (Greason & Cashwell, 2009). Also, self-efficacy determines CITs perseverance and the amount of effort they expend when faced with a challenge (Maddux, 2011). The practicum experience is often a series of challenges for CITs (e.g., treatment planning, difficult client behaviors, challenging counseling situations) and increasing perseverance assists in the CIT's development. Finally, CSE affects supervision which directly influences the CITs' development (Cashwell & Dooley, 2001). During the supervision process, if the supervisor can help the supervisee to become more mindful, being aware of the thoughts and feelings being experienced in the *here and now* (Yalom, 1970), researchers have shown it will increase counselor's self-efficacy (Cashwell & Dooley, 2001). Due to this effect, counselor educators tailoring the supervisory experience to the CIT's level of CSE positively affects counselor development.

The topic of CSE was a zeitgeist of the 1990s and as a result of the research several main findings exist. As a result of the topic being of interest to scholars, one line of research has examined the effect of supervision on the development of CSE (Cashwell & Dooley, 2001) and found clinical supervision positively affects CSE. Also, researchers found the greater the exposure of CITs to a counseling environment through pre-service learning (i.e., volunteering in a counseling office) contributed to increased levels of CSE (Barbee et al., 2003). Furthermore, the counseling field and researchers began looking at specialized areas of CSE ([e.g., School

Counseling Self-efficacy, Multi-cultural Counseling Self-efficacy] Betz, 2004). Lastly, researchers identified the positive effect of mindfulness on the development of CSE (Greason & Cashwell, 2009).

While CSE may be an interesting topic, to support a research study there must also be a rationale for the study (Boote & Beile, 2005). CSE is important to counselors as it affects the CITs perseverance when faced with challenges, assists in professional development and is integral for the CIT in developing confidence and competence. Furthermore, CSE is important to the profession and to counselor educators, as an inverse relationship exists with anxiety that impairs learning during practicum, and CSE affects problem solving ability, a core skill in practicums for most CITs. For these reasons, counselor self-efficacy affects counselor development and the methods for developing CSE are worth investigating.

Research Question and Hypotheses

Since the 1990s when CSE was the research zeitgeist, little has been added to the body of scholarly literature as the profession continues to mature and evolve. During this time, the use of technology has integrated into the personal and professional lives of humans. However, the profession of counseling struggles with integrating a non-human aspect into a very human profession. For this reason, the use of technology is a facet of the research question and hypotheses.

The question the study attempted to answer was: Does a web-based, rich-media training program impact the development of counselor self-efficacy, reduce the level of anxiety of

master's level counseling students during their first semester in practicum or affect the treatment outcomes of their clients?

Hypothesis One

The use of embedded, rich-media in a distributed learning environment creates a positive effect on the counselor self-efficacy in counselors in training during practicum as measured by the Counselor Self-efficacy Scale (Melchert, Hays, Wiljanen, & Kolocek, 1996b).

Hypothesis Two

The use of embedded, rich-media in a distributed learning environment creates a positive effect on the anxiety in counselors in training during practicum as measured by the State-Trait Anxiety Inventory (Spielberger et al., 1970).

Hypothesis Three

The use of embedded, rich-media in a distributed learning environment creates a positive effect on treatment outcomes for clients of counselors in training during practicum as measured by the Outcome Questionnaire 45.2 (Lambert et al., 2004).

Hypothesis Four

The characteristics of individual practicums effect counselor self-efficacy, anxiety, and treatment outcomes as measured by the Counselor Self-efficacy Scale (Melchert et al., 1996b), the State-Trait Anxiety Inventory (Spielberger et al., 1970), and the Outcome Questionnaire 45.2 (Lambert et al., 2004).

Research Design

A quasi-experimental research design was used to investigate the effect of the treatment on the constructs. Below is an overview of the research design that will be fully explained later in Chapter Three.

Instrument and Variables

This study investigated three variables: CSE, anxiety, and treatment outcomes. More clearly, the study investigated if the use of an embedded, web-based, rich-media distributed learning experience affected counselor self-efficacy, anxiety, and treatment outcomes. The instrument chosen for determining the counselor's self-efficacy was the Counselor Self-Efficacy Scale ([COSES] Melchert, et al., 1996). The selected instrument has shown to have good internal validity with a Cronbach alpha of .91, a high test re-test reliability of .85 and has a correlation of .83 with the Counselor Self-Efficacy Instrument, ([CSE] Larson & Daniels, 1998).

The suggested instrument for measuring anxiety is the State-Trait Anxiety Inventory, ([STAI] Spielberger et al., 1970). Since the publication of the STAI, the assessment has been widely used. The STAI has two sections, the first measures state anxiety and the other measures trait anxiety. The alpha coefficients range from .83 to .92 for state anxiety and .86 to .92 for trait anxiety. As state and trait anxiety measures different facets of the construct, the alpha coefficients and more suitable for measuring reliability than measuring the test-retest reliability. The assessment has a consistently high internal validity and a high correlation with the IPAT Anxiety Scale at .75 and the Manifest Anxiety Scale at .80 (Dreger & Katkin, 2010).

The instrument recommended for measuring treatment outcomes is the Outcome Questionnaire 45.2 ([OQ-45.2] Lambert et al., 2004). The reviewers of the OQ45.2 in the Mental Measurements Yearbook stated the assessment is appropriate for many clinical settings including university counseling centers (Hanson & Merker, 2010; Pfeiffer, 2010). The instrument is a self-report assessment given to clients to measure (a) how the person is feeling, (b) how the person is getting along with others, and (c) how well the person is functioning with overall life tasks (Hanson & Merker, 2010). The assessment has a high coefficient alpha ranging from .91 to .93 depending on the scale or sub-scale supporting internal consistency and test-retest reliability, and concurrent validity with 11 similar instruments (Pfeiffer, 2010).

Population and Sample

The population for this study was CITs, who were master's level students enrolled in a counselor education program and active in counseling classes to become professional counselors. The sample was a purposive sample that included CIT's in their first semester of practicum at a university with a CACREP accredited program. A purposive sample was used for the following reasons: (a) this sample adjusts for the natural classes of practicum allowing for a non-randomized group, (b) the sample is based on the researcher's knowledge and experience with a given population, and (c) based on experience, and knowledge the sample is believed to be representative of a greater population. Simply stated, purposive sampling is when the researcher uses his or her judgment to select the sample based on personal knowledge (Fraenkel & Wallen, 2008). The main weakness of a purposive sample is based on the possibility of a judgment error in developing the sample (Gay, et al., 2006; Franken & Wallen, 2009). This sample was a

natural group, as the academic institution populated the class with students having met the pre-requirements and whose next academic progression was into the first semester of practicum. It is important to note there is a difference between a purposive sample and a convenience sample. The purposive sample is chosen by the knowledge and experience of the researcher, whereas a convenience sample is chosen by selecting individuals nearby (Gay et al., 2006). The sample was selected from the first semester practicum students during the fall of 2012 at a southeastern university.

In counseling, some conditions do not allow for random sampling and are better suited for purposive sample to benefit the research and the clients (P. P. Heppner, Kivlighan, & Wampold, 1999). For this study, each practicum consisted of a varying number of first semester practicum students that ranged from one to six participants. To control the threat to validity, experimental and comparison groups were used. The researcher divided the practicums in a manner to allow similar group sizes. The result was 16 first semester practicum students in the comparison group and 16 first semester practicum students in the experimental group creating a total sample size of 32 students.

Quasi-Experimental Research Design

Researchers must use logic to guide the selection of an appropriate research design (Gay, Mills, Airasian, 2006). The first step in choosing a design, is examining the type of information the study needs to collect in order to answer the research question. The path can lead to correlational studies, experimental studies and quasi-experimental studies (Gay, Mills, Airasian, 2006). Chapter Two will facilitate a better understanding of the relationship of the constructs,

thus this study was designed to understand the effect of the experimental condition on the sample population. For this study a quasi-experimental research design (Campbell & Stanley, 1963) is chosen based on several factors. The first, a quasi-experimental design allows for non-randomized selection of participants (Campbell & Stanley, 1963). Additionally, the quasi-experimental design allows the independent variable to be manipulated (Shadish, Cook & Campbell, 2002). In this study the independent variable was the level of skill and knowledge a CIT possesses contributing to their levels of counselor self-efficacy. In the experimental group, treatments were used to increase the CITs' knowledge and skills.

Another element within the design was using a non-equivalent control group, pretest posttest design (Campbell & Stanley, 1963). The groups are considered to be non-equivalent due to the lack of randomization. For this study, this element incorporated the use of a pretest, midtest, and posttest to measure CSE and anxiety helping identify the threats to internal validity (Campbell & Stanley, 1963). The element of the pretest allowed the groups to be more equivalent by identifying their selection bias (Campbell & Stanley, 1963) and the size and direction of the selection bias (Shadish, Cook & Campbell, 2002). The last reason this research design was chosen was selection bias is presumed by using the non-equivalent group, pretest, and posttest element.

It is important to note before moving on that others may have considered a correlational study. While a correlational study would be worthwhile and provide information about the effect the two variables have on each other, it would fall short of making valid causal inferences about the two variables. In this situation, where the researcher has the ability to create a control and

experimental group, the words of Campbell and Stanley (1963) prevail in that one should always strive for experimental design over correlational.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

The purpose of the current study is contributing to the body of knowledge with further understanding the process in which a CIT develops counselor self-efficacy. The study examined if there is a difference in the levels of counselor self-efficacy between practicum students who participate in knowledge and skill building experiences than those practicum students who do not. The Council for Accreditation of Counseling and Related Educational Programs (CACREP) requires the establishment of an educational environment facilitating the demonstration, modeling and education of the skills and dispositions necessary for counseling students to develop into professional counselors (CACREP, 2009). A primary element of facilitating the educational process for master's level students requires providing the resources and guidance to assist their growth into effective and ethical counseling professionals (Bernard & Goodyear, 2009). Although there are differing concepts on methods to encourage growth, most counselor education programs consist of two primary components for educating counselors-in-training (CIT) that are (a) educational and theoretical foundations, and (b) clinical experiences (Tang, et al., 2004).

Practicum is defined as a course in a college or university that provides practical experience in a specific field ("Practicum," n.d.). The period where counseling students enter practicum is a transitory time, one where students shift from learning the theoretical foundations of counseling to counselors-in-training. Idealistically, at this point the students have the necessary foundations of the counseling process to enter practicum and begin using the

knowledge of theories and skills in actual client counseling sessions. The transition causes a challenge for the students, since this is the first time the students are moving beyond a classroom, or artificial environment into a genuine application in an actual counseling environment (Tang et al., 2004). The challenging situation requires the CIT to grow to continue his or her development into a professional counselor (Trepal et al., 2010). Furthermore, this transition often increases the CIT's anxiety as they question their Counselor Self-efficacy (CSE) that is defined as their ability to counsel a client in the near future (Larson & Daniels, 1998). Moreover, Bandura (1982) noted an inverse relationship between anxiety and self-efficacy, or more clearly stated that a person with increased anxiety experienced reduced self-efficacy. As a result of lowered self-efficacy, the level of perseverance and effort a person expends to move past a challenging or difficult situation is also lower. Some counselors-in-training will quickly move through the transitory period and begin increasing their self-efficacy, while others may have greater difficulties in progressing; underscoring the belief that CITs with high levels of CSE will perform and with higher competences and CITs with low levels will perform with lower competence (Barnes, 2004). As counselor educators, refining the methods for improving counselor self-efficacy assists students in creating an easier transition through this period and facilitates greater and more efficient growth (Barbee et al., 2003). A key component for resolving the difficulties and challenges of moving into the clinical experience is the CIT's counselor self-efficacy, as the CSE affects the CIT's problem solving and decision-making skills used, and influences the effort and persistence in the face of a challenge (Maddux, 2009). The challenges practicum students experience often connect to the thoughts and emotions around attempting to successfully master counseling skills. More importantly, CSE is how the CIT

measures the level of counseling competency he or she has. Thus, the construct of counselor self-efficacy is paramount to improving the clinical experiences and the professional development of CITs.

During their clinical experiences the CITs are in a transitional period, one where transferring the knowledge previously learned in foundational classes and introductory clinical skills gained from mock client sessions in the classroom, to practical skills used with a client in a live session. Furthermore, anxiety and the feedback from evaluation contribute to the changes in levels of CSE (Barbee et al., 2003; Hiebert, Uhlemann, Marshall, & Lee, 1998; Larson & Daniels, 1998). During practicum, the challenge faced by counselor educators is maintaining or increasing the CSE to facilitate the necessary conditions for clinical growth to occur. This chapter will examine the anxiety created in the CIT resulting in lowered CSE and directly affecting their perseverance in the practicum.

Theoretical Development

Social Cognitive Theory

Self-efficacy is a construct rooted in theory and worth examining. Sigmund Freud is most often attributed to developing modern psychotherapy and counseling and he believed the source of mental distress resulted from unresolved anxiety associated with sex (Freud, 1933). As a contemporary of Dr. Freud's, Adler expanded upon this belief by developing Individual Psychology (Adler, 1928). Adler is thought of as a pioneer of the counseling field in that he broke away from the prevailing theories of change of his day and began conceptualizing patients beyond their psychiatric symptoms and conceptualized multiple domains which he believed

established the emotional and cognitive beings of his patients (Day, 2008; Gladding, 2004). In addition, Adler believed that mental and emotional distress occurred from issues other than those related to sex and began treating patients much more holistically. As a result of conceptualizing thoughts and feelings differently, a major tenet of Adler's theory is a person desires to be effective and successful (Adler, 1928).

Prior to the 1960s, the foundational theorists of psychotherapy developed concepts of how people learned though experimenting with animals in laboratories. The theorists would develop puzzle boxes, mazes, and artificial environments for the animals to navigate; from these observations developed theories of how concepts were learned (Crain, 2005). The learning theories stemmed from learned behaviors and became known as behavioral theories attributed to scientists like Pavlov and Skinner.

Ivan Petrovich Pavlov is often identified as being the father of learning theories (Day, 2008). Pavlov focused his scientific investigations on the physiological responses and later conditioning of animals. In his investigations, he discovered the dog began salivating before food was delivered. He considered the stimuli of the sound of footsteps approaching the dogs to be neutral stimuli, and studied the physiological response to develop the concept of conditioning (Pavlov, 1927).

B. F. Skinner rejected Pavlov's beliefs that learning occurred through constrained responses to stimuli. Instead, he believed learning occurs as one operates or moves freely within their environment, and in these conditions learn to repeat behaviors based on responses or consequences to a behavior. The animals in Skinner's experiments would discover an item of interest, often food, and would attempt multiple behaviors until discovering one behavior that

would lead to the favorable consequence (Skinner, 1953). Skinner developed experiments with cats who when placed in a box, would sniff, scratch, and claw to the get food. Once the cat discovered pulling a lever in the box released food and rewarded their effort, the cat learned repeating that behavior would provide food as a reward, thus learning to repeat the behavior. Skinner's model of learning behaviors is known as operant conditioning as the animal freely operated in the environment until learning a conditioned response.

In the 1960s Albert Bandura argued that learning goes beyond behavioral learning and operant conditioning to involve cognitive processes. Bandura published the Social Learning Theory that posited people learn in social situations, they learn behaviors by imitating others and this learning involves cognitive processes (Bandura & Walters, 1963). Later, he expanded the theory to include the powerful affect observing behaviors has on learning when he introduced the concept of learning from a modeled behavior (Bandura, 1971). He cited the example of a Guatemalan girl who watched her teacher weave fabric on a textile machine and after watching the demonstration replicated the process almost perfectly without any practice. Bandura noted people learn through observing the modeled behavior of others, then repeat the behavior and for this to happen, the learning occurred through internal cognitive processes. The Social Learning Theory later expanded to include the concept of self-efficacy (Bandura, 1986).

Around the same time, Erik Erikson extended his previous work with the Freuds to include focusing on the development of children in society. His work with children lead to publishing a theory that human development occurs in eight stages; a major tenet of this theory posited the acquisition of skills builds competency (Erikson, 1950). The competency leads to mastery, and the feeling of mastery develops self-efficacy. Simply stated, the more times a

person completes a skill successfully, the more capable the person feels to continue successfully completing the task. In the third stage of Erikson's theory *Initiative vs. Guilt*, he stated that individuals either learn to master a task to feel a sense of usefulness or they develop feelings of inferiority, that is better explained as feeling less effective than others (Erikson, 1964).

Self-efficacy. In 1986, Bandura renamed the Social Learning Theory to the Social Cognitive Theory as he realized learning has a cognitive component (Day, 2008) that was essential to personal development. Bandura introduced the concept of self-efficacy in literature during the 70s; often his contemporaries referred to the Social Cognitive Theory as the Self-Efficacy Theory. Self-efficacy can be defined as the degree to which an individual believes in their ability to perform a certain behavior or task (Bandura, 1986). He noted self-efficacy is more than only thought processes a person experiences, but a summary of the thoughts and experiences the person experiences that develops the person's belief of self-efficacy (Bandura, 1991). In the development of the Social Cognitive Theory, Bandura identified four sources that contribute to how one can gain self-efficacy, those sources are: (a) successful mastery of a task, (b) vicarious learning, (c) verbal persuasion, and (d) the response to emotional arousal (Bandura, 1986). Very similar to Maslow's hierarchy of needs (Maslow, 1962), Bandura noted there is a hierarchy in the development of self-efficacy as seen in Figure 1.

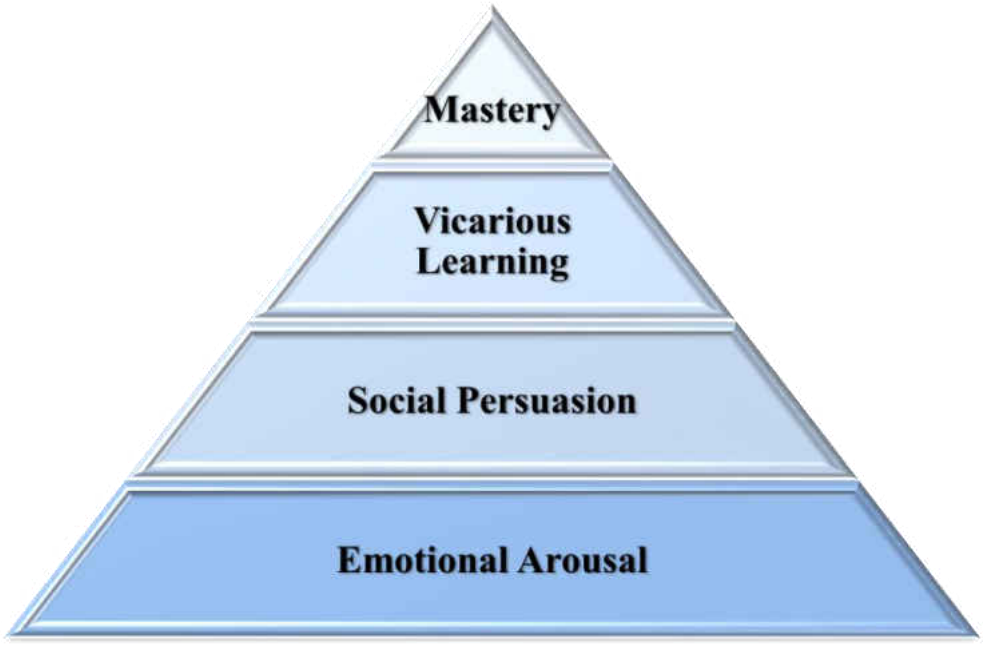


Figure 1. The effectiveness levels of Bandura's sources of self-efficacy.

Beginning at the lowest level on the hierarchy of effectiveness, emotional arousal is a person's responses and emotional reactions to situations (Bandura, 1986). The responses can vary as a result of many factors, such as mood, physical state, emotional reaction, and stress levels. These responses affect the amount of self-efficacy a person feels at a particular moment (Crain, 2005). Moving up to the next most effective method for developing self-efficacy, social persuasion creates greater levels of self-efficacy than emotional arousal and can be explained by a person's ability to accept and interpret external verbal influence increasing a person's beliefs about their capabilities in a particular situation. The concept of social persuasion is often seen in athletics and the following example illustrates the concept. A football coach recognizes the team needs encouragement for increasing the beliefs in their athletic abilities to perform in a manner

that will win the game, and the coach will deliver a motivating speech that socially and verbally persuades the team they have the ability to win the game. The coach's persuasion assists the team in overcoming their self-doubts and increasing the beliefs they are capable of performing in a way that will win the football game. Going up another level on the pyramid in Figure 1, vicarious learning, often called social modeling is a more effective way to increase self-efficacy than social persuasion. Vicarious learning is seeing people similar to one's self performing an activity or behavior and believing one also possesses the capability to successfully perform in a similar manner (Bandura, 1982). Vicarious learning is synonymous with the term *modeling,* a term common in counselor education and counseling literature. At the top of the pyramid there is the most effective way of increasing self-efficacy is successfully mastering a task (Bandura, 1986). As a person attempts a new activity or behavior and succeeds, his or her sense of self-efficacy increases. If in the early stages of adopting a behavior or performing an activity one attempts and fails, there is a reduction in self-efficacy, however that reduction may be mediated by subsequent successful accomplishment of the same action. Once the person establishes a history of successfully repeating the activity, the self-efficacy is less vulnerable to fluctuation from a single performance of the activity (Bandura, 1989).

Components of Professional Counselor Training

Across the United States, institutions of higher education often seek accreditation to demonstrate their commitment in meeting high academic standards. Colleges and universities have several options when considering accreditation for their counseling programs, they can choose CACREP accreditation for their program, they can opt for another specialized

accreditation, or they can choose not to have their program accredited. Whatever their choice on accreditation, counselor educators agree that the CACREP standards and the educational curriculum are relevant for the development of counselors-in-training (Schmidt, 1999). Since 1981, CACREP has become the commonly accepted standard for accreditation in counselor education programs (Tang et al., 2004). As a result of the standard, the number of educational institutions that chose to be CACREP accredited and the number of leading counseling programs with accreditation steadily increased. As part of the accreditation process, the institution must adhere to the CACREP standards (CACREP, 2009). The standards ensure accredited counseling program are using similar educational practices so the graduates will leave the institution with similar knowledge, skills, and professional identities. The standards also certify the counseling program has undergone an evaluation and meets the criterion set by the counseling profession. The overarching goal is to homogenize the knowledge and skills the students gain in the program, and the students are appropriate and consistent with the professional identity of a counselor. Gaining accreditation confirms the quality of the program for potential students, the quality of the graduate for prospective employers and the quality of education received for state licensure and professional certifications. As an accredited program, the school will focus on theoretical foundations and clinical experiences (Council for Accreditation of Counseling and Related Educational Programs, 2009). Counselor educational programs contain the components of knowledge, skills, and competence that are evaluated to successfully complete the program. An examination of the components will be helpful in understand the literature.

Knowledge

The goal for institutions of higher education is to facilitate the acquisition of knowledge by students and the goal focuses on the students attending classes and participating in instructional environments that will nurture the development of knowledge the students will carry with them after leaving the institution (Bain, 2004). In counselor education programs accredited by CACREP, the knowledge the counselors-in-training should acquire is delineated in the CACREP standards (CACREP, 2009). CACREP clearly identifies CIT's knowledge to include the areas of (a) professional orientation and ethical practice, (b) social and cultural diversity, (c) human growth and development, (d) career development, (e) helping relationships, and (f) group work, (g) assessment; and (h) research and program evaluation for (a) Addictions Counseling, (b) Career Counseling, (c) Mental Health Counseling, (d) Marriage, Couples and Family Counseling, (e) School Counseling, (f) Student Affairs, and (g) College Counseling (CACREP, 2009).

Knowledge is the foundation that professional experience builds on (Bain, 2004). This concept is particularly meaningful in counselor education where knowledge is the foundation for the clinical experiences. As stipulated in their standards, CACREP utilizes the foundational knowledge of the counseling profession as a base from which the clinical experiences build (CACREP, 2009). The standards operationalize the education of a CIT to warrant students are knowledgeable in the theories of change, counseling techniques, addictions, diagnosis, assessment, and other responsibilities of a counselor prior to entering the field. CACREP standards do not indicate the necessary knowledge level to begin clinical experiences, but Bloom's Taxonomy would recommend the student be in the developmental categories of

application or analyzing at the time they enter their clinical experiences (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). This knowledge is the foundation from which counselors understand the counseling process, develop counselor self-efficacy and effectively provide counseling services to clients during the clinical experiences.

Skills

A skill can be defined as "the ability, coming from one's knowledge, practice, aptitude, etc., to do something well" ("Skills," n.d.). Skills are aptitudes used daily by humans in many forms such as cooking, driving, learning, and working. In counselor education, examining the CACREP standards can identify counseling skills. The word skill appears 72 times in the 63-page document, indicating this topic receives a great deal of attention. To gain a better understanding for the scope of counseling skills an examination of the areas that identify the term, and explain the sub-categories and the skills more fully is helpful. The areas and subcategories include (a) *professional identity development*: in helping relationships and in group work (CACREP, 2009, p. 12-13); (b) *professional practice*, in practicum (CACREP, 2009, p.16); in (c) *Addiction Counseling*: in foundations, counseling, prevention and intervention, diversity and advocacy, assessment, research and evaluation, and diagnosis (CACREP, 2009, p. 18-23); in (d) *Career Counseling*: in foundations: counseling; prevention and interventions; diversity and advocacy; assessment; research and evaluation; program promotion, management, and implementation; and information resources(CACREP, 2009, p. 24-29); in (e) *Clinical Mental Health Counseling*: foundations; counseling, prevention, and intervention; diversity and advocacy; assessment; research and evaluation; and diagnosis, (CACREP, 2009, p. 30-35); in (f)

Marriage, Couple, and Family Counseling: foundations; counseling, prevention, and intervention; diversity and advocacy; assessment; and research and evaluation, (CACREP, 2009, p. 36-39); in (g) *School Counseling*: foundations; counseling, prevention, and intervention; diversity and advocacy; assessment; and research and evaluation; academic development; collaboration and consultation; and leadership, (CACREP, 2009, p. 40-46); in (h) *Student Affairs and College Counseling*: foundations; counseling, prevention, and intervention; diversity and advocacy; and assessment; research and evaluation, (CACREP, 2009, p. 47-51); and in (i) *Doctoral Standards Counselor Education and Supervision*, (CACREP, 2009, p. 52-58). As seen in the lengthy list above, skills permeate the counselor education curriculum and are clearly defined.

CACREP emphasizes and explains counseling skills; the prevalence of the topic indicates the importance of skills to the profession. During theoretical and foundational classes, the instructors teach skills, the students practice the new skills and then during their clinical experiences the CITs hone these skills. Bernard and Goodyear ((2009) noted the profession of counseling integrates the science of counseling gained during classes and the art of practice students learn during their clinical experiences. During these experiences, students receive instructions and guidance from supervisors who are the key to integrating the science and art while assisting in the developing the CIT's clinical skill set (Bernard & Goodyear, 2009). Bandura (1986) stated that self-efficacy is the perceived confidence one acquires form the successful practice and performance of skills, which supports the need for CSE during the clinical experiences.

Larson and Daniels (1998) found there were several studies that used treatments to improve CIT's skills. During the meta-analysis, they found the use of role-plays and modeling were the most effective methods for increasing skills. Since their analysis, Urbani et al. (2002) found strengthening the skills of CITs through role-plays and videos significantly increase their CSE more than those in the control group.

Competence

Competence can be defined as the possession of skills, knowledge, and capacity in an area ("Competence," n.d.). The necessity of competence is evident in the CACREP standards:

> The program faculty conducts a systematic developmental assessment of each student's progress throughout the program, including consideration of the student's academic performance, professional development, and personal development. Consistent with established institutional due process policy and the American Counseling Association's (ACA) code of ethics and other relevant codes of ethics and standards of practice, if evaluations indicate that a student is not appropriate for the program, faculty members help facilitate the student's transition out of the program and, if possible, into a more appropriate area of study (CACREP, 2009, p. 5).

Similar to most professional development educational programs, counselor education programs develop the competencies incrementally during the progress through the program. CITs are evaluated to be competent as described by CACREP during that time. The competencies of the CITs are the bases for most evaluations the students receive. Several

external mechanisms are used in counselor education to ensure that credentials are only given to counselors-in-training who are minimally competent (Daughhetee, Puleo, & Thrower, 2010).

Counselor Self Efficacy

Theory

Bandura (1968) defined self-efficacy as the degree to which an individual considers one's self capable of performing an activity. Applying the concept to counseling, Larson and Daniels (1998) standardized the definition of counselor self-efficacy as "one's beliefs or judgments about her or his capabilities to effectively counsel a client in the near future". The concept of self-efficacy and the Social Cognitive Theory were extended to counselor education with the Social Cognitive Model of Counselor Training ([SCMCT] Larson, 1998). Larson (1998) posited that self-efficacy, along with the intermediating affective, cognitive, and motivational components serve as the link between knowing or understanding the correct action or behavior and executing the action or behavior. The SCMCT connects the Social Cognitive Theory to counselor self-efficacy (CSE).

Counselor self-efficacy is important to counselor education for many reasons as noted earlier. The first, there is a direct correlation between anxiety and counselor self-efficacy, research found high levels of anxiety decrease counselor's self-efficacy (Larson & Daniels, 1998). Furthermore, high levels of anxiety impair counselor development (Ronnestad & Skovolt, 1993). Additionally, an important goal of counselor education is to develop effective counselors (Bernard & Goodyear, 2009) and CSE assists in developing counselors in training

(Cashwell & Dooley, 2001). Most importantly, self-efficacy determines how CITs persevere and the amount of effort they expend when faced with a challenge (Maddux, 2009).

Research

A theoretical understanding of the constructs is important. However, reviewing the literature has the responsibility for going beyond the theoretical literature and also examining the relevant empirical studies that contribute to the proposed study (Boote & Beile, 2005). The following shifts focus to examine the empirical research on the construct of CSE.

1998 Meta-analysis. Counselor self-efficacy was the zeitgeist of the late 20th century (Larson & Daniels, 1998). The authors conducted a meta-analysis that examined 32 articles; 14 were published, 13 were theses or dissertations and four were under review to be published (Larson, 1998). The meta-analysis was published in a peer-reviewed journal, and literature often refers to this analysis as a summation of all the research that preceded the article. Larson & Daniels (1998) noted several key components that are relevant to this study.

CSE. Through literature, the meta-analysis noted and standardized the use of the term counselor self-efficacy and defined the term to be the belief or judgment a one has about the ability to counsel a client in the near future (Larson & Daniels, 1998). The article recognized the abbreviation CSE to represent the term and has become an accepted standard in subsequent literature (Cashwell & Dooley, 2001; Easton, Martin & Wilson, 2008; Greason & Cashwell, 2009; Tang et al., 2004).

Social Cognitive Theory. The analysis recognized that CSE is embedded in the larger Social Cognitive Theory (Cashwell & Dooley, 2001; Daniels & Larson, 2001; Larson & Daniels,

1998; Larson et al., 1999). The authors noted that while Bandura did not directly address the subject of counselor self-efficacy, the theory was translated and adapted to the training of counselors. Bandura posited the amount of effort expended when faced with a challenge, the choices one made when choosing an action, and the level of persistence one expressed during failure were determined by the level of self-efficacy a person has (Bandura, 1977, 1986). The self-efficacy beliefs directly influences counselors with the self-generated processes they exhibit. Those processes include motivational processes, affective processes, and cognitive processes and combine into the concept Bandura (1986) called personal agency. Simply said, personal agency is the dynamic system humans have to respond in ever-changing and dynamic situations. The system is a core component of facilitating the therapeutic relationship for counselors, as the relationship is organic and can change direction or focus as the client's thoughts change in direction.

Instruments. The authors found 10 studies attempted to measure CSE. Four of the measures focused solely on individual counseling. Those instruments were the Interpersonal Self Efficacy Scale ([ISES] Munson, Zoerink, & Stadulis, 1986), the Counselor Behavior Evaluation – Self-efficacy ([CBE – SE] Munson, Stadulis, & Munson, 1986), the Counselor Self-Efficacy Scale ([CSES] Johnson, Baker, Kopala, Kiselica, & Thompson, 1989), and the Counselor Self-Estimate Inventory ([COSE] Larson et al., 1992). Two measures went beyond individual counseling to also measure perceptions of counselor self-efficacy in group counseling and were the Counselor Self-Efficacy Scale ([COSES] Melchert, Hays, Wiljanin & Kolocek, 1996) and the Self-Efficacy Inventory ([SE-I] Friedlander & Snyder, 1983). Three other measures were specialty specific, for school counseling, Counselor Self-Efficacy Survey, ([CSS]

Sutton & Fall, 1995), the Career Counseling Self-Efficacy Scale ([CCSES] O'Brien, Heppner, Flores, & Bikos, 1997), and for psychiatry the Self-Efficacy Questionnaire ([S-EQ] Margolies, Wachtel, & Schmelkin, 1986). The final instrument was the Self Efficacy Inventory ([SEI] Sipps, Sugden, & Faiver, 1988) and was used to measure CSE when viewing a video. The most widely used instrument in their analysis case the COSE with a 43% usage rate.

Anxiety. There were seven studies that examined the effect of anxiety on CSE. Six of those studies used the State-Trait Anxiety Inventory ([STAI] Spielberger, 1983) to measure CITs anxiety levels. The studies showed anxiety was significantly correlated to counselor performance and CSE (Larson & Daniel, 1998).

Interventions. The analysis examined 12 studies that focused on increasing counselor self-efficacy through one of Bandura's (1986) sources of increasing self-efficacy. Those sources are (a) emotional arousal, (b) verbal persuasion, (c) vicarious learning, and (d) mastery. Five of the studies examined modeling and role-playing and found that modeling, role-playing, and visual imagery were effective for those who exposed to these treatments (Larson & Daniels, 1998). Five studies examined the role practicum has on the increase of CSE and found that in four of the studies CSE increased over the course of practicum and in one study it did not. None of the studies used a control group to measure the effect of the experiment. The authors noted that practicums include all four sources for creating self-efficacy.

Increasing Counselor Self-efficacy. The development of counselors-in-training is an important role of counselor education (Bernard & Goodyear, 2009). Self-efficacy moderates the development (Bandura, 1986) and counselor self-efficacy moderates the development of CITs.

While self-efficacy is important, it does not equate to competence (Greason & Cashwell, 2009). Competence develops with a combination of education, training and experience.

To begin the process of developing competence, education in counseling is the first step in professional development. Counselor education departments divide curriculums into two major components, the first is education and training in the foundations of counseling and the second is clinical experiences (Tang, et al., 2004). The education in foundational elements may vary from institution to institution but accredited programs include instruction on the core areas of (a) professional orientation and ethical practice; (b) social and cultural diversity; (c) human growth and development; (d) career development; (e) helping relationships; (f) group work; (g) assessment; and (h) research and program evaluation (CACREP, 2009, p. 9-14). A correlation exists between greater levels or CSE and higher levels of education. In a study of 138 participants at one location, Melchert, Hays, Wiljanin & Kolocek (1996) found training and clinical experience contribute to higher self-efficacy scores as reported by the COSES. The 47 participants in the first year of their master's program had an average CSE of 3.36 (*SD* = .61); the 31 participants in the second year of their master's program had an average CSE of 3.83 (*SD* = .40); the 53 participants in the doctoral program had an average CSE of 4.26 (*SD* = .40); and the seven participants group of psychologist had an average CSE of 4.71 (*SD* = .13); the effect of education and training, therefore, was significant, $F(1, 135) = 66.25$, $p < .0001$. This study was self-report and the level of CSE was subjective. Building on this study, Tang, et al., (2004) expanded this study to six counselor education programs and validated the original findings. The researcher conducted a multivariate analysis of variance (MANOVA) and found CSE "was most strongly linked with course work" (Tang et al., 2004). The study found CSE was significantly

correlated to foundational education $r(55) = .59$, $p < .01$ (Melchert et al., 1996a). While the study was conducted on multi-sites, the study lacked a control group and limits the ability to generalize to a greater population.

Another study examined the effect on CSE of introducing counseling pre-practicum students to a service-learning environment (Barbee et al., 2003). In this study, 113 students participated in service learning, a method of integrating service into counseling that exposes students to a professional counseling environment though volunteer opportunities where counseling occurs, prior to beginning their clinical experiences. The study measured their CSE using the Counselor Self-Efficacy Scale (Melchert et al., 1996a) and found exposing students to service in a counseling environment was similar to the findings of Melchert et al. (1996) who found similar levels for more advanced students. The 113 study participants had a mean score of 3.85 (no *SD* provided), higher than those completing the second year of the master's program in in clinical experiences that had a mean score of 3.82 ($SD = 4$). The research methodology could have been stronger and the findings more specifically reported, however the study continued adding to the body of scholarly knowledge confirming education and training influence CIT's counselor self-efficacy.

As CITs continue through a counselor education program, they continue to gain knowledge and experience. Several studies have found a positive relationship exists between CSE and the training CITs receive during their master's programs (Barbee et al., 2003). Researchers found a significant relationship existed between the years of experience a counselor had and the level of CSE the counselor had (Melchert et al., 1996a). An one way analysis of variance showed that the effect of experience was significant, $F(3,134) = 23.44$, $p < .001$. Post

hoc analyses indicated that the average level of CSE was significantly higher in the group of practicing psychologist (M = 4.71, SD = .13) than in the doctoral students (M = 4.26, SD = .40), the second year master's students (M = 3.82, SD = .40), and the first year master's students (M = 3.36, SD = .61). The study is relevant to the proposed study as it identifies the CIT's CSE level is the lowest during their first and second years of education.

Building on earlier studies that noted education and training increased CSE, researchers examined specific methods of training that contributed to increasing counselor self-efficacy (Urbani et al., 2002). To examine if specific training was helpful, Urbani et al. (2002) studied 61 CITs who were enrolled in a course just prior to entering the clinical phase of their education. The 52 students in the experimental group were enrolled in a counseling course that included 12 three-hour classes with an hour of instruction and two hours of skills-based training, and in small groups focused on learning and using counseling skills. The control group consisted of nine students who were enrolled in an instructional class that did not include the two hours of skills training. After completion of the 12-week classes, the students completed the COSE, a self-report measure of CSE. The 52 participants in the skills training classes had an average CSE of 83.03, (SE = .57); the 9 participants in the control group had an average CSE of 31.48, (SE = 1.41). The effect of training on the use of counseling skills prior to clinical experiences, therefore was significant, $F(1,58) = 1123.48$ $p < .001$. The research methodology was sound but could have been improved by using a pretest to control for internal validity. However, the study is similar to the current study and provides support for examining the CSE of students earlier in the educational process.

Expanding on using training to increase CSE, researchers focused on specific interventions and their affect on the self-efficacy of counselors. According to Social Cognitive Theory, the two most effective methods for increasing self-efficacy are mastery and modeling, or termed vicarious learning in the theory (Bandura, 1986). In counselor education, mastery is effectively counseling a client, and vicarious learning is observing the successful performance of a counseling skill. Vicarious learning takes many different forms, however, building on the CSE meta-analysis (Larson & Daniels, 1998), researchers focused on the interventions of videos, role-play, and imagery as interventions. Larson et al. (1999) examined which of the interventions was most successful for increasing CITs levels of CSE. In the study, the researchers compared participants who observed a video of a successful counseling session to participants who participated in role-playing the counselor in the same scenario as the first group saw in the video. The video was 15 minutes in length and simulated a successful counseling session using two doctoral students, with rehearsals to ensure consistency and length equated to the role-play. The role-play intervention included an instructional video, an opportunity to act as the counselor and feedback on their skills. The 67 participants were students enrolled in counselor education programs at three geographically separated universities. A hierarchical regression was used to test if the interventions significantly predicated an increase in participants CSE scores. The results of the regression indicated the two interventions explained 78% of the variance ($R^2 = .78$, $F(2,67) = 13.90$, $p < .001$). It was found that both interventions significantly predicted CSE, with role-plays being more effective than videos (β values not provided by the author). The reporting of the results by the authors could have created greater significance to the finding by identifying the specifics of the statistical results; the study was well designed and continued to

add to the body of scholarly work examining CSE interventions. A limitation of the study includes the omission of measuring the effect of feedback on the levels of CSE.

Adapting Social Cognitive Theory to counselor education and Bandura's levels of effective methods for increasing self-efficacy is applied to the development of CITs with an identification of how the tasks may occur in counselor education. A CIT successfully counseling a client is mastery, observing all or parts of a successful counseling session and assimilating those actions and behaviors is vicarious learning, the CIT integrating positive feedback from colleagues and supervisors is verbal persuasion and a CIT who uses their fear of counseling to further research counseling skills is emotional arousal. Fortunate for researchers, all of these sources for increasing self-efficacy are present in the practicum experience.

Summary

Counselor self-efficacy is the belief one holds that he or she can effectively counsel a client in the near future. The construct originates from the Social Cognitive Theory (Bandura, 1968) and is present in theoretical and empirical literature. The construct was the zeitgeist of counseling in the early 90s and has several instruments designed to measure it. Research has found that education (Melchert et al., 1996a) and experience (Barbee et al., 2003) increase levels of CSE. Additionally, active interventions have greater impact on CSE (Daniels & Larson, 2001) than passive interventions. This research impacts and directs the current study.

Anxiety and Counselor Self-efficacy

General anxiety is identified by the following characteristics (a) excessive worry about events or activities; (b) the feeling is difficult to control; (c) the feeling is accompanied by

symptoms such as fatigue, edginess, difficulty concentrating, irritability, muscle tension and difficulty sleeping; and (d) the feeling is not caused by other psychological or physiological conditions (American Psychiatric Association, 2000, p. 476). Anxiety is a term that is commonly used in contemporary discussions, however common the concept is the condition of anxiety creates challenges for many. As with all aspects of human development, the condition of anxiety also has implications for counselor education and the development of counselors-in-training. Anxiety is a factor that contributes or distracts from the professional development of CITs, depending on the student's levels of CSE (Barnes, 2004). A review of the literature and empirical evidence for the construct of anxiety as it affects CSE follows.

Theory

Prior to examining the research on anxiety and CSE, a review of the literature contextually discussing the construct assists in better understanding the empirical studies. Anxiety is a response that can be experienced physiologically and psychologically. When experiencing anxiety physiologically, a people may have a rapid heartbeat, the palms of their hands may sweat, they may have racing thoughts, and the anxiety may cause a fear that is unfounded. Psychologically, anxiety can manifest in fear, worry, depression, and other affective states. The feeling can manifest in cognitive, affective, and behavioral domains. In the early 70s, anxiety was identified with two distinct components, those of state and trait anxiety (Spielberger et al., 1970). State anxiety is a temporary or situational condition of perceived tension (Bodenhom & Skaggs, 2005). Additionally, stressful situations that threaten the belief about one's self increase the level of state anxiety (Kendall, Finch, Auerbach, Hooke, &

Mikulka, 1976). Trait anxiety is more long-term and consistently present condition (Bodenhom & Skaggs, 2005). To clarify the difference between the two forms of anxiety, consider the following example. A person walking alone on a dark street may feel anxious when a stranger approaches, but after the stranger passes and the person feels safe the anxiety decreases, this is state anxiety as it a temporary state or condition the person is in. However, a person who feels a constant or long-term sense of anxiety when people are near is experiencing trait anxiety, as the feeling is not passing or situational, and it appears as a trait of the person.

Bandura recognized the stressed state anxiety created, and the impact anxiety had on cognitive development (Bandura, 1982). The Social Cognitive Learning Theory posits that learning occurs in a social environment, and if a person is in an anxious state, the learning may be interrupted or misguided causing the learning not to occur or for incorrect learning to occur. Bandura noted an inverse relationship exists between anxiety and self-efficacy; as anxiety increased, self-efficacy decreased and as self-efficacy increased, anxiety decreased. The effect of anxiety extends from the Social Cognitive Theory to the development of counselors-in-training. It is common for counselors to experience greater levels of anxiety when beginning to apply the knowledge from foundational coursework to clinical skills during practicum (Larson & Daniels, 1998; Cashwell & Dooley, 2001; Daniels & Larson, 2001). Researchers describe the anxiety experienced during this period as intense and pervasive often leading to an external locus of control and ultimately diminishing growth (Ronnestad & Skovholt, 1993). Researchers found the intensity of the anxiety diminishes or disappears as the levels of experience and CSE of the counselors increase. Ronnestad & Skovhot conducted interviews with counselors and found that the primary affective experience for CITs was anxiety and doubts about competence was

common at the early stages of the CITs professional development (Bischoff et al., 2002). Those CITs with higher levels of CSE will view the anxiety as challenging and set realistic, yet moderate goals challenging themselves to move beyond the anxiety (Larson & Daniels, 1998). The inverse also applies; the CIT with lower CSE would view the challenge as overwhelming setting lower goals, may feel stuck or even lacking the perseverance necessary to overcome the challenge.

The practicum experience is one where the CIT comes in to contact with many new experiences, such as attending skills, diagnosis, treatment planning, and other clinical skills; each student will respond to the stimuli in practicum differently. During practicum new information and situations are introduced and assimilated by the CITs, the learning of new behaviors can create anxiety for the students (Betz, 2004). Often the anxiety stems from low CSE and low sense of competence. Regardless of the source, the development of anxiety can interfere or interrupt the learning process (Hiebert et al., 1998).

Meta-analysis of CSE and anxiety. The meta-analysis of all literature prior to 1998 stated research found state and trait anxiety negatively correlates with CSE and anxiety caused the greatest variance to the levels of CSE and CIT experiences (Larson & Daniels, 1998). Furthermore, the anxiety a CIT experiences during practicum can have a positive affect such and aiding the CIT to move beyond the challenge and persevere or anxiety can have a negative affect in creating self-destruction that manifests in decreased motivation or discouragement, resulting in stagnation or failing to complete graduate school. The authors noted experience mediates this effect, but without experience the CITs may question their competence at completing simple or natural tasks.

Research

In addition to the published theoretical literature on the construct, there are empirical studies worth examining, as the studies add relevance to the current study. Bandura (1986) identified four sources for developing self-efficacy with two of the most effective being vicarious learning or modeling and mastery. Both sources require the CITs to perform counseling skills in role-plays or with clients to begin increasing both their self-efficacy and their skill levels. When learning and performing a new skill, anxiety often accompanies the process (Betz, 2004). Performance anxiety can hinder development, induce fear for specific performance situations, the individual often sets higher goals or standards than the norm, and develops a fear of being under scrutiny (Tatum, Lundervold, & Ament, 2006). To examine performance anxiety, Tatum, et al. (2006) examined 20 undergraduates who reported test anxiety. The researchers divided the group evenly into a control and experimental group, the experimental group received Behavioral Relaxation Training as an intervention to examine the effect of the intervention on reducing performance anxiety. The researcher found by using an independent *t* test, a significant difference between the groups. The group who participated in relaxation training scored significantly lower on an anxiety assessment (M =18, SD = 3.65) than the control group (M = 22.4, SD = 2.84), $t(20)= .62$, $p < .05$). The study examined the effect of relaxation training as an intervention and contributes to the research supporting the proposed study, however the small sample size is a limitation of the study.

Meta-analysis of anxiety and CSE. The meta-analysis on counselor self-efficacy also included the construct of anxiety (Larson & Daniels, 1998). The authors found that during the zeitgeist seven studies examined the effect of anxiety on CSE and reported the studies found a

negative correlation between CSE and State-Trait anxiety. Six of the seven studies used the State Trait Anxiety Inventory ([STAI] Spielberger et al., 1970) and the author's noted the assessment was often used due to the stable psychometrics of the instrument. Four of the studies examined methods for reducing anxiety through interventions such as modeling, role-playing, positive and negative feedback, and watching videos of counseling sessions. The major findings of the studies revealed that CITs who received positive feedback had lower anxiety levels and pre-practicum students who had practiced counseling skills in role-plays had lower anxiety levels than those without that opportunity. The previous research adds to the body of knowledge exploring the affect of anxiety on CSE.

Current Research. Since the meta-analysis, additional studies add to the body of scholarly knowledge examining the effects of anxiety on CSE. A study conducted by Hiebert et al. (1998) on 95 participants enrolled in pre-practicum classes on two separate universities. As an intervention, the researchers provided education and training on counseling skills for the experimental group, then asked the experimental and control groups to watch a video of a counseling session and complete a pencil and paper assessment of their self-talk and anxiety levels (Hiebert et al., 1998). To analyze the results, the researchers used a multivariate analysis of variance (MANOVA) and followed it with univariate analysis to examine the changes to the groups. The study found there was a significant main effect for the treatment $F(3,76) = 4.13$, $p < .01$, with a follow up analysis showing a moderate correlation at the treatment groups between the reduction of negative self-talk and the reduction of anxiety $r(74) = .55$, $p < .01$ and a low, but significant correlation between reduction of anxiety and an increase in positive self talk, $r(74) =$

-.32, $p < .01$. The use of the control group provided greater validity to the study. The identification of interventions involving active participation is relevant to the current study.

Similar to the previous study, other researchers studied the effect of feedback on anxiety and CSE. The study examined 45 graduate students in counselor education and counseling psychology departments at a single university (Daniels & Larson, 2001). The participants were at various levels of professional development and clinical experiences ranging from no hours of coursework to post-practicum. The researchers used a pretest and a posttest to determine the differences in the participants' scores on the STAI and COSE measuring the levels of anxiety and CSE. The participants were given a description of a mock client, watched a video of the client and then practiced while the researchers provided feedback on the participant's counseling skills. Following the feedback, the participant conducted a 10-minute session with the mock client and then completed the posttest. The researchers analyzed the data using a repeated measures analysis of variance (ANOVA) and found there was a significant interaction between feedback and anxiety, $F(1,43) = 26.94$, $p < .001$ supporting the researchers' hypothesis that a significant difference would exist between the pretest and posttest on the participants anxiety levels depending on the feedback received from supervisors as the research further identified, the effect of feedback on CIT's anxiety. The study followed sound research design and is relevant to the proposed study. However, utilizing participants at similar experience levels would strengthen the results and provide clearer implications for counselor educators.

Further examining anxiety, researchers examined the effect of service learning on the professional development of CITs. Service learning is a method of inserting students into community services to extend the learning environment for the students (Barbee et al., 2003). In

counselor education, service learning is often providing a student the opportunity to volunteer at a community organization that offers counseling services, the experience allows the student to work in and be exposed to a counseling environment. Barbee et al., (2003) conducted a study of 113 pre-practicum counselor education students at two universities on the effect of service learning on the students' professional development. The researchers used the State-Trait Anxiety Inventory ([STAI] Spielberger, Gorsuch, & Lushene, 1970) and the Counselor Self-efficacy Scale (Melchert et al., 1996a) to evaluate the constructs of anxiety and CSE. The researchers used a pretest and a posttest to measure the participants prior to beginning the service learning and at the completion of the experience. The researchers analyzed the data using independent paired *t* tests and found a significant relationship existed between service learning and State-Trait anxiety, $t(113) = 24.35$, $p = .038$. The study found that the participants with service learning experience had lower levels of anxiety than those in the control group who did not have the treatment experience. The study used sound research methodology and the use of a pretest and posttest reduced threats to internal validity. The research impacts the proposed study as it is a similar design and further identified CIT's exposure to counseling environments increases CIT's self-efficacy.

Summary

Anxiety contributes or distracts from the development of counselor self efficacy by counselors-in-training. Anxiety can manifest in physiologically and/or psychological responses and can be identified as trait or state anxiety. Researchers found experience and training impact the levels of anxiety and anxiety has a negative correlation on CSE. Additionally, interventions

such as relaxation, role-playing, and feedback reduce anxiety levels. The literature, both theoretical and empirical directly impacts the development of the proposed study.

Treatment Outcome and Counselor Self-Efficacy

The counseling process involves two essential components; the first is the counselor and second is the client. The two previously examined constructs of anxiety and counselor self-efficacy measure counselor's characteristics. In addition to these measurable traits, the construct of treatment outcome considers the effect of the counseling process on the client. From a counselor education perspective, the development of knowledgeable and capable counselors is important (CACREP, 2009). Furthermore, from a counseling viewpoint, examining the outcome of treatment is significant to counselors, clients, counselor educators (Shimokawa et al., 2010). The American Counseling Association's Code of Ethics (2005) places the welfare of clients as the primary goal of all counselors. An element of the client's welfare is the effectiveness of treatment the client receives and the effectiveness of the treatment on the symptoms bringing the client to counseling. Measuring treatment outcome protects the client's welfare and supports the primary ethical goal of counseling, that goal of improving the client's welfare (Heppner, Multon, Gysbers, Ellis, & Zook, 1998). Finally, the levels of CSE significantly predict a counselor's performance and has an effect on the outcome of the treatment (Larson & Daniels, 1998). Both of the essential elements of the therapeutic relationship, the counselor and the client, are affected by treatment outcome.

A major factor for contemporary counselors and a consideration for counselor educators is managed care. Managed care is a variety of techniques used by health care systems to reduce

the cost of providing health benefits (A. Campbell & Hemsley, 2009). Over the past several decades, managed care has supported Evidenced Based Treatments (EBT), as they are measurable and support quick and efficient treatment, resulting in lower medical costs. Many health care systems provide benefits for wellness or mental health, and the premise of EBT has extended to the counseling process. Health care systems require counselors to diagnose a client and prescribe a treatment plan utilizing an EBT to achieve faster and quantifiable symptom relief for the client (Shimokawa et al., 2010).

An existing body of research termed as Outcome Research has examined the effects of counseling on clients and their reduction of symptoms since the early 1930s. Lambert and Thompson (1996) examined the evolution of this body of research to find the origins trace back to the 1930s when Psychoanalysts began investigating client's treatment success rates. This investigation continued through the decades and improved as research methodology became more refined. The body or research experienced exponential growth in the era of managed care as health care systems struggled to answer the question "is counseling effective?" From Outcome Research the suppositions of (a) there are *common factors* in all treatment that contribute to positive outcomes, (b) evidence that counseling is effective, (c) brief treatment models (i.e., five to 10 sessions) are most beneficial as the greatest improvement is seen in a short time and (d) there is not a significant difference in theory of change or treatment modality (Lambert & Cattani-Thompson, 1996).

Furthermore an important element of the Outcome Research body of literature is measuring the client's progress and providing that information to the client in the form of feedback. The 2009 CACREP standards clearly delineate the expectations of counselor

education programs to assess and evaluate student's progress in and through the program and to evaluate the clinical skills of the CIT while monitoring the quality of care offered to the clients (CACREP, 2009, p. 63). In the American Counseling Association (ACA) Code of Ethics, the first section begins with stating counselors are responsible for encouraging client growth (American Counseling Association, 2005). ACA and CACREP understand monitoring the quality of care; client treatment outcome and feedback are important elements of counseling and counselor development, however the process also contributes the development of CSE.

Research

Meta-analysis of treatment outcome and CSE. The meta-analysis conducted by Larson and Daniels (1998) was prior to the development of an assessment that accurately measured treatment outcome. At the time, the measurements of treatment outcome had weak psychometric properties (Larson & Daniels, 1998). Since the meta-analysis, the Outcome Questionnaire with substantive psychometric properties (Hanson & Merker, 2010) is more widely used. At the time of the meta-analysis only three studies had operationalized treatment outcome for research purposes (Larson & Daniels, 1998). All three studies examined the correlation between CSE and treatment outcome, however only one of the studies reported the alpha levels on which the results were based. The first study found there was a correlation between a mock interview outcome expectation and the CIT's level of CSE, $r(24) = .75$, $p < .001$ (Larson et al., 1992). The second study did not find a significant relationship between CSE and treatment outcome (Ridgway & Sharpley, 1990). The third study examined the effect the level

of experience and efficacy a CIT had on predicting treatment outcome and found a significant effect existed $F(14, 1988) = 2.43$, $p < .005$ (Sipps, Sugden, & Faiver, 1988).

Current research. As noted earlier, an existing body of research focusing on the effectiveness of counseling exists and is known as Outcome Research. In 2010, a meta-analytic and mega-analytic review of Outcome Research literature summarized the cumulative research efforts that examined treatment outcomes and answered the bigger question, "is counseling effective?" (Shimokawa et al., 2010). The authors noted the focus on treatment outcome is growing in importance as managed mental health care systems seek substantive evidence that counseling is effective and a valid treatment modality. In the analysis, the authors noted that the Outcome Questionnaire 45 (Lambert et al., 2004) was used in five of the six major studies and all but one study was conducted within large university counseling centers, with the remaining study conducted at an inpatient facility.

The meta-analysis used the top six existing research studies dating from 2001 through 2008 and cumulated their findings. The analyses included students from counselor education, counseling psychology, and social work programs ($N = 6151$) at different points in their academic and professional development. The studies varied on their sampling procedures with both random ($n = 5$) and non-random ($n = 1$) assignment of participants. The studies examined the effectiveness of outcome research and the impact of feedback on the treatment outcome for clients. Five of the six studies found a significant effect on treatment by providing client feedback from the results of their assessments to the clients, $F(3, 313) = 2.79$, $p = .041$. Furthermore, the studies found that providing feedback on treatment outcomes significantly improve session attendance $F(5, 421) = 2.78$, $p = .017$ (Shimokawa et al., 2010).

Summary. Treatment outcome is of keen interest to managed care and research is finding support that the feedback from outcome assessments is significantly affecting the counseling process. The meta-analysis identified the Outcome Questionnaire 45 (Lambert et al., 2004) is an effective tool for counselors to interpret the effectiveness of treatment and to make treatment decisions. As a result of the substantiating an assessment for indicating treatment effectiveness, the researchers suggest the counseling process can become more organic allowing counselors to make responsive treatment decisions based on the results of the assessment.

Summary

CACREP requires counselor education programs to provide 100 clock hours of practicum to CITs (Council for Accreditation of Counseling and Related Educational Programs, 2009) and clearly outlines the requirements for what occurs during those hours. CACREP's attention to the requirements support the view that practicum is an important step in the development of the professional identity by CITs. Practicum is the first opportunity the CIT begins applying the foundational knowledge and developing clinical skills, often creating a great deal of anxiety (Barnes, 2004). The challenge practicum students experience often stems from cognitions and emotions around attempting to successfully master counseling skills (Urbani et al., 2002). To best mediate the effect of the anxiety, research has shown using modeled experience (vicarious learning) and role-plays (mastery) will increase counselor self-efficacy and reduce anxiety (Daniels & Larson, 2001) Counselor self-efficacy originates from the Social Cognitive Theory (Bandura, 1986) that posits that learning occurs socially and can be learned through modeling. The theory explains a piece of the learning process is self-efficacy, and self-efficacy represents

the person's belief in one's ability to successfully perform a task or behavior. Self-efficacy can be gained through four source and the two most effective sources are mastery and vicarious learning.

The research on developing CSE showed that experience supports the development of CSE (Melchert et al., 1996a; Urbani et al., 2002). Additionally, research showed the focus on training increased CSE (Larson & Daniels, 1998). However, these studies were conducted on students prior to beginning practicum and research showed the period of greatest growth occurs during the practicum experience (Melchert et al., 1996a).

Evaluation of CIT's competence is required during practicum (CACREP, 2009, p. 5). Research has shown that evaluation and feedback impact the CIT's self-efficacy and that positive evaluation increase CSE and negative evaluations reduce CSE (Hiebert et al., 1998; Larson & Daniels, 1998). However, a study has not examined how a summative evaluation impacts the levels of counselor self-efficacy.

Research has shown that anxiety and feedback influence the development of counselor self-efficacy (Hiebert et al., 1998; Larson & Daniels, 1998; Larson et al., 1999; Melchert et al., 1996a) . However, the proposed study will examine how the constructs of anxiety and evaluation of competence mediate the development of counselor self-efficacy during the developmental period in which CITs experience their greatest growth (Trepal et al., 2010)

CHAPTER THREE: METHODOLOGY

Introduction

In the first chapter, the current study's topic was introduced and the major components of the study were explained. In the second chapter the scholarly works and literature supporting and shaping the current study were reviewed. In this chapter the methodology for completing the study will be described that includes (a) the research design, (b) data collection, (c) details of the treatment used as an intervention, (c) the procedures used in the study for collecting and analyzing the data, and (d) the limitations of the study.

The literature review in Chapter Two presented the theory and research for counselor self-efficacy (CSE) in counselors-in-training (CIT) and the interaction of anxiety and treatment outcomes with CSE. This chapter describes the methodology used in the current study. The purpose of this study was to better understand the method in which a CIT develops counselor self-efficacy. The study examined if a difference in the levels of counselor self-efficacy existed between practicum students who participated in knowledge and skills building experiences with an embedded, rich-media, distributed learning curriculum versus those practicum students who did not. Practicum is defined as a course in a college or university that provides practical experience in a specific field ("Practicum," n.d.).

Self-efficacy is the degree to which an individual believes he or she can achieve a behavior or trait in a certain domain (Bandura, 1986). Furthering the concept of self-efficacy, counselor self-efficacy can be defined as the counselor's belief that he or she can effectively counsel a client in the near future (Larson et al., 1992; Melchert et al., 1996a). Counselor self-efficacy is crucial to the development of CITs as it (a) promotes professional growth, (b)

increases confidence, (c) increases competence, (d) decreases anxiety, and (e) influences treatment outcomes.

In this chapter, the methodology of the research study will be discussed. As part of the discussion, the research design, including population, threats to validity, the instruments used in the study and the hypotheses will be examined. Additionally, the methodology of the data collection, the rationale and explanation of the treatment the experimental group received and the procedures for preparing and analyzing the data will be delineated.

Research Design

Population

The population used for the study was counselors-in-training during their first semester of practicum. Counselors-in-training are defined as those students currently enrolled in an academic institution and actively taking counseling classes preparing to be professional counselors (Gibson et al., 2010). Also, the first semester of practicum was chosen as research shows this time has a great deal of anxiety for the CITs (Howard, Inman, & Altman, 2006). The sample was a purposive sample including CITs in their first semester of practicum at a CACREP accredited university in the southeastern United States. Simply stated, purposive sampling is when the researcher uses his or her judgment to select the sample based on personal knowledge (Fraenkel & Wallen, 2008). A purposive sample was used for the following reasons, the sample: (a) allows for a non-randomized group, (b) uses the researcher's knowledge and experience with a given population as a foundation, and (c) is believed to represent a greater population (Fraenkel

& Wallen, 2008). A purposive sample's main limitation is the possibility the researcher makes error an in judgment when selecting the sample (Fraenkel & Wallen, 2008; Gay et al., 2006).

Furthermore, the sample was chosen based on a literature review that demonstrated first semester practicum students experience low levels of CSE and high levels of anxiety (Larson & Daniels, 1998; Leach & Stoltenberg, 1997). The sample was a natural group, as an academic institution populated it with students meeting certain prerequisites and whose next academic progression was into their first semester of practicum. There is a difference between a purposive sample and a convenience sample; the purposive sample is chosen by the knowledge and experience of the researcher, whereas a convenience sample is chosen by whomever is nearby (Gay et al., 2006). As stated earlier, the purposive sample came from the fall practicums, and more specifically first semester practicum students enrolled in a practicum class during the 2012 fall semester. The university had eight sections of practicum for the semester and students were placed in the practicum according to their schedules. The placement of students into specific practicum classes occurred by the students providing the counseling program's admission specialist the class times that best fit their schedules. Then the specialist allocated students to practicums while balancing the class sizes to an optimal size of five or six students per section. If the students were not scheduled into their first choice, the program specialist placed them in their second choice. The scheduling process required a great deal of flexibility and attempted to accommodate all schedules, but also adjusted with changing student schedules. As a result of the changing schedules, the practicum rosters did not solidify with the allocation of students to sections until a few days before the beginning of the semester. During the first week of the semester, one student transferred from the Thursday afternoon section to the Monday afternoon

section, and by doing so balancing the comparison group (n = 16) and the experimental group (n = 16). The first day of the semester was a Tuesday, so the student was able to attend the first class of both the Thursday and Monday practicum.

In educational research, very rarely does true experimental research occur with a control group that by definition, receives no treatment at all (Fraenkel & Wallen, 2008) since most often the non-experimental group receives some form of treatment. In this study, because the participants were enrolled in practicum and receiving the support of the instructors, those students who were in the non-experimental group were considered to be in the comparison group. The only difference between the experimental and comparison group in this study was the experimental group had access to the embedded, rich-media distributed learning components that included the videos and discussion boards. The researcher divided the sample into comparison and experimental groups based on (a) finding the combination of classes that created an equal number in both groups (the classes had uneven number of first and second semester practicum students in each class, based on the student's scheduling availability), and based on (b) the researcher's knowledge of the students, the instructors, the varying characteristics of day and evening practicums and distribution of CIT's counseling tracks chosen (e.g., mental health counseling, marriage and family therapy, school counseling). The sample (N = 32) consisted of students from eight practicums that were divided into an experimental group (n = 16) and a comparison group (n = 16). The comparison group included four school counseling students (25%), seven mental health counseling students (44%), and five marriage and family therapy students (31%); and the experimental group included three school counseling students (19%), 10 mental health counseling students (62%), and three marriage and family therapy students (19%).

The groups were similarly divided on gender, the comparison group had 14 females (88%) and two males (12%); the experimental group had 15 females (94%) and one male (6%). The two groups were similar on ethnicity also. The comparison group included one Latin/Hispanic participant (6%), three Black participants (19%), two Asian participants (13%), nine White participants (56%), and one participant that identified as American Indian (6%). The experimental group included two Black participants (13%), one Asian participant (6%), 12 White participants (75%), and one participant that identified as Other (6%). The groups were similarly distributed on each of the constructs. The groups were similar on the COSES given as a pretest with the comparison group average (M = 70.81, SD = 10.15) and the experimental group average (M = 68.19, SD = 8.74) being within half a standard deviation of the other. Similarly, the groups were similar on the STAI-S given as a pretest with the comparison group average (M = 45.56, SD = 4.53) and the experimental group average (M = 48.06, SD = 6.07) being within a standard deviation of the other. Based on the descriptive statistics and the mean pretest scores for the COSES and STAI, the groups were fairly homogenous as can be seen in Table 1.

Table 1. *An evaluation of the comparison group to the experimental group at the beginning of the study to confirm the similarity of the groups.*

	Comparison Group		Experimental Group	
Counseling Track	*n*	%	*n*	%
School Counseling	4	25	3	19
Mental Health Counseling	7	44	10	62
Marriage and Family Therapy	5	31	1	19
Gender				
Female	14	88	15	94
Male	2	12	1	6
Ethnicity				
Latin/Hispanic	1	6		
Black	3	19	2	13
Asian	2	13	1	6
White	9	56	12	75
American Indian	1	6		
Other			1	6
	M	*SD*	*M*	*SD*
COSES				
Pretest	70.81	10.15	68.19	8.74
STAI-S				
Pretest	45.56	4.53	48.06	6.07

Research design

This study investigated if implementing a web-based, rich-media training program affected the levels of CSE and anxiety for CITs during the first semester of practicum and the treatment outcome for the CITs' clients. When a researcher begins the process of choosing a research design, there are several types to choose from, however the logic of scholars and the researcher directs the selection from the many types (Gay et al., 2006). In this study, the

researcher chose a quasi-experimental research design using quantitative methodology to best answer the research question. The researcher examined the literature and previous studies to select the research design, the choice of a quasi-experimental design was appropriate for the following reasons: (a) the design allowed for non-randomized participants (D. T. Campbell & Stanley, 1963) , (b) the design permitted for the independent variable to be manipulated (Shadish, Cook, & Campbell, 2002), (c) the design used a non-equivalent control group, pretest, posttest design (D. T. Campbell & Stanley, 1963), and (d) selection bias was presumed by using the pretest, posttest element (D. T. Campbell & Stanley, 1963). A quasi-experimental design is similar to an experimental design as both designs share the features of (a) testing an hypothesis, (b) manipulating a variable, (c) control groups, (d) pretest measures, and (e) allows for making inferences about what would happen in the absence of treatment, but also accounts for the non-randomization of participants (Shadish et al., 2002). The quasi-experimental design incorporated the use of a pretest and posttest to help identify potential threats to internal validity (Campbell & Stanley, 1963). The groups were considered to be non-equivalent due to the lack of randomization. Adding the element of a pretest allowed the groups to be more equivalent by identifying the selection bias (Campbell & Stanley, 1963). Furthermore, the use of a pretest identified the size and direction of the selection bias (Shadish et al., 2002). Based on the pretest scores of the STAI-S and COSES in Table 1, the selection bias is minimal as both group's scores are less than a standard deviation from the mean scores of the other group. Thus, the research design controlled for the threat to internal validity.

Considering the nature of this study, there were several research designs worth considering. Although a correlational study is valuable and provides information about the effect

the two variables have on each other (Gay et al., 2006), it falls short of making valid causal inferences about the two variables (D. T. Campbell & Stanley, 1963; Fraenkel & Wallen, 2008; Gay et al., 2006). To make effective causal inferences, an experimental or quasi-experimental design is preferred since these designs create a comparison and experimental group (Shadish et al., 2002). When choosing between an experimental or correlational design, researchers should always opt for the experimental design over the correlational design (D. T. Campbell & Stanley, 1963) because of it's ability to make causal inferences. Furthermore, an experimental or quasi-experimental design offers greater ability to generalize over a correlational design (Shadish et al., 2002).

In a literature review, the studies investigating counselor self-efficacy, anxiety and treatment outcomes constructs have primarily been correlational or if the studies were experimental, they lacked a control or comparison group. On the construct of CSE, there have been 12 correlational studies published and 14 experimental studies; of those experimental studies three contained a control or comparison group. As a result of the above factors a quasi-experimental design with a non-equivalent control group pretest, posttest and a cohort control research design was chosen as the study furthers the development of scholarly knowledge.

Threats to validity

In a quasi-experimental research design, there can be two types of threats to the experimental validity. The first type is a threat to the internal validity, or alternate explanations that explain the results of the study that are not attributed to the independent variable (Gay et al., 2006). The second threat to external validity is a threat to external validity, or alternate

explanations that would not allow the results to be generalized to external populations (Gay et al., 2006).

An important element to a research design is *Control*, that can be explained as "the researchers efforts to remove the influence of any variable other than the independent variable that might affect performance on the dependent variable" (Gay et al., 2006, p. 236). Any uncontrolled extraneous variable affecting the outcome of the research design is considered a threat to the validity of the experiment. An experiment earns merit in research when the results are generalizable beyond the controlled environment the experiment occurs in. Threats to internal and external validity limit the ability to generalize the study (Fraenkel & Wallen, 2008). An examination of the threats to experimental validity and the controls for the threats is examined in greater detail below.

Threats to internal validity. Internal validity is the ability to control for extraneous variables affecting the outcome of the dependent variable (Fraenkel & Wallen, 2008; Gay et al., 2006). In the proposed study there are several threats to internal validity.

The first threat is *history*, which is a threat to internal validity that is difficult to control (Shadish et al., 2002). History is defined as the events which occur during the study that affect the dependent variable (Gay et al., 2006). In the design of this study, an inherent problem with using practicums is the classes occur at different periods of times (different days of the week and different times of the day) and thus, the classes experienced different events and are susceptible to the threat of history. To help in the understanding, the research design is provided graphically in Figure 2.

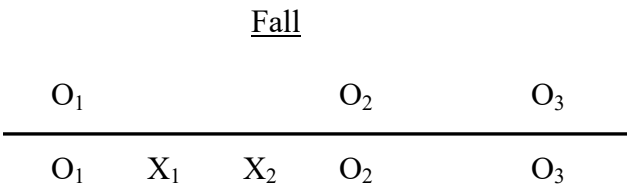


Figure 2. The experimental design for the current study.

During the semester the data was collected, historical events occurred affecting one group that did not occur in the other. A possibility exists that the historical events influenced the independent variable. During the study, certain sections were affected by events (i.e., holidays, campus closure for football games, elections) that had the potential to affect the study. For example, one class changed the instructor midway through the semester because the instructor encountered a family emergency and could not continue to teach the practicum, which required another practicum instructor to replace the first instructor and complete the remainder of the semester. To control for the threat of history, others may suggest using another semester or second location as the comparison group. The researcher considered these options, but with either of these options, the threat of history could have been amplified and was better controlled by examining the pretest scores. The threat of history is difficult to control for in a repeated measures experiment (D. T. Campbell & Stanley, 1963).

Another internal threat that affected the study was the threat of *maturation*. The threat of maturation is the change to physical, intellectual and emotional conditions that may occur to those participating in the research study over time (Shadish et al., 2002). The fall semester spanned 16 weeks, the maturation was considered minimal, as the length of time for the semester is relatively small. A method of controlling for the threat of maturation is examining the

comparison and experimental groups' pretest characteristics, the more similar the characteristics, the greater the control for this threat (Shadish et al., 2002). For this study, the pretest characteristics of each group (experimental and comparison) and each section of practicum were examined to find homogeneity among the groups.

Additionally, *testing* is an internal threat considered with this study. Testing is the threat of better performance on subsequent tests as a result of previous exposure to the test (the pretest or midtest) (Gay et al., 2006). Ensuring the similarities of the comparison and experimental group at the pretests assisted in controlling for this threat (Shadish et al., 2002). Furthermore, the greater the distance between the administration of the tests decreased the likelihood of this threat occurring (Gay et al., 2006). The proposed testing schedule for data collection was week one, week eight, and week sixteen. However, to accommodate the schedules of the different practicum instructors, the midtest varied from the seventh to the ninth week depending on the date the instructor determined for the mid-semester evaluation.

Selection bias was an additional threat to this study and was considered when evaluating the generalizability of the design. The threat of selection bias accounts for the differences found from pretest to posttest and posits the differences result from the participants chosen for the study. The threat of selection bias when using purposive sampling and natural groups is an important threat (D. T. Campbell & Stanley, 1963), and was a concern to the validity of this study. The evaluation of the pretest scores from the comparison and experimental groups, checked for similarity of scores and evaluated for similar demographics assisted in controlling for the threat (Gay et al., 2006). Although others may choose a true experimental design with

randomly selected participants, true randomization of participants is difficult and uncommon in educational research (Castelloe, Brien, & Foundation, 2001; Maas & Hox, 2005).

The final threat to internal validity was mortality, also known as *attrition*. This threat addressed any participants that may drop out during the course of the research study. The most common cause of attrition is the study requires too much effort from the participants (Gay et al., 2006). To control for this threat, the study was designed to require minimal amounts of effort and time. As part of the design, the assessments required less than 10 minutes for the participants to complete, and the Web courses discussions and videos ranged from 5 to 20 minutes allowing the students to participate at their convenience. Additionally, the study used all practicums during the semester to control for attrition, which can occur with a student transferring from the experimental group to the comparison group (Gay et al., 2006). Although threats to internal validity cannot be controlled in all circumstances, the controls established in this study helped in minimalizing the impact of the threats. Although attrition was accounted for in the research design, at the end of the study the control was less relevant since all participants who began the study, also finished the study.

Threats to external validity. External validity is "the degree to which study results are generalizable, or applicable to groups and environments outside the research study" (Gay et al., 2006). In this quasi-experimental design there are several threats to external validity worth examining. The threats are (a) the interaction of testing and control and is a weak threat, (b) the interaction of selection and control that is a possible threat, and (c) the reactive arrangements are a possible threat (D. T. Campbell & Stanley, 1963).

The *interaction of testing and control* is a threat occurring when the pretest alerts the participants to the nature of the treatment and prevents the participants from naturally responding to the treatment itself (Fraenkel & Wallen, 2008). In this study, this threat was weak since the participants learned of the treatments (discussion boards and videos strengthening skills and knowledge) during the explanation of the study that was given to the students of the experimental group prior to beginning the research study. Additionally, the study was designed for the treatment to be known to the participants, and did not require secrecy or surprise to strengthen the effect. Finally, the university where the study occurred is a research institution, thus the participants are accustomed to participating in research studies. During the semester that the study was conducted, there were two other co-occurring studies in the community counseling clinic that were also using the participants to assess various constructs with several instruments. The first study was conducted by a faculty member and a doctoral student that measured the constructs of: (a) the supervisory relationship with the Supervisory Working Alliance Inventory (Efstation, Patton, & Kardash, 1990), (b) empathy with the Interpersonal Reactive Inventory (Davis, 1980), and (c) counselor competencies with the Counselor Competency Scale (Swank, Lambie, & Witta, 2012). The second study conducted by a doctoral student as part of a dissertation study examined (a) the therapeutic relationship with the Truax-Carkuff Revised Relationship Questionnaire (Truax & Carkuff, 1967), (b) the supervisory relationship with the Barrett-Lennard Relationship Inventory (Barrett-Lennard, 1962), and (c) treatment outcomes with the Outcome Questionnaire 45.2 (Lambert et al., 2004). Although the studies were co-occurring, the other studies did not involve an intervention and the constructs examined were

substantially different than this study. For the above reasons, the external threat to validity of the interaction of testing and control was minimized.

Another possible threat was the *interaction of selection and control*, meaning the nonrandomized selection of the participants may have characteristics that can limit the generalizability of this study (Fraenkel & Wallen, 2008). Consequently, this threat is inherent with naturally occurring groups and may limit the potential of a study (Gay et al., 2006). However, this threat was partially controlled by the use of a quasi-experimental design, that is shown to provide greater strength for generalization (D. T. Campbell & Stanley, 1963) and the use of the pretest to identify the homogeneity of the group.

The final potential threat affecting the external validity was the threat of *reactive arrangement.* The threat identifies that participants may act differently than their normal behavior would be if they were not participating in the study. Although this is a possible threat, the likelihood in the proposed study is minimal. This was a minimal threat to the study since the study occurred at a research-based university; the students who participated were aware of the research-intensive program and were conditioned to participate in research studies.

Instruments

This study used three instruments to assess the constructs. The instruments used were: (a) the Counselor Self-Efficacy Scale (Melchert et al., 1996a), (b) the State-Trait Anxiety Inventory (Spielberger et al., 1970), and the (c) Outcome Questionnaire-45.2 (Lambert et al., 2004). The instruments are examined below.

Counselor Self-Efficacy Scale. The first instrument for this study is the Counselor Self-Efficacy Scale ([COSES] Melchert, et al., 1996) and was used in determining the level of the CIT's counselor self-efficacy. The instrument consists of 20 questions; the questions are based on the instrument authors' review of literature that reflected the constructs of skills and knowledge necessary to be an effective counselor (Melchert et al., 1996a). When creating the instrument, the authors attempted to write atheoretical questions that appropriately measure the skills and knowledge of counselors at varying levels of experience. Additionally, the authors positively worded half the questions and negatively worded the remaining half to avoid response bias. Each question is answered by choosing an answer on a Likert-scale ranging from one to five. The questions are then scored and summed providing the researcher with a potential total raw score from 20 to 100, (Larson & Daniels, 1998).

Beyond the utility of the instrument, an analysis of the psychometrics was important in selecting the instrument. When developing the COSES, the instrument's authors investigated the internal consistency and found it to be high, with a Cronbach alpha of .91. The test-retest reliability was established with the authors re-administering the test one week after the first administration, and found a reliability coefficient of .85 between the two administrations. In Larson and Daniels (1998) meta-analysis, the authors noted the Self-Efficacy Inventory ([SE-I] Friedlander & Snyder, 1983) was most often used in literature (Larson & Daniels, 1998). The authors tested for convergent construct related validity by correlating the scores to similar scores on the SE-I to find a high correlation $r = .83$. When considering the various CSE instruments measuring the construct, others may have chosen the Counselor Self-Efficacy Inventory ([COSE] Larson et al., 1992) that was reported to be the most often used in the meta-analysis of the CSE

literature (Larson & Daniels, 1998). However the COSES was selected based on an item comparison conducted by the researcher. During the item comparison, the researcher noted the items in the COSE were constructed from a clinical psychology perspective (e.g., right vs. wrong diagnosis, right vs. wrong treatment modality). The 20 items of the COSES professionally and developmentally best matched CITs (e.g., group process, client relationship development, counselor reaction to client). Based on the assessment's counseling perspective and the assessment best matching the student's developmental process, the COSES was selected.

In this study, the COSES measured one of the dependent variables, counselor self-efficacy. The instrument produced a raw score for each participant, and the participants' raw scores were summed that provided a group mean on the raw score. As a result, the variable was a continuous variable.

State-Trait Anxiety Inventory. The instrument for measuring anxiety in this study was the State-Trait Anxiety Inventory, ([STAI] Spielberger et al., 1970). The STAI consists of two sections, one measuring *state* anxiety and the other measuring *trait* anxiety (Kendall et al., 1976). The STAI is a self-report instrument that uses 20 questions to assess the level of anxiety a person feels at the moment (state anxiety) and 20 questions to assess the levels of anxiety (trait anxiety) a person generally feels (Dreger & Katkin, 2010). Each question uses a Likert-style response ranging for 0 to 2 or -2 to 2, depending on the question, the respondent can have three or five choices.

Since the publication of the STAI, the assessment has been widely used in studies also measuring CSE (Larson & Daniels, 1998). The assessment has a consistently high internal validity and a high correlation with the IPAT Anxiety Scale at .75 and the Manifest Anxiety

Scale at .80 (Friedlander & Snyder, 1983). The alpha coefficients range from .83 to .92 for state anxiety and .86 to .92 for trait anxiety. As state and trait anxiety scales measure different facets of the construct, the alpha coefficients are more suitable for measuring reliability than measuring the test-retest reliability.

In this study, the STAI measured the dependent variable of anxiety, producing a raw score for each participant that were summed and provided a group mean on the raw score. As a result, the variable would be a continuous variable. Furthermore, the current study only used the facet of the instrument that assessed the state anxiety, since this facet was the most applicable to the study. Also, prior research studies examining CSE and anxiety primarily used the STAI-S (Larson & Daniels, 1998). Furthermore, using both the state and trait portions of this instrument could confound the results as the two portions measured different aspects of anxiety (Friedlander & Snyder, 1983) and this study examined only the anxiety experienced by the participants at three distinct times.

Outcome Questionnaire-45.2. The instrument used for measuring treatment outcomes is the Outcome Questionnaire 45.2 ([OQ-45.2] Lambert et al., 2004). The reviewers of the OQ45.2 in the Mental Measurements Yearbook stated the assessment is appropriate for many clinical settings including university counseling centers (Hanson & Merker, 2010; Pfeiffer, 2010). The instrument is a self-report assessment given to clients to measure (a) how the person is feeling, (b) how the person is getting along with others and (c) how well the person is functioning with overall life tasks (Hanson & Merker, 2010). The assessment has a high coefficient alpha ranging from .91 to .93 depending on the scale or sub-scale supporting internal consistency and test-retest reliability, and concurrent validity with 11 similar instruments

(Pfeiffer, 2010). In this study, the OQ-45.2 measured the dependent variable of treatment outcomes. The norm-referenced instrument consists of 45 questions that assesses the client's psychological functioning and is used in the clinic where the study took place to measure the change in a client that occurred during the counseling process. The instrument has three subscales that measure (a) how a person is feeling, (b) how well the person is getting along with others, and (c) how well the person is functioning at the important tasks in life (Pfeiffer, 2010). However, for the purpose of this study, the total raw score was used to indicate the treatment outcome. Although the OQ-45.2 is an evaluation, for the purpose of this study, the OQ-45.2 raw score measured the effect of CSE on clients' treatment outcomes. As a result of using raw scores, the variable is a continuous variable.

Research Hypotheses

Hypothesis One. The use of embedded, rich-media in a distributed learning environment creates a positive effect on the counselor self-efficacy in counselors in training during practicum as measured by the Counselor Self-efficacy Scale (Melchert et al., 1996b).

Hypothesis Two. The use of embedded, rich-media in a distributed learning environment creates a positive effect on the anxiety in counselors in training during practicum as measured by the State-Trait Anxiety Inventory (Spielberger et al., 1970).

Hypothesis Three. The use of embedded, rich-media in a distributed learning environment creates a positive effect on treatment outcomes for clients of counselors in training during practicum as measured by the Outcome Questionnaire 45.2 (Lambert et al., 2004).

Hypothesis Four. The characteristics of individual practicums effect counselor self-efficacy, anxiety, and treatment outcomes as measured by the Counselor Self-efficacy Scale (Melchert et al., 1996b), the State-Trait Anxiety Inventory (Spielberger et al., 1970), and the Outcome Questionnaire 45.2 (Lambert et al., 2004).

Data Collection

Prior to beginning the study, the researcher received the approval of the university's counselor education department to conduct the research study in the department. The letter can be viewed in Appendix C. The approval was given by the program director and confirmed through an email as seen in Appendix D. Additionally, an application to the Institutional Review Board (IRB) was made and approval was received as evidenced by the letter in Appendix B. After receiving IRB's approval, this study used a purposive cohort sample, a sample that selects what the researcher believes represents the given population (Gay et al., 2006) and whose members do not dynamically change over the course of the study (Fraenkel & Wallen, 2008).

The participants were naturally divided into classes of practicums, where each class contained students in their first and second semester of practicum, however this research study solely focused on those students in their first semester. An overview of the research and selection process will be given, for further details, refer to Appendix E. CACREP requires students to complete a practicum and establishes standards for the hours, supervision and evaluation (Council for Accreditation of Counseling and Related Educational Programs, 2009). The university where this study occurred is CACREP accredited and adheres to the standards for accreditation for the counseling programs. The university has three tracks in the counseling

program that include (a) school counseling, (b) mental health counseling, and (c) marriage and family therapy. The students in all three tracks share classes and are comingled in practicum. The only difference in the practicum experience between the counseling tracks is the school counseling CITs are required to take one semester of practicum and the remaining two tracks are required to take two semesters of practicum. All but one of the practicums contained students in their first and second semester of practicum; one had only students in their first semester.

The three data collections points were conducted in a similar manner. The researcher visited the students in the university's counseling clinic prior to or during their class times. The researcher read a script explaining the directions for completing the battery of assessments. For further explanation of the script delivered to students, refer to Appendix A to view the script and Appendix E for specific details on the data collection. The students placed their completed packets in an envelope that was collected by the researcher.

Pretest. During the semester there were three points where the researcher collected data through the distribution and collection of the instruments. The first was the pre-test; this collection point occurred at the practicum orientation. The orientation was held just prior to beginning the semester and was required for those first-time practicum students enrolled in the following semester's classes. During the orientation, a battery of instruments was given to the students assessing the psychometrics of the counselors in training; among the assessments was the Counselor Self-efficacy Scale (COSES). The COSES consists of 20 Likert-scale questions evaluating the skills and knowledge relating to the CSE as perceived by the CIT. On the first day of each practicum, the researcher was present and explained the purpose, the benefits, the potential risks of this study, and the Explanation of Research was given to the participants. The

students were given the opportunity to opt-out of participation, however all students chose to participate in the study and the researcher verbally confirmed their assent to participate. Furthermore, the researcher explained the process was confidential and separate from the class; stressing participation did not affect the CITs' grades for the course. The instruments used in this study and were distributed to the participants at each of the data points can be found in Appendix A. During the first class, the researcher provided an explanation to the students of the instruments that were distributed, including instructions to complete them and was available to answer any of the participant's questions. The participants were asked to provide their first initial and the last four digits of their student identification number, facilitating identification of individual changes between pretest, midtest, and posttest for data analysis. The researcher remained with the participants while completing the assessments and checked for completion before leaving.

Midtest. Prior to the second data collection point, the experimental group received the first and second treatment. The second data collection point was the middle of the semester; the collection occurred the week after the students received their mid-semester skills and competency evaluations. As each class schedule varied due to holidays and campus events, the data collection spanned two calendar weeks, from the seventh to the ninth week of the semester. Refer to Appendix E for specific dates and events. To facilitate the data collection, the researcher coordinated with the practicum instructors, clinic director and the clinic staff, received all appropriate permissions, and confirmed the process for accessing 10-15 minutes of the practicum students' time to distribute the instruments and collect data, either prior to or during the practicum. The practicum students were given the COSES and the STAI, both took an

average of five minutes to complete, however the students were offered as much time as needed to complete the assessments. The researcher reminded the students that: (a) their participation was voluntary' (b) the information remained confidential, (c) their instructor would not see the instruments, (d) their grades were separate from the assessments, and (e) their grades were not affected by their participation. The assessments were paper and pencil; the assessments were chosen as they were easily completed with the supplies available in the classroom. The participants were reminded to provide their first initial and the last four digits of their student identification number. The researcher read the script before the students began, remained with the participants while they completed the assessments and was available to answer questions. When the participants completed the assessments, an envelope was available where they were asked to place the assessments. Upon completion, the researcher checked that all COSES and STAI instruments are completed and asked the participants for any missing information. Refer to Appendix E for specific events of incomplete assessments.

Posttest. The third data collection point was during the final week of the semester. At that point, the process for the second data point was replicated. The data collection occurred over seven days and during the last class of the semester. Refer to Appendix E for the specific dates and collection processes. An important note, as there were multiple sections of practicum, and each practicum instructor organized and scheduled their classes in a manner that best suited the students' and classes' needs, as a result a great deal of coordination and flexibility was needed in the data collection.

Treatment

A quasi-experimental design was a stronger research design than a correlational study (D. T. Campbell & Stanley, 1963; Shadish et al., 2002), and allowed for manipulating of the independent variable (Fraenkel & Wallen, 2008; Gay et al., 2006; Pan, Lau, & Lai, 2009). The treatment design originates from the researcher's review of the literature and often reflects personal observations or experiences (Gay et al., 2006). The treatment in this study reflected both research and the researcher's personal experience. The specific treatment will be outlined later in the chapter; however as an overview the treatment consisted of two series of videos and a discussion board.

Rationale for the Treatment

Although a paradigm shift is underway in the methodology for training counselors (Sperry, 2012), and there has been substantive literature examining interventions to improve counselor performance, relatively scarce literature examines interventions for increasing counselor self-efficacy (Baker et al., 1990; Larson et al., 1999). Although only a single researcher examined the use of video as an intervention for increasing CSE, other literature supports the use of video as an instructional technique and the use of videos as a teaching medium in counseling practicums. Larson et al. (1999) conducted a study examining the interventions of role-play and using video to increase CSE and found the use of video as an intervention was significant for increasing CSE (Larson et al., 1999). The second most effective source of self-efficacy is vicarious learning (Bandura, 1986) and video provides CITs the ability to vicariously learn counseling skills and competencies (Larson et al., 1999). Additionally, the

use of video supplements classroom learning and enhances key concepts for students (Sperry, 2012), providing CITs a familiar medium for reinforcing what is taught in practicum and in a method more conducive for learning (Janzen, Fitzpatrick, Drapeau, & Blake, 2010; Pan et al., 2009). Furthermore, the use of video in training counselors has shown to be effective in helping the CIT understand the concepts in a deeper and more empathic manner as the CIT is away from the classroom and in a more relaxed setting, able to absorb new concepts outside of the stress associated with practicum (Janzen et al., 2010). In a joint effort between education and engineering, researchers found using videos provided the student rich, contextual information supplementing the course's knowledge content and improved the process of learning for the student since video was a familiar medium to the student (Pan et al., 2009). As a result of existing literature, video can be an effective medium for delivering and reinforcing concepts to practicum students in the two treatments for this study.

To further explore the types of videos that would be most useful to the students. The researcher queried the practicum instructors to determine what causes anxiety to CITs. The researcher received a response from five of the 11 who received the email. The instructors provided topics that would be beneficial to CITs (i.e., suicidal ideation, child abuse).

Treatment One

For the first treatment, the experimental group had access to the videos prior to the beginning of the semester to prepare the students for their first practicum class. The researcher introduced the web course to the students in an email prior to the semester starting and fully explained the procedures to the students on the first day of class. To improve accessibility, the

students could access the components in class or outside of the classroom via a web course format. The experimental group was exposed to the treatment during the first day of their classes as the first discussion addressed the anxiety of starting practicum. Also, the participants self-registered for the web course during the first class and were immediately able to access the components in class or outside of the classroom. The introduction was followed by an explanation of the study to the students that included (a) the students assent for participation in the study, (b) the navigation through the web course to self-enroll, and (c) an explanation of Dropbox, an online file sharing service that allowed the students to access the videos with slow download speeds.

The first treatment consisted of two components, a discussion board and four videos that were available to all the experimental group's CITs to prepare the CITs for their first few practicums. Researchers showed the most common sources of anxiety for first time practicum students are: (a) competence, (b) confidence, and (c) effectiveness (Cavazos, Alvarado, Rodriguez, & Iruegas, 2009). The four videos focused on areas that build competence (Howard et al., 2006), build confidence (Bischoff et al., 2002), and address negative thoughts (Fitch & Marshall, 2002); all areas that create the greatest amount of anxiety for CITs. The topics of the four videos were (a) navigating the first session with examples of how to discuss confidentiality, the counseling process, and attendance; (b) how to collaborate with a client to develop a treatment plan and then deliver the plan to the client; (c) how the counselor could use counseling techniques to overcome not knowing what to do next with a client; and (d) how to navigate difficult discussions with the parent and client during the first session with a minor. Seven of the eight videos were produced using students at the researcher's university and the eighth video was

compiled using segments from a DVD that accompanied the textbook the students used to learn counseling techniques (Young, 2009).

Videos. The first component of the first treatment consisted of four videos created to supplement the practicum experience; the videos were introduced in class and an announcement of the videos availability was posted in the discussion group. The videos provided the student with a better understanding of what to expect during the first class and the first client session, subjects that create anxiety in CITs beginning practicum (Howard et al., 2006). The content of the videos covered basic counseling tasks and skills, such as (a) modeling what a successful first session should include, (b) modeling what a successful first session with a minor should include, (c) collaboratively working with the client to develop a treatment plan, and (d) modeling techniques to overcome feeling at a loss for the next action to take in a session. All the topics addressed issues literature identified as stressful for CITs beginning practicum and all videos showed a successful outcome to reinforce the modeled behavior.

Video one. The first video modeled what a typical first session would look like. In the video, the counselor explained the limitations of confidentiality, the use of cameras in the counseling room, the traits and attributes that make counseling effective and other elements that were helpful to mention in the first session. The video successfully modeled a typical session from lobby, to counseling room and back to the lobby and ended with the client feeling confident in the counseling process.

Video Two. This video modeled the first session with an adolescent; who was defined by the university's counseling clinic as a client under the age of 18. The video compared the similarities to the first session with an adult. However, the video also examined the differences

such as discussing the need for confidentiality with the parent. The video successfully modeled the discussion a counselor would have with a parent and child, the video concluded with the parent's agreement and commitment to the counseling process with her child.

Video Three. This video examined the process of collaboratively working with the client to establish goals, objectives and interventions for counseling. After the collaborative process, the video discussed the elements and process necessary for creating a treatment plan. The video successfully concluded with a presentation of the treatment plan to the client and the client's agreement and commitment to be an active participant in improving her prognosis.

Video four. The fourth video addressed a common source of anxiety for a CIT, reaching a moment in the counseling session where the CIT is at a loss of what to say or which direction to go (King, 2000). The video provided the CITs with several techniques that were effectively used in those moments and were familiar to the CITs as the videos were also used in the students' course that taught counseling techniques. The video contained video segments modeling counseling techniques from the DVD companion to the textbook Learning the Art of Helping (Young, 2009). In each segment the videos modeled a successful client outcome.

Discussion board. The second component of the treatment was a discussion board that connected all sections of practicum in the experimental group and provided a forum for the CITs to discuss questions and concerns. The students were given topics focusing on areas shown to create the greatest levels of anxiety (Jordan & Kelly, 2011) and were able to create a personalized topic on any concern of the student. The researcher moderated the board to ensure the accuracy of information, client confidentiality, and the student's post received a correct response. The researcher encouraged the students to support one another with their interactions

on the discussion boards instead of relying on the researcher and clinic staff and stimulated discussion among the students. In Appendix F, further information on the web course discussion threads is given.

Treatment Two

The second treatment occurred two weeks prior to the students receiving their mid-semester evaluations by the practicum instructors and the doctoral students assisting the instructors. The second treatment consisted of four videos posted in the web course for the students to view and new topics to the discussion board. The videos in the second treatment covered more advanced counseling skills. To supplement the videos, discussion threads revisited basic counseling skills to prepare the CITs for their mid-term evaluation. The researcher moderated the discussion to ensure the quality and accuracy of information and underscored the purpose of a formative evaluation is to further develop the skills of the CIT.

Videos. The first component of the second treatment was to strengthen efficacy through vicarious learning, a source of self-efficacy (Bandura, 1986), the videos successfully modeled counselor and client behaviors with positive results. The videos addressed the topics of (a) alcohol overuse and abuse, (b) child abuse, (c) suicidal ideation, and (d) difficult therapeutic behaviors. A more detailed explanation of the videos is below.

Video five. The fifth video in the second treatment focused on assessing and dealing with alcohol overuse and abuse. The video consisted of a counselor working with a client who admits to symptoms of alcohol abuse. The counselor assessed for abuse using a CAGE assessment and determined the abuse existed. The video modeled the assessment process and the conversation

with the client in recommending further treatment for the abuse. The video ended with the client's acceptance of alcohol abuse, agreement to seek treatment and stated the treatment would improve her quality of life.

Video six. The sixth video focused on assessing for child abuse. The video modeled the assessment process for suspected abuse, in which the counselor determined enough evidence existed to refer the client to a local agency for further investigation. The counselor modeled giving the assessment and how to navigate the difficult conversation of referring the family for further investigation with the parent. The video successfully modeled the counselor's behavior; the client's recognition the issue needed exploring and ended with the client agreeing the investigation would benefit her family.

Video seven. The seventh video modeled a counselor and a client, where the client expressed suicidal ideation; the counselor assessed for severity and determined the client needed inpatient treatment. The video concluded with the counselor explaining the hospitalization to the client. The video successfully modeled counselor's behaviors that allowed the client to accept and appreciate the necessity of inpatient care.

Video eight. The eighth video addressed difficult therapeutic behaviors counselors encounter. A common occurrence in counseling is clients exhibit behaviors that interrupt the therapeutic process and the CIT experiencing the lack of knowledge of how to handle the situation creates anxiety (Kelly, 2004). In this video the counselor addressed two of those issues, (a) the client not contributing to personal growth outside of session, and (b) the client storytelling. The video modeled the counselor's response to the client's behaviors, the counselor

addressed and corrected the behaviors and ended with a successful outcome, the client recognizing the behavior and the affect the behavior had in her personal relationships.

Discussion board. The second component of the treatment was a discussion board that connected all sections of practicum in the experimental group and provided a forum for the CITs to discuss questions and issues. In Appendix F, further information on the web course discussion threads is given.

Procedures

The researcher used the COSES (Melchert et al., 1996a) to measure the counselor self-efficacy and the STAI (Spielberger et al., 1970) to measure the anxiety of the CITs prior to beginning practicum. The assessments were distributed and explained to the participants by the researcher, who was available to answer questions and then the assessments were collected by the researcher, verified all items were answered and sealed in an envelope. In a secure location, the researcher opened the envelope and hand scored the assessments with each assessment triple scored using an adding machine or calculator. Once the assessments were scored, the researcher used Statistical Package for the Social Sciences (SPSS) version 20.0 to house the database of participant scores and demographic information.

Software

Since the mid 1990s, several software packages emerged that today are widely accepted to effectively analyze hierarchical data and account for the dependence between observations and the nested structures (Maas & Hox, 2005). The statistical analysis for this research study required the use of two software packages. The use of hierarchical linear modeling with a

sample size of 32 (the sample size for this study) may dilute the statistical results (Maas & Hox, 2005) and to confirm the results, the analysis was cross-validated with SPSS 20.0 using statistics less affected by sample size.

The primary software is Hierarchical Linear and Nonlinear Modeling (HLM7) version 7.0 Student Edition. HLM7 was used to analyze the data using hierarchical linear modeling, a widely accepted software for this statistic (Stevens, 2007) and is suitable for examining the effect of the nesting of repeated measures (Level-1) among students (Level-2) who are members of practicums (level 3). An overview of the nesting structure and the assessments' repeated measures are seen in Figure 3. The similarity between the statistical analysis and the software name is confusing, so for the purpose of this discussion the statistical analysis hierarchical linear modeling will be referred to as HLM and the software package will be referred to as HLM7.

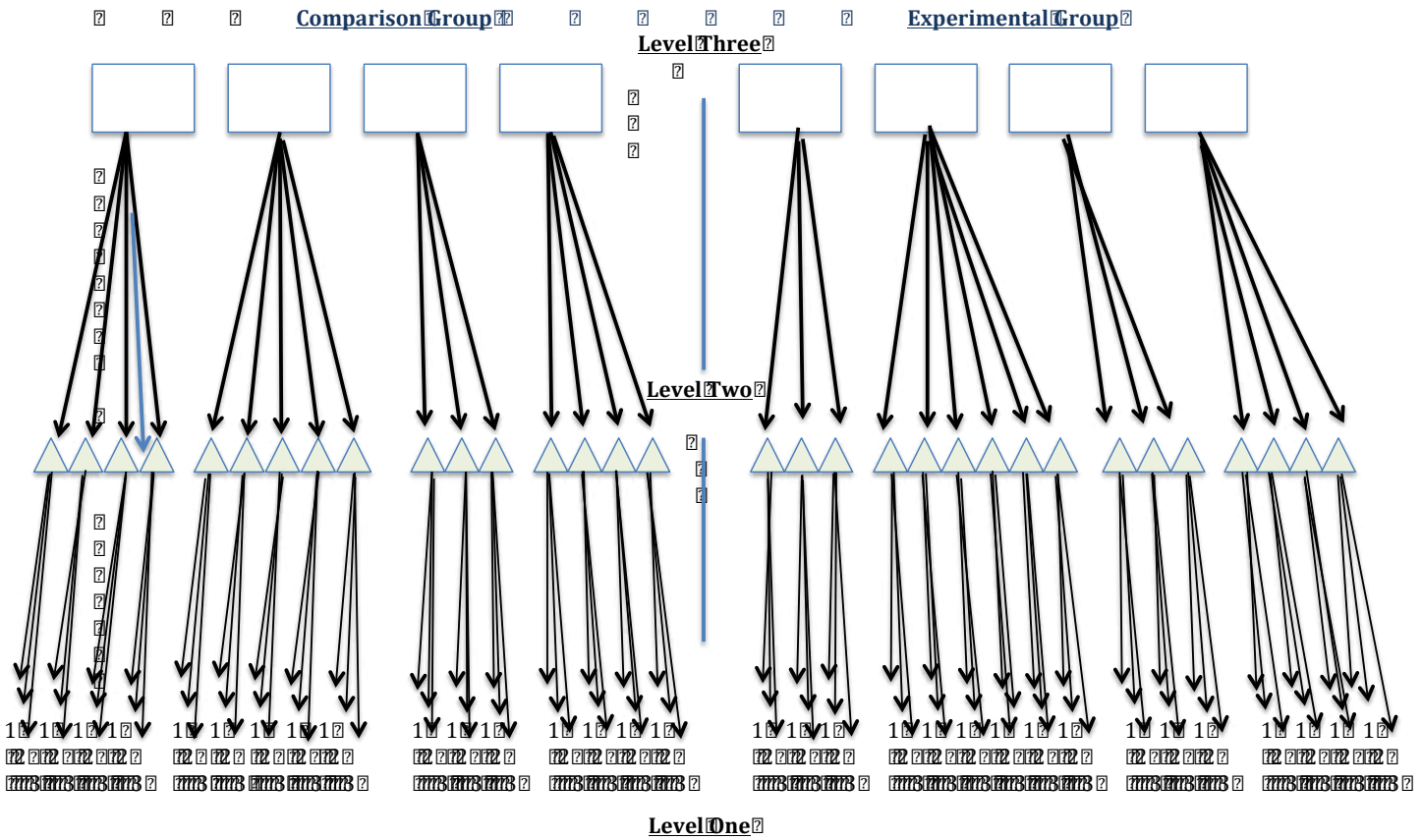


Figure 3. The nested model of this research study. Level 1 shows the three repeated measures (pretest (1), midtest, (2) and posttest (3) are nested below the participants (Level 2)) who are nested below their individual practicums (Level 3).

Variables

In the SPSS database 32 variables were created. The first variable identified the participant (*ID*) by a portion of their student identification number that would protect the participant's identity. The next seven variables identified demographic information about the participant that included (a) practicum semesters (first or second [*Sem*]), (b) the section of practicum in which the student was enrolled in (*Prac*), (c) the age of the student (*Age*), (d) the counseling track the participant was enrolled in (*Track*), (e) the gender of the participant (*Gender*), (f) how the participant identified his or her ethnicity (*Race*), and (g) the degree held by the students' participant instructor (*Faculty*). This final variable was added to investigate if the practicum instructor held a Doctorate in Counselor Education or a Doctorate in another related discipline (i.e., Counseling Psychology, Marriage and Family Therapy) affected the development of CSE among the participants. The descriptive statistics were generated from demographic questionnaires the participants completed at the time the posttest was administered.

The remainder of the variables contained continuous data for the construct measurements. The first three variables were the (a) COSES pretest (*CSE1*), (b) COSES midtest (*CSE2*), and (c) COSES posttest (*CSE3*) raw cores. The next three variables identified the raw scores of the (a) STAI-S pretest (*STAI1*), (b) the STAI midtest (*STAI2*), and (c) the STAI posttest (*STAI3*). And the final 15 variables identified the raw scores of the OQ45.2 for up to five clients per participant. There were no participants that exceeded five clients during the semester. Theoretically, the participant's clients complete the OQ45.2 during their first, their fifth and their last session. As often occurs in research occurring in the social sciences, theory and reality differ when the research depends on data collected from participants outside an educational classroom.

During the semester, actual client sessions ranged from one to 12 with clients ending counseling, with or without a termination session, or at any session number in that range. The researcher instructed the student participants to include client OQ45.2 scores with more than five sessions to provide two points for analysis. In the event each client did not have three scores, the researcher presumed the client terminated without a final session and a final OQ45.2 was not given to the client. In these circumstances, the researcher used the fifth session OQ45.2 score to indicate the ending of the therapeutic relationship and the raw score as an indicator of the client's progress during the treatment period. The purpose of including the construct of treatment outcome in the scope of this study was to measure the effect of the treatment on CSE, anxiety and the treatment outcome. As a result of this purpose, the final OQ45.2 score (either the second or third administration of the client assessment) was used to indicate the treatment outcome. The first set of three treatment outcome variables contains the raw OQ45.2 scores for the first client's administration (*CL1OQ1*), the second administration (*CL1OQ2*) and third administration (*CL1OQ3*) of the assessment. The second set of three treatment outcome variables contains the raw OQ45.2 scores for the second client's administration (*CL2OQ1*), the second administration (*CL2OQ2*), and third administration (*CL2OQ3*) of the assessment. The third set of three treatment outcome variables contains the raw OQ45.2 scores for the third client's administration (*CL3OQ1*), the second administration (*CL3OQ2*), and third administration (*CL3OQ3*) of the assessment. The fourth set of three treatment outcome variables contains the raw OQ45.2 scores for the fourth client's administration (*CL4OQ1*), the second administration (*CL4OQ2*), and third administration (*CL4OQ3*) of the assessment. And, the final set of three treatment outcome variables contains the raw OQ45.2 scores for the fifth client's administration (*CL5OQ1*), the

second administration (*CL5OQ2*), and third administration (*CL5OQ3*) of the assessment. Furthermore, HLM is well suited for the analyzing the OQ45.2 scores as it fills in the missing data to provide a trajectory of scores (Raudenbush & Bryk, 2002). All 31 variables created stored the data used in this study.

Preparing the data

To successfully analyze a univariate or multivariate dataset, careful preparation to missing data, outliers and accuracy of data is important (Tabachnick & Fidell, 2007a). Before beginning to prepare the data, the researcher needed to organize the client outcome data for each participant. The client outcome data originated from the OQ 45.2 that were given to each of the participants' clients. The researcher decided to use only individual clients scores with two or more measurements (i.e. the first session and/or the fifth session, and/or the last session). The logic for this decision was based on the purpose of the study. The purpose was to measure if a change occurred in the participants' clients psychological functioning as a result of the participants' exposure to the videos and discussion boards. As a result, only the participants' adult clients with two or more measurements were included in the study.

In planning to use HLM for statistical analysis and HLM7 as the software to analyze the data, planning and making several decisions about structuring and coding the data are necessary before beginning the analysis (Arnold, 1992). In this case, the researcher started with the structure of the data by transposing the variables for use in HLM7. Transposing data is rearranging "the elements of the matrix such that the first row becomes the first column and the second row becomes the second column (Tabachnick & Fidell, 2007, p. 928). To prepare for

importing the data into HLM7, the file structure was converted from a horizontal format native to SPSS 20.0, as seen in Figure 4 to a vertical format, as seen in Figure 5, as required for HLM to identify the repeated measurement used in the research design. As the data was established in SPSS with each variable horizontal, the data set could not be repositioned from horizontal from vertical using the Transpose function in SPSS 20. As a result, the researcher copied the data to a Microsoft Excel file, individually transposed each case in Excel and copied the newly vertical data back to SPSS 20.

After completing the manipulation of data, the researcher compared the new data to the original data three times to ensure the new data set was accurate, and then asked another individual to review the masked data for accuracy. After the multiple reviews, the data proved to be correct and accurately transposed from a horizontal structure to a vertical structure.

After the data was transposed, the researcher created three new SPSS 20 data files to contain the data for each level in the HLM model. The creation of separate files for each level of the HLM model is the best method to import data into HLM7 (Raudenbush & Bryk, 2002; Stevens, 2007) and necessary for the software to create the three levels in the model.

	Prac	ID	Measure	COSES	STAI	AVGOQ1
1	100.00	4.00	1.00	85.00	51.00	54.00
2	100.00	4.00	2.00	78.00	41.00	.
3	100.00	4.00	3.00	82.00	47.00	44.67
4	100.00	6.00	1.00	64.00	35.00	75.00
5	100.00	6.00	2.00	69.00	37.00	80.00
6	100.00	6.00	3.00	72.00	48.00	85.67
7	100.00	9.00	1.00	77.00	48.00	78.33
8	100.00	9.00	2.00	78.00	52.00	93.00
9	100.00	9.00	3.00	88.00	45.00	69.33
10	100.00	12.00	1.00	74.00	51.00	73.00
11	100.00	12.00	2.00	74.00	49.00	.
12	100.00	12.00	3.00	82.00	52.00	63.67
13	100.00	16.00	1.00	55.00	40.00	60.33
14	100.00	16.00	2.00	74.00	43.00	66.00
15	100.00	16.00	3.00	67.00	44.00	48.67
16	200.00	24.00	1.00	57.00	66.00	44.33
17	200.00	24.00	2.00	78.00	38.00	51.00
18	200.00	24.00	3.00	84.00	50.00	29.67
19	200.00	26.00	1.00	60.00	49.00	60.67
20	200.00	26.00	2.00	75.00	48.00	38.50
21	200.00	26.00	3.00	80.00	50.00	31.33
22	200.00	29.00	1.00	59.00	42.00	76.00
23	200.00	29.00	2.00	79.00	51.00	64.67
24	200.00	29.00	3.00	84.00	53.00	63.33
25	300.00	1.00	1.00	85.00	51.00	84.00
26	300.00	1.00	2.00	86.00	49.00	73.67

Figure 4. The Level-1 file before transposing the data.

	Prac	ID	CSE1	CSE2	CSE3	STAIs1	STAIs2	STAIs3	STAIt1	STAIt2	STAIt3	CL1OQ1	CL1OQ2	CL1OQ3	CL2OQ1
1	1	4	57	78	88	48	41	47	42	45	45	29	.	13	34
2	1	6	64	69	72	35	37	48	40	36	43	75	58	62	83
3	1	9	77	78	88	48	52	45	42	43	46	79	88	77	58
4	1	12	74	74	82	51	49	52	48	44	46	83	.	75	53
5	1	16	55	74	67	40	43	44	50	47	47	82	94	81	58
6	2	24	57	78	84	66	38	50	52	50	49	74	93	32	16
7	2	26	60	75	80	49	48	50	47	48	46	28	34	28	70
8	2	29	59	79	84	42	51	53	45	48	50	70	68	65	71

Figure 5. The Level-1 file after transposing the data.

After the data files were accurately structured and separate files created for HLM7, the researcher addressed any categorical variables by dummy coding the variables for the analysis. Dummy coding variables is a process of making categorical variables a series of 0s and 1s where a 1 represents membership in that category (Stevens, 2007) the HLM7 requires to recognize a categorical variable. Prior to the analysis, the researcher determined the outcome variables, the predictor variables, and those variables affected the coding of other key variables. The three outcome variables were counselor self-efficacy as measured by the difference between the pretest and posttest COSES scores, the CIT's anxiety as measured by the difference between the pretest and posttest STAI-S scores and the treatment outcome as measured by the difference between the first and last OQ-45.2 scores. The outcome variables were affected by the predictor variable that was defined as whether the participant received the treatment or was in the comparison group. The predicator variable was coded as *Treat*, a 0 indicated a lack of treatment and a 1 indicated treatment.

Analysis

Once the assessments were scored, the data was compiled and stored in SPSS 20.0. To protect the data and safeguard from loss, the assessments were scanned and stored on multiple external drives, including Dropbox. Dropbox is an internet-based file sharing and storage service that provides access to files anywhere and backup files to files stored on an external drive. To protect confidentiality and ensure security, all locations where the data were stored required passwords to access the files. This level of security safeguarded the confidentiality of the participants and prevented the loss of data due to unforeseen circumstances.

In the social sciences, a common occurrence is to find nested data existing whenever participants are clustered into groups (Stevens, 2007). For example, in the education sector, students are grouped into classrooms, the classrooms are grouped into schools and the schools are grouped into districts; creating a three level nested hierarchical structure. In each of these groupings, there may be characteristics or factors that influence only a particular group. The conditions that exist within a group may uniquely influence the group making the group different from the other groups, and this difference may influence the results of a study (Woltman, Feldstain, Mackay, & Rocchi, 2012). The participants in a group have common characteristics and conditions that violate the assumption of independent observations needed for many statistics. In this study, the assessments' repeated measures were grouped by participants; the participants were then nested into classes of practicums as each practicum had unique experiences that could influence the results of this study.

Hierarchical Linear Modeling. An effective method for analyzing the nested data in this study was using the statistical analysis of *hierarchical linear modeling* (HLM). The statistical analysis was developed as researchers began understanding that in social sciences, participants were often members of groups and in research studies the group effect affected the dependent variable, HLM accounts for the variance both within and between individuals and groups (Maas & Hox, 2005). Often in the social sciences, participants are organized at more than one level into nested designs, with the lowest level being the participants or repeated measures (Tabachnick & Fidell, 2007a). "HLM can be ideally suited for the analysis of nested data because it identifies the relationships between predictor and outcome variables, by taking both Level-1 and Level-2 regressions relationships into account" (Woltman et al., 2012). HLM

is a statistical linear model that analyzes hierarchical, nested or multi-level data (Ciarleglio & Makuch, 2007; Maas & Hox, 2005; Woltman et al., 2012). HLM also estimates linear equations explaining outcomes for members of groups as influenced by the characteristics of the groups as well as the individual characteristics of the participants (Arnold, 1992).

HLM is a series of linear regressions that accounts for the interaction of the groups, participants and repeated measures by analyzing the nested data and accounting for the regression relationships of the multiple levels (Tabachnick & Fidell, 2007a; Woltman et al., 2012). Additionally, HLM is a regression of regression, however an important difference exists between HLM and multiple regression statistics, HLM accounts for the covariance of the nested and hierarchical groups (Arnold, 1992; Ciarleglio & Makuch, 2007; Woltman et al., 2012). The model explains the characteristics of participants or measures who are members of a group, and the group is a member of another group, making the analysis linear and hierarchical (Arnold, 1992). This type of statistical analysis is needed as most grouped data violate the assumption of independence of observations, this violation is measuring the same participant more than once or the participants share conditions that may affect the individual responses to an assessment and affect the dependent variables (Maas & Hox, 2005).

This statistical method was developed simultaneously across several disciplines (i.e., health sciences, social sciences, business systems) and as a result is known by several names including multi-level modeling, mixed-level modeling, random effects modeling and random coefficient modeling (Woltman et al., 2012). Regardless of the name, the statistical method investigates the relationship between and within groups of data that accounts for the variance among levels and variables (Tabachnick & Fidell, 2007a) and is a method for analyzing clustered

data that has grown in acceptance in recent years (Maas & Hox, 2005). More clearly, participants are influenced by the groups they belong to and the context of the group, and the groups themselves are influenced by the participants that comprise the group (Maas & Hox, 2005) with HLM accounting for the influence both between and within participants and groups (Woltman et al., 2012).

In this study, the State-Trait Anxiety Inventory and Counselor Self-Efficacy Scales were given to the participants at three times, which were (a) prior to the beginning of the semester (pretest), (b) near the middle of the semester (midtest). and (c) at the conclusion of the semester (posttest) creating the participants' repeated measurements. The repeated measures are grouped at Level-1 (see Figure 6). The repeated measures are then grouped under participants in the study at Level-2 and the participants are then grouped by the practicums at level 3 creating a hierarchical structure.

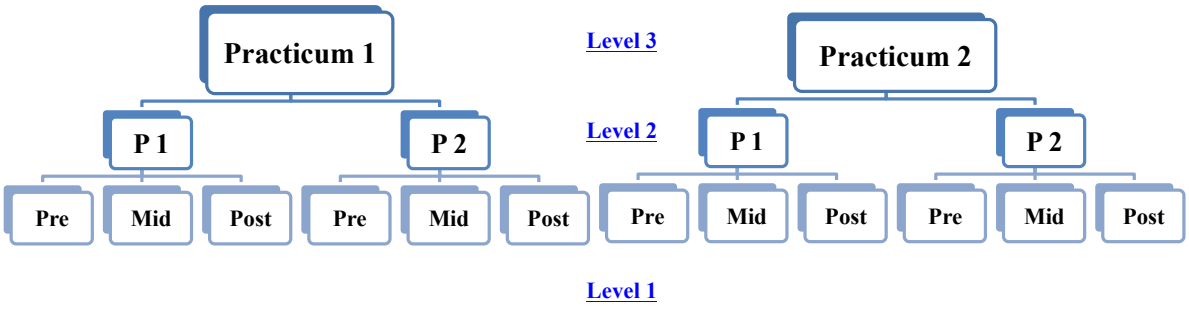


Figure 6. An overview of the nested data in this study.

Level-1 (the repeated measures) is nested under Level-2 (the participants), which is nested under level 3 (the classes of practicums). In a study with repeated measures, the

measurements are considered the lowest level and nested under the participants (Woltman et al., 2012).

Although others may consider using a repeated measures analysis of variance (ANOVA) or analysis of co-variance (ANCOVA) for analysis in this design (Ciarleglio & Makuch, 2007), HLM is more appropriate as the analysis identifies the relationship between the outcome and predictor variables by accounting for the regression relationship between the Level-1 and Level-2 variables (Woltman et al., 2012). When considering how the practicums vary from one another, the source of the variance is from fixed or random effects (Stevens, 2007). Fixed effects are limited to what is controlled in the design and random effects are generalized to all conditions. In this design, the exposure to embedded, rich-media in a distributed learning environment is a fixed effect, and is fixed by enrollment in the practicum section.

Rationale for using HLM. Although other researchers may select alternate statistics to analyze the data, HLM was selected for several reasons. First, HLM recognizes the nested structure of the research design (i.e., repeated measured nested under participants that are nested under practicums). In this study, the data collected from the participants was collected in the practicums and as a result there is a violation of the independence of observations, as conditions may exist in the class that affect the data collected. HLM recognizes and accounts for the non-independence of observations (Ciarleglio & Makuch, 2007). Additionally, HLM can explain changes between and within classes while accounting for individual changes (Arnold, 1992) and accounting for cross level effects. Furthermore, HLM allows for the violations of the assumptions necessary for most statistics, such as homogeneity and independence of observations (Tabachnick & Fidell, 2007a). Finally, HLM facilitates predictors at each level of

the analysis (Tabachnick & Fidell, 2007a) and as a result, HLM can predict Level-1 outcomes for other groups (Arnold, 1992). As a result of the above reasons, HLM was well suited for analyzing the dataset.

Sample size and HLM. Theoretically, HLM is best suited for a large number of Level-2 groups and large sample sizes. However, although literature may intimate a large sample size is required, there is a great deal of debate on the appropriate size of a sample to use with HLM (Maas & Hox, 2005). Most statistics will offer *rules of thumb* for sample sizes, however in all seminal articles and texts, the rules for sample sizes have been avoided due to the debate on the effectiveness of HLM with small sample sizes (Maas & Hox, 2005). The lack of a rule of thumb for HLM indicates an absolute minimum sample size has not been established. Furthermore, the hierarchical nature of educational research is well-suited to HLM, yet often the sample sizes and number of groups are smaller due to budget limitations and availability of participants (Arnold, 1992). In a quasi-experimental study examining the effect of an intervention on reading ability, researchers used HLM to analyze the nested data and found there was a significant effect, but noted the samples size restricted generalization to a greater population (Hudson, Isakson, Richman, Lane, & Arriaza-Allen, 2011). Another study examining the actor-partner interdependence in family therapy used 15 families with less than 30 participants and the researchers found the predictor variables had an effect on the outcome variables, but did not list samples size as a limitation (Friedlander, Kivlighan, & Shaffer, 2012). The above studies are similar in nature and size to this study, and provide precedence for the use of HLM in this study.

Cross Validation. As discussed earlier, HLM lacks a guiding principle for sample size with some debate on the effect for smaller samples. As a result, scholars suggest cross validating

the use of HLM on a small sample with a statistical less sensitive to smaller samples (Tabachnick & Fidell, 2007a). In Chapter Four of this study, the researcher investigated each hypothesis with HLM7 and presented the findings, followed by the cross validation with another statistic. After analyzing the data in HLM7, a second software package was used, Statistical Package for the Social Sciences ([SPSS] v. 20.0) to house the data and cross-validate the findings. To cross-validate the findings, an analysis of variance (ANOVA) or a multivariate analysis of variance (MANOVA) was used to investigate the validity of the findings. Cross-validation is a method used to explore and confirm the findings of another statistic when a condition exists that creates a question about the reliability of the results (Tabachnick & Fidell, 2007a). Cross-validation analyzed the same data using alternate statistical analyses mentioned above and the cross validation required two software packages.

Power. When using most statistics it is appropriate to analyze the power levels of the sample. However, there are no standard power analyses for HLM as the covariance structure is not known before the data collection (Castelloe et al., 2001), therefore the power was not necessary for this statistic. However, with cross-validating the HLM results with an ANOVA or MANOVA, the power must be evaluated to determine the minimum sample size for the research study. To determine the minimum sample size, the researcher used G*Power (Faul & Erdfelder, 2012) to identify that for an ANOVA with a medium effect and .05 probability of an alpha error the necessary sample size was 14. Additionally, for the MANOVA with a large effect size and a .05 probability of an alpha error the necessary sample size is 28.

Limitations

The first limitation of this study was the quasi-experimental research design. As a quasi-experimental study, the design limited the ability to generalize the result to a broader population, since a lack of randomization existed. This study identified the effect of the treatment on the outcome variables, but further research with randomized participants would need to be conducted to generalize the findings to a greater population. Additionally, utilizing a purposive sample created a limitation for the study in that the sample may be more homogenous than a varied sample or a random sample. Finally, the proposed study took place at a single university to control for logistics and technology. Although a single university may be a good control, it does limit the generalizability to other practicums at the same or other counselor education programs.

CHAPTER FOUR: RESULTS

Introduction

This chapter presents the results of a study of counselors in training (CIT) and the effects of a media treatment for reducing anxiety and increasing counselor self-efficacy (CSE). This study used a quasi-experimental model to investigate whether the treatment of discussion groups and videos increased CSE. The study examined if a difference existed in the levels of counselor self-efficacy between practicum students who participated in knowledge and skill building experiences in an embedded, rich-media, distributed learning environment from those students who did not. Furthermore, the study investigated if the intervention decreased anxiety and had an affect on treatment outcomes.

Research Design

The researcher approached the study from a quantitative research perspective and compared a non-equivalent, control group, pretest and posttest design to investigate the constructs of (a) counselor self-efficacy, (b) anxiety, and (c) client treatment outcomes. The constructs were also the outcome variables in the design and analysis. In this study, a quantitative study best answered the research question and a quasi-experimental design allowed for manipulation of the outcome variables and the use of existing groups of practicum students as subjects. Although an experimental design is always preferred, and if the researcher cannot randomize the participants, a quasi-experimental design should be selected over a correlational design (D. T. Campbell & Stanley, 1963) because a quasi-experimental design allows for causal inferences to be made. The quasi-experimental research design was chosen based on several

factors. The first, a quasi-experimental design allows for non-randomized selection of participants (D. T. Campbell & Stanley, 1963). As the participants originated from practicums at a large southeastern university, the selection was purposive not random. Practicum is defined as a course in a college or university that provides practical experience in a specific field ("Practicum," n.d.). Additionally, the quasi-experimental type of design allows the independent variable to be manipulated (Shadish et al., 2002). A quasi-experimental design is similar in nature to an experimental design as both designs share the features of (a) testing an hypothesis, (b) manipulation of a variable, (c) control groups, (d) pretest measures, and (e) allows for making inferences about what would happen in the absence of treatment, but also accounts for the non-randomization of participants (Shadish et al., 2002).

Treatment/Intervention

For this study the independent variable was the level of skill and knowledge a CIT possessed contributing to their levels of counselor self-efficacy, anxiety, and the effect upon the construct of treatment outcome. In the experimental group, two treatments were used to increase the CITs' knowledge and skills. The treatments consisted of four videos and weekly discussion topics, both posted in an embedded, rich-media, distributed learning environment using a web course for the experimental group. After the first six weeks, the usage of the distributed learning environment decreased as seen in Figure 7. To remind the participants of the resource available the researcher emailed the participants in the experimental group. In the email, the researcher asked the participants to report if they were experiencing any difficulties with the distributed

learning environment. None of the participants responded that they were experiencing any problems with the web course.

Videos were the first treatment component and addressed areas identified as causing anxiety for CITs during practicum (Jordan & Kelly, 2004, 2011). The videos topics included (a) navigating the first session with examples of how to discuss confidentiality, the counseling process, and attendance; (b) how to collaborate with a client to develop a treatment plan and then deliver the plan to the client; (c) how the counselor could use counseling techniques to overcome being at a loss for what to do next in a session; (d) how to navigate difficult discussions with the parent and client during the first session with a minor; (e) assessing alcohol overuse and abuse and addressing the addiction with a client; (f) assessing for child abuse; (g) assessing for suicidal ideation, including discussing with the client hospitalization, and (h) overcoming difficult therapeutic behaviors in a client. The researcher using doctoral students as volunteers for actors in the videos filmed the videos in the university counseling clinic. The actors each signed a release for their participation in the videos that can be found in Appendix B. For specific details on the videos, a complete description is provided in Appendix G.

The second treatment component used in the study were discussion threads that also addressed topics shown to create the greatest levels of anxiety (Jordan & Kelly, 2011). After a discussion topic was posted, the researcher moderated the discussion thread to ensure the accuracy of information, client confidentiality, and the students' posts received correct responses. The researcher planned to participate in the discussion board to ensure the accuracy of information provided in the discussion was accurate and to protect client welfare. The researcher intervened six times to clarify information provided in peer support and identify the successful

outcomes of the participants when using any of the skills modeled in the videos. In Appendix F, further information and detailed descriptions of the web course discussion threads are given.

Data Collection

The three data collections points were all conducted in a similar manner as described below, with modifications appropriate to the nature of the visit. Prior to the each visit, the researcher contacted the practicum instructors via email to ask permission to visit the class and scheduled a convenient time. For the first visit, the purpose of the visit was to visit the class on the first day to explain the study, attain the participants' assent and administer the pretest. In each of the visits (i.e., pretest, midtest, and posttest) the researcher visited the students in the university's counseling clinic prior to, or during their class times as indicated by the instructor. In each practicum, the researcher began by thanking the students for their participation and distributed the assessments to be completed. Once the assessments were given out, the researcher read a script explaining the directions for completing the battery of assessments. For further explanation of the script delivered to students, refer to Appendix A to view the script and Appendix E for specific details on the data collection. The researcher remained in the classroom to answer questions from the participants about completing the assessments. Once the students completed the battery of assessments, they placed the assessment packets inside an envelope in a central location and when all students had completed the assessments, the researcher collected the envelope. The researcher concluded the data collection by thanking the participants for their time and allowing the interruption to their normal schedule. After leaving the classroom, but prior to leaving the clinic, the researcher reviewed each assessment to ensure the participant (a)

completed each assessment distributed, (b) completed both sides of the printed page, (c) indicated identifying information, and (d) completed each item on each assessment. If any data was missing, the research returned to the classroom to gather any missing data.

Summary

The remainder of this chapter will analyze the results of the research study. The chapter contains (a) an explanation of the sampling and data collection procedures, (b) sample demographics and descriptive statistics, and (c) the data analyses for the research question and hypotheses.

Sampling Procedures

Sampling

Based on the literature review, the population selected for this study was counselors-in-training during their first semester of practicum, who are better defined as those students currently enrolled in an academic institution and actively taking counseling classes preparing to be professional counselors (Gibson et al., 2010). The sample was a purposive sample in that the sample included CITs in their first semester of practicum at a Council for Accreditation of Counseling and Related Education Programs (CACREP) accredited university in the southeastern United States.

The purposive sample came from the fall practicums, and more specifically first semester practicum students enrolled in a practicum class during the 2012 fall semester. The university had eight sections of practicum for the fall semester and the students were placed according to

their schedules. The placement process began with the students providing the counseling program's admission specialist with the practicum class times that best fit their schedules, the specialist allocated students to practicums based on the students' preferences while balancing the class sizes to an optimal size of five or six students per section. During the first week of classes, one student transferred from the Thursday afternoon section to the Monday afternoon section of practicum. Although the university placed the students into the practicums, the researcher divided the classes based on personal knowledge and experience to balance the characteristics of each class into the comparison and experimental groups.

In educational research, very rarely does true experimental research occur with a control group that by definition receives no treatment at all (Fraenkel & Wallen, 2008). In true experimental designs, an experimental group receives a treatment and the control group receives no treatment (Gay et al., 2006). However in this study, since all participants were enrolled in practicum and receiving the support of the instructors, those students not in the experimental group were considered to be in the comparison group.

The participants were naturally divided into classes of practicums, where each class contained students in their first and second semester of practicum. However, based on the research showing the first semester in practicum has the lowest CSE and highest anxiety (Bischoff et al., 2002; Jordan & Kelly, 2011), this research study solely focused on those students in their first semester. The university had three tracks in the counseling program that included (a) school counseling, (b) mental health counseling, and (c) marriage and family therapy. The students in all three tracks shared classes and are co-mingled in practicum. All but one of the practicums contained students in their first and second semester of practicum; one had

only students in their first semester. Each practicum in the study contained students from each of the three counseling tracks.

The researcher divided the sample into comparison and experimental groups based on (a) finding the combination of classes that created a nearly equal number in both groups (all classes consisted of an uneven number of first and second semester practicum students, as the practicum roster was based on the student's scheduling availability) and based on (b) the researcher's knowledge of the students, the instructors, the varying characteristics of day and evening practicums, and (c) distribution of CIT's counseling tracks chosen (i.e., mental health counseling, marriage and family therapy, school counseling). The sample ($N = 32$) consisted of students from eight practicums that were divided into an experimental group ($n = 16$) and a comparison group ($n = 16$). The beginning sample consisted of a comparison group ($n = 15$) and an experimental group ($n = 17$), but when the previously mentioned student transferred from the Thursday to the Monday practicum, the groups were equivalent in size. Although larger sample sizes are suggested for experimental research, studies with as few as 15 members per group can be effective if the conditions are controlled as in this study (Fraenkel & Wallen, 2008). Additionally, the two groups were created to be as homogenous as possible to control for the non-equivalence of the two groups.

Response Rates

Response is traditionally thought of as asking participants to complete an assessment, questionnaire or survey; each of the forms may be administered by many methods (i.e., in person, via mail, via email, via the Internet) (Gay et al., 2006). The response rate is important as

those who do not respond are considered to be different from the sample and affect the conclusions drawn from the study (Fraenkel & Wallen, 2008). Another significance of response rate to a research study is low response rates and participation limit the ability to draw trustworthy conclusions from the results (Gay et al., 2006). In this study, the researcher visited the classes and asked the participants to complete the assessments during the time allocated for the assessment. Additionally, due to the nature of practicum, CIT absenteeism is minimal as the clinic's clients are relying on the students to be present inhibiting a student from missing a class. Thus, all participants were present at each of the data collection points and completed each assessment. The data collection for the study was 100%.

Sample Demographics and Descriptive Statistics

The terms *sample demographics* and *descriptive statistics* are often used synonymously, however a subtle difference exists. For the purpose of discussion in this chapter, the term *sample demographics* define the personal characteristics held by the participants in this study. Thus, the term *descriptive statistics* describes the non-physical characteristics of the sample and the participants going beyond basic demographic information (i.e., age, counseling track) to describe characteristics including the measures of central tendency. Both sample demographics and descriptive statistics further define the participants and their impact on the results

Sample Demographics

The sample was divided into eight practicums that occurred in the morning and late afternoon on Mondays, Tuesdays, Wednesdays, and Thursdays. The first practicum began around 10:00 am and finished around 3:30 p.m., and the second began around 4:00 p.m. and

would finish near 9:30 p.m. The practicums were divided into the two treatment groups as indicated below in Table 2.

Table 2. *The distribution of students to practicum classes.*

	Comparison Group		*Experimental Group*	
Day and time	*n*	%	*n*	%
Monday morning	5	15.6		
Tuesday morning	5	15.6		
Tuesday evening	3	9.4		
Thursday evening	3	9.4		
Monday evening			3	9.4
Wednesday morning			6	18.8
Wednesday evening			3	9.4
Thursday morning			4	12.5

The first demographic examined was the characteristic of *gender*. The sample ($N = 32$) consisted of first-semester students from eight practicums that were divided into an experimental group ($n = 16$) and a comparison group ($n = 16$). The sample contained 29 females (91%) and three males (9%). The groups were similarly divided on gender, the comparison group had 14 females (88%) and two males (12%); the experimental group had 15 females (94%) and one male (6%). There was not a significant difference between the groups on the characteristic of gender.

The next demographic was the characteristic of *ethnicity*. The sample contained one Latin participant (3%), five Black participants (16%), three Asian participants (9%), 21 White participants (66%), one American Indian participant (3%), and one participant that identified as

Other (3%). The comparison and experimental groups were similar on ethnicity also. The comparison group consisted of one Latin/Hispanic participant (6%), three Black participants (19%), two Asian participants (13%), nine White participants (56%), and one American Indian participant (6%). The experimental group consisted of two Black participants (13%), one Asian participant (6%), 12 White participants (75%), and one participant that identified as Other (6%). The two groups were slightly different on the characteristic of ethnicity as the percentage of ethnicities varied somewhat, but the difference was not significant.

Another demographic examined was the characteristic of *counseling track*. The sample contained seven school counseling students (22%), 17 mental health counseling students (53%), and eight marriage and family therapy students (25%). The experimental and comparison groups were similar on distribution of students into counseling tracks. The comparison group was comprised of four school counseling students (25%), seven mental health counseling students (44%), and five marriage and family therapy students (31%); and the experimental group was comprised of three school counseling students (19%), 10 mental health counseling students (62%), and three marriage and family therapy students (19%). The groups were not significantly different on the counseling track characteristic.

The final demographic examined was *age*. The sample ranged in age from 22 years old to 42 years old ($M = 25.938$, $SD = 4.905$). The experimental group and comparison groups were similar on age. The comparison group ranged in age from 23 years old to 42 years old ($M = 25.813$, $SD = 4.833$) and the experimental group ranged from 22 years old to 37 years old ($M = 26.063$, $SD = 5.131$). The groups were not significantly different from each other as the difference in mean scores was within one standard deviation.

Table 3. *Sample Demographics*

	Comparison Group		Experimental Group	
Gender	*n*	%	*n*	%
Female	14	88	15	94
Male	2	12	1	6
Ethnicity				
Latin	1	6	2	13
Black	3	19	1	6
Asian	2	13	-	
White	9	56	12	75
American Indian	1	6	-	
Other	-		1	6
Track				
School counseling	4	25	3	19
Mental health counseling	7	44	10	62
Marriage and family therapy	3	31	3	19
Age				
20-30	14	88	12	75
30-40	1	6	4	25
40-50	1	6	-	-
Mean		25.938		26.063
Pre-service Leaning				
Yes	9	57	12	76
No	4	25	3	18
Unknown	3	18	1	6

Descriptive Statistics

Embedded, rich-media, distributed learning environment. The study utilized an embedded, rich-media, distributed learning environment to deliver the treatment. The researcher used Webcourses, the existing technology infrastructure within the academic institution to

deliver the treatment as (a) the participants were familiar with the format from previous classes in the counseling program, (b) the familiar nature would increase response rate, (c) the format integrated technology to best accomplish the goals of the treatment, and (d) the format provided the structure to collect descriptive statistics based on the participants' usage. The descriptive statistics were accessible to the researcher as the creator of the web course and facilitated understanding the method the students used the distributed learning environment.

During the semester there were 358 unique sessions (M = 16.56, SD = 13.846) and a session is identified as from the time a participant logs into the web course through their university account after providing a user name and password, to the time the student leaves the web course. Once the participants logs in, their time and usage patterns are compiled. The average number of users of the web course per day was four on the weekdays and three on the weekends. Three participants tied for the most usage with 41 unique sessions during the semester. The most active day was August 23, 2012, which was during the first week of the semester. The least active day was September 30, 2012, and the best possible explanation for the drop in usage is that date was immediately following the mid-semester evaluation and the students may have suffered from mid-semester fatigue. During the study, the most active time of the day for participants was from 3:00 to 4:00 p.m. and the least active time of the day was the period from 6:00 to 7:00 a.m. Initially, hours between midnight and 6:00 a.m. would seem less active, but after further exploration, if the hour had no usage during that time, the hour was not considered in the usage ranking. Thus, from 6:00 to 7:00 a.m. was the hour in which the least usage occurred by the participants. The average total time (mean is measured in minutes) spent on the web course during the semester was a little over six hours (M = 363.81 (minutes), SD =

692.46), however after removing four outliers using dummy coding to identify the outliers, the average time during the semester was a little over two and a half hours (M = 156.91, SD = 86.61).

During the study, the most active page viewed was the discussion of the participants' thoughts and feelings about their upcoming first session with a client. The second most visited page was the first week topic, the third was the third week topic and the fourth was a discussion started after counseling clients for a few weeks, if the participants thought they were suited for the profession of counseling. A complete description of each topic can be found in Appendix G.

Another element measured by web courses was the discussion boards and more specifically quantifying (a) the number of posts to the discussion board, and (b) the number of posts read. There were over one hundred individual posts (N = 115), with the average being five posts per person (M = 5.00, SD = 3.22). Figure 7 shows the volume of posts were the greatest during the first few weeks of the semester which correlates with research showing that the levels of anxiety are often the highest and the levels of counselor self-efficacy are the lowest during the first few weeks of the semester which correlates with research showing that the levels of anxiety are often the highest and the levels of counselor self-efficacy are the lowest during the first few weeks of practicum (Daniels & Larson, 2001; Larson & Daniels, 1998).

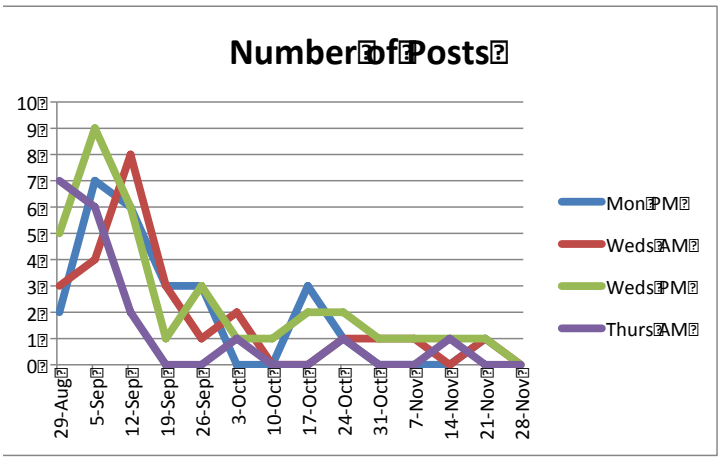


Figure 7. The number of posts by practicums each week.

A complement to examining the quantity of posts is inspecting how many times the posts were read. The number of times the posts were read ($N = 4942$) was significantly higher ($M = 299.38$, $SD = 479.21$). In examining the data, there were three outliers in the population that were outside three deviations from the mean. To normalize the distribution and provide a more accurate reflection of the usage, the researcher dummy coded the *Disc* variable to remove the outliers, resulting in a more accurate number of posts ($N = 2877$) with an average of 139 posts read per person ($M = 138.92$, $SD = 112.65$). In the outliers were two students who viewed the posts five times more than that of the next student with the greatest number of views and one student who did not read any of the messages posted. Figure 8 indicates a less consistent pattern of posts read among practicums than existed in Figure 7 with the messages posted. A possible explanation for the numbers of messages viewed exceeding the number of posts and lack of usage pattern is the participants had access to go back at any time during the semester to read a post that was applicable at a later time.

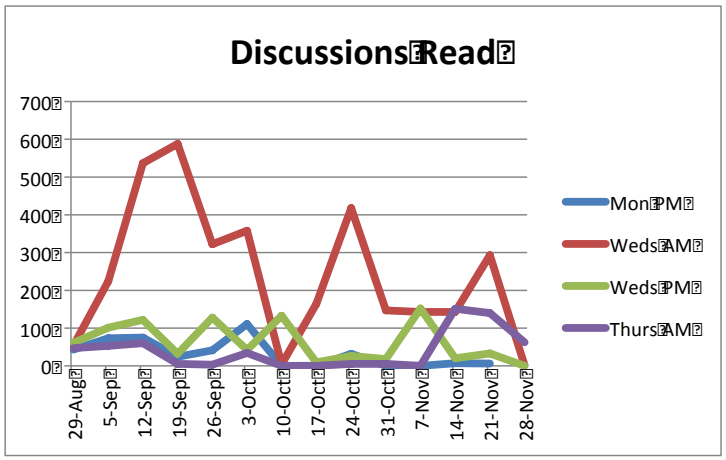


Figure 8. The number of posts read by practicums each week.

In a research design, there are external factors that can influence an experimental study (Fraenkel & Wallen, 2008). During the course of the study, the researcher became aware of a social networking internet site participants were using to communicate information about the counseling program, and at times the practicums. To monitor the influence on the study, the researcher became a member of the group. As a member, the researcher noted the participants would discuss their feelings and share treatment advice with each other. However, there was no duplication of discussions or information between the mediums. This medium may have influenced the number of posts on the web course treatment, since an alternate medium was available.

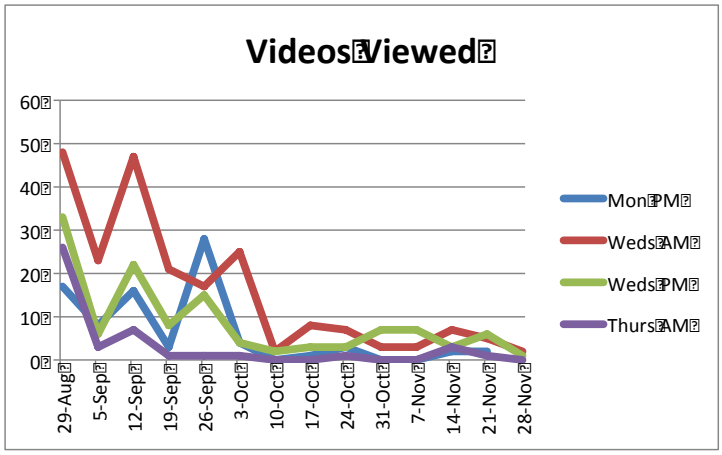


Figure 9. A weekly analysis of the number of videos viewed by practicum.

The final element measured by the web course was the number of videos viewed. More specifically, the videos were stored in a web-based file sharing service to increase viewing speed, but the students would enter the web course and on the page with the videos listed, would click on a link to the video in the file sharing service. Webcourses measured the number of times participants clicked on the link to the videos, however it is probable the participants accessed the videos directly from the file sharing service that does not have the ability to report the number of times a file has been opened. Thus, the statistics reported here indicate a level of usage for the videos, but the statistics are not absolute representation of usage. All students in the experimental group viewed the videos ($N = 466$), with the range from five to 83 and an average of 27 ($M = 26.88$, $SD = 21.98$). An analysis of Figure 9 shows the dates and viewing of the videos broken down by practicum indicates more viewings in the first six weeks of the semester. A review of Table 4 displays how the top usage participants varied on each of these components and the ability for the participant to vary from high to low on each of the elements.

Table 4. *The most frequently using participants of the web course and their descriptive statistics.*

Student	*Time*	*Sessions*	*Posts read*	*Posts*
1	45:42	41	1599	6
2	19:49	37	1539	10
3	2:21	41	287	16
4	4:00	41	303	6
5	4:50	24	305	6
6	4:26	12	88	4
7	4:09	16	155	6

In reviewing the sample demographics the researcher concluded the experimental and comparison groups were fairly homogenous. Furthermore, a review of the pretest scores for the COSES and STAI indicated the experimental and comparison groups were within half a standard deviation from the other group on the mean scores for the assessments given at the pretest. This similarity in the comparison and experimental group provided evidence the threats to validity had been accounted for.

Counselor Self-efficacy Scale. The Counselor Self-efficacy Scale ([COSES] Melchert et al., 1996b) measures the counselor-in-training's (CIT) belief about their ability to counsel a client in the near future. The instrument consists of 20 questions; the questions are based on the instrument authors' review of literature that reflected the constructs of skills and knowledge necessary to be an effective counselor (Melchert et al., 1996a). The items ask the participant to rate a quality associated with CSE with a Likert-scale from one to five. The assessment was given to the participants at three points (a) the beginning of the semester (pretest), (b) near the middle of the semester (midtest), and (c) at the end of the semester (posttest). The score for the

COSES was hand tabulated for each participant and for all of the data collection points. The assessment provides a total raw score ranging from 20 to 100 with the lower score indicating less CSE and the higher score indicating greater CSE. The sample was normally distributed (M = 69.66, SD = 9.61) on the pretest. The groups were similar on the COSES given as a pretest with the comparison group average (M = 70.81, SD = 10.15) and the experimental group average (M = 68.19, SD = 8.74) being within half a standard deviation of the other. On the midtest, the sample was normally distributed (M = 75.63, SD = 5.52). The groups were similar on the COSES midtest scores with the comparison group average (M = 75.19, SD = 6.15) and the experimental group average (M = 76.06, SD = 4.97) being less than half a standard deviation of the other. On the last data collection point (posttest), the sample was normally distributed (M = 80.97, SD = 7.37). The groups were similar on the COSES given as a posttest with the comparison group average (M = 81.94, SD = 7.76) and the experimental group average (M = 80.00, SD = 7.17) being less than half a standard deviation of the other. The researcher examined the changes between the data collection points for the groups finding the experimental group experienced a greater increase in CSE after the treatment (midtest) than the comparison group.

Table 5. *Descriptive Statistics for Counselor Self-efficacy Scale.*

		N	*n*	*M*	*SD*
Pretest					
	Comparison Group		16	70.81	10.15
	Experimental Group		16	68.19	8.74
	Sample	32		69.66	9.61
Midtest					
	Comparison Group		16	75.19	6.15
	Experimental Group		16	76.06	4.97
	Sample	32		75.63	5.52
Posttest					
	Comparison Group		16	81.94	7.76
	Experimental Group		16	80.00	7.17
	Sample	32		80.97	7.37

Anxiety. The State Trait Anxiety Inventory ([STAI] Spielberger et al., 1970) is an assessment measuring the self-reported level of anxiety for the participant. The STAI is a self-report instrument that uses 20 questions to assess the level of anxiety a person feels at the moment ([STAI-S] state anxiety) and 20 questions to assess the levels of anxiety a person generally feels ([STAI-T] trait anxiety) (Dreger & Katkin, 2010). The STAI was administered to the participants at the same data collection points as the COSES (i.e., pretest, midtest, posttest). The STAI-S best addressed the research question and hypotheses, therefore for the purpose of this study; the data from the STAI-S was used. The items on the STAI-S asked the participant to rate the item on a Likert-scale from one to four, with one indicating less anxiety and four indicating a greater level of anxiety. The assessment provided a total raw score indicating the overall level of the state anxiety for the participant, the total score ranged from 20 to 80, with 20 being less anxious and 80 being greater anxiety. This assessment was hand tabulated according to the specifications in Chapter Three. The sample was normally distributed ($M = 46.81$, $SD =$

5.42) on the pretest. The groups were similar on the STAI-S given as a pretest with the comparison group average (M = 45.46, SD = 4.53) and the experimental group average (M = 48.06, SD = 6.07) being within half a standard deviation of the other. On the midtest, the sample was also normally distributed (M = 44.44, SD = 4.19). The groups were similar on the STAI-S given as a midtest with the comparison group average (M = 45.88, SD = 4.40) and the experimental group average (M = 43.00, SD = 3.54) being less than one standard deviation from the other. On the last data collection point (posttest), the sample was normally distributed (M = 47.34, SD = 3.24). The groups were similar on the STAI-S given as a posttest with the comparison group average (M = 46.75, SD = 2.86) and the experimental group average (M = 47.94, SD = 3.57) being less than half a standard deviation of the other. Upon examining the changes between the data collection points for the groups, the experimental group experienced a greater decrease in anxiety after the treatment (midtest) than the comparison group.

Table 6. *Descriptive statistics for the Anxiety*

		N	*n*	*M*	*SD*
Pretest					
	Comparison Group		16	45.46	4.53
	Experimental Group		16	48.06	6.07
	Sample	32		46.81	5.42
Midtest					
	Comparison Group		16	45.88	4.40
	Experimental Group		16	43.00	3.54
	Sample	32		44.44	4.19
Posttest					
	Comparison Group		16	46.75	2.86
	Experimental Group		16	47.94	3.57
	Sample	32		47.34	3.24

Treatment outcomes. The Outcome Questionnaire 45.2 ([OQ 45.2] Lambert et al., 2004) measures the level of change in a CIT's client at the moment the instrument is distributed. The norm-referenced instrument consists of 45 questions that assesses the client's psychological functioning and is used in the clinic where the study took place to measure the change in a client that occurred during the counseling process. The instrument has three subscales that measure (a) how a person is feeling, (b) how well the person is getting along with others, and (c) how well the person is functioning at the important tasks in life (Pfeiffer, 2010). The instrument asks the client to assess their feelings, relationships and functioning on a Likert-scale from 0-4 providing a sum raw score from zero to 180 (Hanson & Merker, 2010). While the OQ-45.2 is an evaluation, for the purpose of this study, the OQ-45.2 raw score measured the effect of CSE on clients' treatment outcomes. According the to the university counseling clinic's policy, the assessment is given to the client during the first, the fifth and the last session. For this study, in the event a client was not present at their last session, the second point of distribution is used as the final score. The assessments were completed by the participants' clients and scored by the participants. The participants provided the scores to the researcher on the posttest. The clients scores were attached to the participant's id and a maximum of three scores per participant were analyzed. For the sample, the client's scores from their first session were near the middle of the range (M = 76.00, M = 65.00, M = 63.22), as were the scores from their fifth session (M = 74.56, M = 57.33, M =59.44) and their final session was somewhat lower showing improvement in their treatment outcome (M = 54.22, M = 55.89, M = 37.47).

A review of the comparison and experimental groups yielded similar results. For the comparison group, the participants' clients' scores from their first sessions were near the middle

of the range (M = 71.50, M = 66.25, M = 63.25), and for the experimental group, the clients' scores were also in the same range (M = 79.60, M = 64.00, M = 63.20). The participants' clients' scores from the fifth session were also comparable, as the comparison group's clients' scores were (M = 66.00, M = 58.50, M = 54.50), and the experimental group's client scores were also similar (M = 81.40, M = 56.40, M = 63.40). The final set of client scores were also similar with the comparison group's scores (M = 52.75, M = 52.50, M = 43.00), and for the experimental group's scores were also similar (M = 55.40, M = 58.60, M = 57.00).

Table 7. *Descriptive statistics for the participants' clients' treatment outcome scores.*

	Sessions		
	First session	Fifth session	Last session
	M	*M*	*M*
Sample			
Client 1	76.00	74.56	54.22
Client 2	65.00	57.33	55.89
Client 3	63.22	59.44	37.47
Comparison Group			
Client 1	71.50	66.00	52.75
Client 2	66.25	58.50	52.50
Client 3	63.25	54.50	43.00
Experimental Group			
Client 1	79.60	81.40	55.40
Client 2	64.00	56.40	58.60
Client 3	63.20	63.40	57.00

Data Analysis and Results for Research Question and Hypotheses

A research study begins with a question that "serves as a focus of the researcher's investigation" (Fraenkel & Wallen, 2008, p. 27). This study evolved from a research question that asked if increasing the skills and knowledge through an embedded, rich-media, distributed

learning environment would increase CSE, decrease anxiety and improve treatment outcomes between practicum students. The remainder of this chapter will examine the hypotheses developed in earlier chapters and apply the research results to the premises developed.

Statistical Analysis

The nested structure of the research design (i.e., repeated measures nested under the unit of students, and students nested under the unit of practicum) was well suited for the use of hierarchical linear modeling (HLM). Often in social sciences, participants are organized at more than one level into nested designs, with the lowest level being the participants or repeated measures (Tabachnick & Fidell, 2007a). "HLM can be ideally suited for the analysis of nested data because it identifies the relationships between predictor and outcome variables, by taking both Level-1 and Level-2 regressions relationships into account" (Woltman et al., 2012).

HLM is a series of linear regressions that accounts for the interaction of the classes, participants and repeated measures by analyzing the nested data and accounting for the relationships of the multiple levels (Tabachnick & Fidell, 2007a; Woltman et al., 2012). Additionally, HLM is a regression of regressions, in that it creates a regression for one level to act as a variable for the next level, allowing the variance to be considered through all levels. However an important difference exists between HLM and multiple regression statistics, HLM accounts for the covariance of the nested and hierarchical groups (Arnold, 1992; Ciarleglio & Makuch, 2007; Woltman et al., 2012) where multiple regression statistics do not. The model explains the characteristics of participants or measures who are members of a group, and the group is a member of another group, making the analysis linear and hierarchical (Arnold, 1992).

HLM is needed as most grouped data violate the assumption of independent observations, more specifically, this violation is measuring the same participant has been assessed more than once or the participants share conditions that may affect the individual responses to an assessment, thus affecting the dependent variables (Maas & Hox, 2005). In such cases, HLM accounts for the violation in the covariance regression.

HLM is a statistical analysis well suited for the nested data structure in this research study. However, some debate exists on the effect for small samples sizes (Maas & Hox, 2005) and to account for the size of this study's sample, each hypothesis was cross validated with a statistic found appropriate for smaller sample sizes. After analyzing the data in HLM7, a second software package was used, Statistical Package for the Social Sciences ([SPSS] v. 20.0) to house the data and cross-validate the findings. Depending on the hypothesis, to cross-validate the findings, a two factor, mixed-design analysis of variance (ANOVA) or a multivariate analysis of variance (MANOVA) was used to investigate the validity of the findings. Cross-validation is a method used to explore and confirm the findings of another statistic when a condition exists that creates a question about the reliability of the results (Tabachnick & Fidell, 2007a). Cross-validation analyzed the same data using alternate statistical analyses mentioned above and the cross validation required two software packages.

Hypothesis One

The first hypothesis posited the use of embedded, rich-media in a distributed learning environment creates a positive effect on the counselor self-efficacy in counselors in training during practicum as measured by the Counselor Self-efficacy Scale (Melchert et al., 1996b).

HLM, a statistical model and HLM7, the software were employed to investigate this hypothesis. The outcome variable of CSE was investigated with the following model:

Level-1

$$COSES_{tij} = \pi_{0ij} + \pi_{1ij}*(TREATMEN_{tij}) + \pi_{2ij}*(MEASURE_{tij}) + e_{tij}$$

Level-2 Model

$$\pi_{0ij} = \beta_{00j} + \beta_{01j}*(SCHOOL_{ij}) + \beta_{02j}*(MHC_{ij}) + r_{0ij}$$
$$\pi_{1ij} = \beta_{10j}$$
$$\pi_{2ij} = \beta_{20j} + \beta_{21j}*(SCHOOL_{ij}) + \beta_{22j}*(MHC_{ij})$$

Level-3 Model

$$\beta_{00j} = \gamma_{000} + u_{00j}$$
$$\beta_{01j} = \gamma_{010} + \gamma_{011}(FACULTY_j)$$
$$\beta_{02j} = \gamma_{020} + \gamma_{021}(FACULTY_j)$$
$$\beta_{10j} = \gamma_{100}$$
$$\beta_{20j} = \gamma_{200} + \gamma_{201}(FACULTY_j)$$
$$\beta_{21j} = \gamma_{210}$$
$$\beta_{22j} = \gamma_{220}$$

Figure 10. The hierarchical linear model for hypothesis one evaluated the effect of treatment on the development of counselor self-efficacy.

In the above model the outcome variable (i.e., dependent variable) is the level of counselor self-efficacy (COSES) for each measurement at a time (*t*) for an individual (*i*) in a group (*j*). More simply stated, the equation models the level of CSE for a participant as affected by the experimental treatment at a measurement in time (i.e., pretest, midtest, and posttest) as a function of the participant mean and a random error. The Level-1 regression equation investigated the intercept of a student's COSES scores (π_{0ij}) and the slope of a predictor variable's levels of CSE to the experimental and comparison group ($TREATMEN_{tij}$) and the slope for the relationship between the level of CSE in the pretest, midtest, and posttest ($MEASURE_{tij}$)

and an accommodation for the random error in the equation. The random error in the equation permits the mean to vary across Level-2 units (Raudenbush & Bryk, 2002) or more specifically to this study, the students. The Level-2 regression equation investigated the mean score for each participant that varied around a practicum mean. More specifically, the Level-2 equation investigated the three components that evaluated (a) the total intercept calculated as the grand mean of the scores for counselor self-efficacy across all groups when all predictors are zero and the slope between CSE and the comparison and experimental groups ($TREATMEN_{tij}$) and of those in the counseling tracks ($SCHOOL_{ij}$) and (MHC_{ij}) with random variation between the groups, (b) the overall slope between CSE and the experimental group the participants were in, and (c) the total intercept calculated as the grand mean of the scores for counselor self-efficacy across all classes when all predictors are zero and the slope between CSE and the repeated measures ($MEASURE_{tij}$) and of those in the counseling tracks ($SCHOOL_{ij}$) and (MHC_{ij}) with random variation between the groups. The Level-2 equation examined both the within and between group effect of the equation. The Level-3 equation investigated the variability between the practicums (i.e., between classes). In the model, a predictor of ($FACULTY_j$) was added as a control for the effect a practicum instructor's degree (i.e., Doctorate in Counselor Education, Doctorate in other related field) had on the development of CSE for the students in that practicum. With the model built, the analysis was run to provide the results of the model hypothesized.

Results. A three level hierarchical model evaluated the effect of treatment, the repeated measures, the faculty teaching the practicum, and the counseling track of the student on the development of counselor self-efficacy of the participants across practicums. It was expected the

increase in skills and knowledge from participation in the experimental group would increase counselor self-efficacy. The first level of units in the study were scores from the assessments completed at the pretest, the midtest, and the posttest for each of the participants resulting in 96 scores for analysis. Second level units in the study were the individual participants enrolled in their first semester of practicum who completed the repeated measures resulting in 32 students for analysis. The third level units were the eight practicums during the fall semester.

To investigate the hypothesis, the researcher developed a null model that showed before controlling for other variables, the data exhibited a 49.8% variance among measures, 50.1% of the variance accounted for between participants and within practicums, and .1 % accounted for between practicums. The Interclass Correlation (ICC) of 50% sustained the use of HLM on the data. With the baseline of the null model established, the model was expanded to include all the variables. In the final model, the predictors of ($TREATMEN_{tij}$) and ($MEASURE_{tij}$) were added to predict the outcome variable at Level-1, Level-2 added the track of the participant as a predictor of the experimental condition and to the development over time.

The model in hypothesis one stipulated at Level-1, the treatment group of the participant and the repeated measures were random effects to assess the variance between participants and between practicums. Additionally a Level-2 predictor was added to the model, the addition was the counseling track the participant was enrolled in and the predictor was identified as a random effect, reflecting there would be variance between the counseling tracks of the participant and their development of CSE. The same predictor was initially entered as a random effect for the repeated measures. However, that model failed to converge, so the predictor of counseling track

was changed to a fixed effect, the change supports the measures were fixed at the pretest, midtest, and posttest.

Upon examination, in the units of measures for all levels, there were no missing values and the outliers were not significant. The researcher ran a linear regression (Raudenbush & Bryk, 2002) to identify and screen for outliers, the regression showed the outliers were not significant. The variables for all three levels were normally distributed and did not violate the assumptions necessary to use HLM. The data was also investigated for meeting the assumptions of (a) linearity by examining a scatterplot, (b) for multicollinearity by examining the correlation between the independent and dependent variables, and (c) homoscedasticity by examining the scatterplots; all examinations showed the data was in the normal range and did not violate the assumptions.

Table 8. *Results of the three level analysis of developing counselor self-efficacy*

Fixed Effect	*Coefficient*	*se*	*p* value	
Model for the initial development of CSE when controlling for the faculty				
Model for a marriage and family therapy student	74.80			
Model for a school counseling student	-12.72	4.87	.017	*
Model for a mental health counseling student	-9.63	4.65	.066	
Model for the development of CSE when controlling for the treatment group and the faculty	-9.63	4.50	.038	*
Model of the speed of developing CSE				
Model for a marriage and family therapy student	3.38	1.21	.008	*
Model for a school counseling student	3.75	1.72	.040	*
Model for a mental health counseling student	-.38	1.47	.820	

* *Denotes significance at the .05 level*

As seen in Table 8, three of the four predictors (i.e., Treatment, Measures, Counseling Track) were significantly associated with the development of counselor self-efficacy, but the degree and training of the faculty was not. Therefore, another model was tested that evaluated the effect of faculty on the development between the pretest and the midtest, however that model was not significant and the researcher accepted the model above as the best fit. Furthermore, a comparison on the deviance from the above model to the tested model showed the above model to be the best fit in comparison to the null model and other models. A comparison of the above model to the null model, showed the final model to be the best fit ^{2} (13, N = 96) = 676.48 – 616.23 = 60.25, $p < .001$ and accounted for 53% of the variance within the participants, 46.5% of the variance between participants and within practicums and .5% of the variance between the practicums as indicated in Table 9. The final model showed the use of an embedded, rich-media distributed learning environment to increase skills and knowledge treatment created a significant difference for the development of CSE for first semester practicum students, ^{2} (7, N = 96) = 98.36, p = < .001.

Table 9. *The total variance between levels accounted for in the final model.*

Random effect	*Variance component*	*% of total variance*	*df*	^{2}	*p* value	
Level-1 variance within students	23.41	53.00				
Level-2 variance between students and within practicums	20.37	46.50	22	98.36	<.001	*
Level-3 variance between practicums	.02	.50	7	4.77	>.500	
Deviance = 616.24 Level of parameters = 13						

**Denotes significance at a .05 level.*

Therefore, although the development of CSE differs among participants and practicums, a significant increase exists in the development of counselor self-efficacy among those who participated in an embedded, rich-media distributed learning environment focused on developing skill and knowledge in counselors-in-training. The results further showed a difference existed for the development of CSE in participants based on the counseling track the CITs were enrolled in. Finally, the results showed there was not a significant difference in the development of CSE by the difference between a faculty member with a degree in counselor education and one whose degree was in another related field, nor was there a group difference between practicums.

Cross validation. A mixed, between-within subjects analysis of variance was conducted to investigate the treatment intervention's effect on participant's COSES scores across the pretest, midtest, and posttest. An initial examination of the data was conducted examining the assumptions had been met and an ANOVA was appropriate, the assumptions were not violated and the data was suitable for the statistic. The results of the ANOVA showed there was no

significant interaction between the repeated measurements of CSE and the participant's treatment group (i.e., experimental group, comparison group), Wilks' Lambda = .88, $F(2, 29) = 1.97$, $p = .16$, partial eta squared = .12. There was a substantial main effect for the repeated measures, Wilks' Lambda = .32, $F(2, 29) = 31.41$, $p < .001$, partial eta squared = .68, with both groups showing an increase in counselor self-efficacy across the three measurements as shown in Table 10. The main effect comparing the two types of treatment groups was significant, $F(1, 30) = 4.00$, $p = .05$, partial eta squared = .12, suggesting a difference exists between the those exposed to an embedded, rich-media, web course than those who were not in developing CSE.

Table 10. *Descriptive statistics for counselor self-efficacy for the repeated measures.*

	n	Mean	Standard Deviation
Comparison Group			
Pretest	16	71.81	9.54
Midtest	16	75.19	6.15
Posttest	16	82.31	7.82
Experimental Group			
Pretest	16	67.56	10.01
Midtest	16	76.06	4.97
Posttest	16	80.00	7.17

Figure 11 graphs the impact of the treatment on CSE between the comparison and experimental groups. While the trajectories are similar, the graph indicates there was a greater increase in CSE at the midtest for the experimental group.

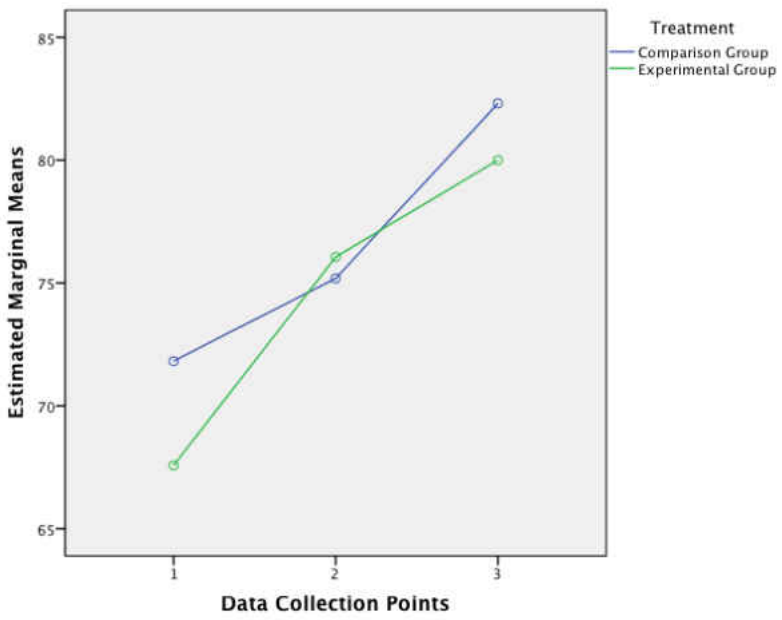


Figure 11. The mean scores for the pretest (1), the midtest (2), and posttest (3) for the experimental and comparison groups.

The objective of cross-validating the results of HLM with another statistic was to reduce the effect of sample size on HLM. For hypothesis one, the mixed, between-within subjects ANOVA substantiated the analysis results with using HLM. The corroborating cross-validation results provided additional evidence supporting the original findings.

Hypothesis Two

The second hypothesis theorized the use of embedded, rich-media in a distributed learning environment creates a positive effect by decreasing the anxiety for counselors in training during their first semester of practicum as measured by the State-Trait Anxiety Inventory (Spielberger et al., 1970). The hypothesis and data were identical to hypothesis one with the substitution of *anxiety* for CSE as the outcome variable. Thus, the researcher accepted the data used in this

analysis met the same assumptions necessary for HLM. However, the researcher examined the new variable of anxiety to find the anxiety data met the requirement for use in HLM.

To investigate the hypothesis, the researcher developed a null model that showed before controlling for other variables, the data exhibited a 64.9% variance among measures, 35% of the variance accounted for between participants and within practicums, and .01 % accounted for between practicums. The variance between levels sustained the use of HLM on the data. With the baseline of the null model established, the model was expanded to include all the variables and finally converged on a model similar to the one in hypothesis one and seen in Figure 12. The predictors of ($TREATMEN_{tij}$) and ($MEASURE_{tij}$) were added to predict the outcome variable at Level-1, Level-2 added the track of the participant as a predictor of the experimental condition and to the development over time.

Level-1

$$\text{STAI}_{tij} = \pi_{0ij} + \pi_{1ij}*(TREATMEN_{tij}) + \pi_{2ij}*(MEASURE_{tij}) + e_{tij}$$

Level-2 Model

$$\pi_{0ij} = \beta_{00j} + \beta_{01j}*(SCHOOL_{ij}) + \beta_{02j}*(MHC_{ij}) + r_{0ij}$$
$$\pi_{1ij} = \beta_{10j}$$
$$\pi_{2ij} = \beta_{20j} + \beta_{21j}*(SCHOOL_{ij}) + \beta_{22j}*(MHC_{ij})$$

Level-3 Model

$$\beta_{00j} = \gamma_{000} + u_{00j}$$
$$\beta_{01j} = \gamma_{010} + \gamma_{011}(FACULTY_j)$$
$$\beta_{02j} = \gamma_{020} + \gamma_{021}(FACULTY_j)$$
$$\beta_{10j} = \gamma_{100}$$
$$\beta_{20j} = \gamma_{200} + \gamma_{201}(FACULTY_j)$$
$$\beta_{21j} = \gamma_{210}$$
$$\beta_{22j} = \gamma_{220}$$

Figure 12. The hierarchical linear model that investigated the effect of treatment on the development of anxiety in the participants.

Results. A three level hierarchical model evaluated the effect of treatment, the repeated measures, the faculty teaching the practicum and the counseling track of the student on the level of anxiety of the participant. The units in Level-1 of the model were scores from the STAI-S (Spielberger et al., 1970) that measured anxiety and were completed at the pretest, the midtest, and the posttest for each of the participants resulting in 96 scores for analysis. The units in Level-2 of the model were the participants in the study who completed the repeated measures resulting in 32 students for analysis. The Level-3 units were the eight practicums during the fall semester. Based on the Social Cognitive Theory (Bandura, 1982) and the meta-analysis of CSE literature that examined studies showing a negative correlation between CSE and anxiety, the researcher expected the increase in skills and knowledge from participation in the experimental group would increase counselor self-efficacy and decrease anxiety. The results of the analysis for hypothesis two indicated the effect of the treatment did not have a significant effect on decreasing anxiety among participants or groups.

The researcher began with a null model that identified at Level-1, the treatment group (i.e., comparison group or experimental group) of the participant and the indicated the repeated measures were random effects to assess the variance across measures and practicums. In the final model, a Level-2 predictor was added to explain the level of anxiety participants developed and the change over the pretest, the midtest, and the posttest and the variance between participants and practicums. A Level-2 predictor controlled for the counseling track each participant was enrolled in and the predictor was identified as a random effect, reflecting there would be variance between the counseling tracks of the participant and their development of anxiety over the repeated measures.

Before the analysis, the researcher examined the raw data for all variables and found there were no missing values. The researcher ran a linear regression (Raudenbush & Bryk, 2002) to identify and screen for outliers and the regression showed the outliers were not significant. The variables for all three levels were normally distributed and did not violate the assumptions necessary for HLM. The researcher investigated the data for meeting the assumptions of linearity by examining a scatterplot, for multicollinearity by examining the correlation between the independent and dependent variables and for homoscedasticity by examining the scatterplots; all examinations showed the data was in the normal range and did not violate the assumptions.

Table 11. *Results of the three-level analysis examining the effect on reducing anxiety*

Fixed Effect	*Coefficient*	*se*	*p* value
Model for the effect on the development of anxiety when controlling for the faculty			
Model for a marriage and family therapy student	47.62		
Model for a school counseling student	-.06	3.39	.985
Model for a mental health counseling student	-6.61	2.92	.350
Model for the effect on anxiety when controlling for the treatment group	-.62	2.78	.824
Model of developing anxiety over time when controlling for the faculty			
Model for a marriage and family therapy student	.22	1.06	.835
Model for a school counseling student	-1.08	1.50	.476
Model for a mental health counseling student	1.46	1.28	.258

Table 11 shows none of the predictors (i.e., Treatment, Measures, Counseling Track or faculty) were significantly associated with the levels of anxiety. The model did not identify

significant variance between the students $^2 = 21.35$, $p > .500$ and between the practicums $^2 = 8.19$, $p = .316$, as shown in Table 12. A comparison of the deviance showed the final model to be a better fit than the null model $^2 (9, N = 96) = 561.39 – 648.43 = 12.96$, $p = .164$. The final model showed the use of a embedded, rich-media distributed learning environment to increase skills and knowledge treatment was not significant in effecting the development of anxiety for first semester practicum students, $^2 (22, N = 96) = 21.35$, $p > .500$.

Table 12. *The total variance between levels accounted for in the final model.*

Random effect	*Variance component*	*% of total variance*	*df*	^{2}	*p* value
Level-1 variance within students	17.72	99.00			
Level-2 variance between students and within practicums	.01	.34	22	21.35	>.500
Level-3 variance between practicums	.02	.66	7	8.19	.316
Deviance = 548.58 Level of parameters = 13					

After a review of the hypothesis and the results, the effect of an embedded, rich-media distributed learning environment focused on developing skill and knowledge in counselors-in-training on the development of anxiety was not significant, $^2 (7, N = 96) = 8.19$, $p = > .316$. The results further showed there was not a significant difference in the levels of anxiety in the participants when examining the development by the counseling track the CITs were enrolled in.

Finally, the results showed there was not a significant difference in the levels of anxiety affected by the difference between a faculty member with a degree in counselor education and one whose degree was in another related field, nor was there a group difference between practicums.

Cross validation. A mixed, between-within subjects analysis of variance was conducted to investigate the effect of the treatment intervention on the construct of anxiety as measured by the participant's scores on the STAI-S across the pretest, midtest, and posttest. An initial examination of the data used was conducted to ensure the assumptions had been met and an ANOVA was appropriate, the data was found not to violate the assumptions necessary for the statistic. There was a significant interaction between the repeated measurements of the STAI-S and the treatment group of the participants (i.e., experimental group, comparison group), Wilks' Lambda = .75, $F(2, 29) = 4.89$, $p = .015$, partial eta squared = .25. Additionally, there was a substantial main effect for the repeated measures, Wilks' Lambda = .68, $F(2, 29) = 6.72$, $p < .004$, partial eta squared = .32, with both groups showing an increase in counselor self-efficacy across the three measurements as shown in Table 13. The main effect comparing the two types of treatment groups was significant, $F(1, 30) = 9.52$, $p = .004$, partial eta squared = .24, suggesting a difference exists between the those exposed to an embedded, rich-media, web course than those who were not in reducing anxiety during the first semester a CIT is enrolled in practicum.

Table 13. *Descriptive statistics for counselor self-efficacy for the repeated measures*

	n	Mean	Standard Deviation
Comparison Group			
Pretest	16	45.56	4.53
Midtest	16	46.13	4.21
Posttest	16	46.75	2.86
Experimental Group			
Pretest	16	46.81	4.21
Midtest	16	43.00	3.54
Posttest	16	47.94	3.57

Figure 13 graphs the impact of the treatment on anxiety between the comparison and experimental groups across the repeated measures. While the trajectories are similar, the graph indicates there was a greater decrease in anxiety at the midtest for the experimental group than the comparison group.

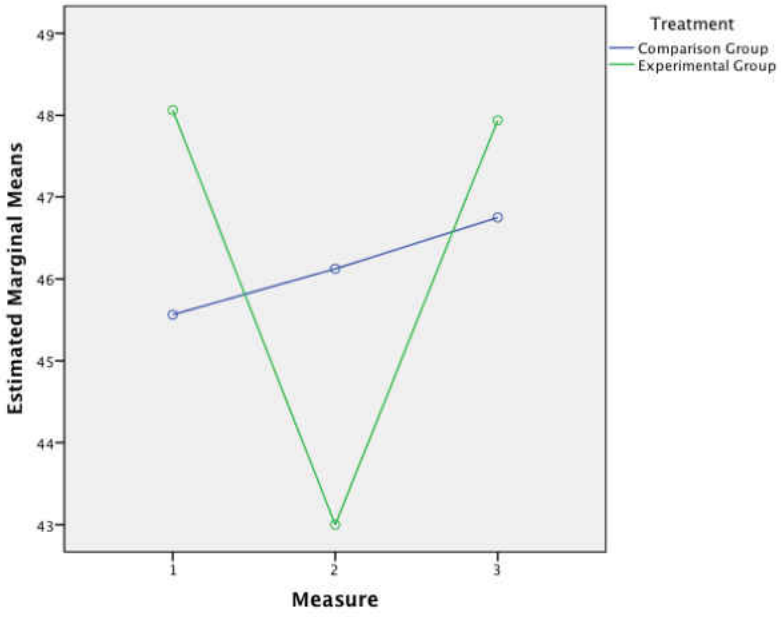


Figure 13. The mean scores for the pretest (1), the midtest (2), and posttest (3) for the experimental and comparison groups.

The objective of cross-validating the results of HLM with another statistic was to reduce the effect of sample size on HLM. For hypothesis two, the mixed, between-within subjects ANOVA substantiated some of the analysis results with using HLM. However the ANOVA found a significant difference in the treatment groups for reducing anxiety. The variation between the results of the two statistics indicates the sample size might have affected the findings and further research should be done on this construct.

Hypothesis Three

Hypothesis three posited the use of embedded, rich-media in a distributed learning environment creates a positive effect on treatment outcomes for clients of counselors in training during practicum as measured by the Outcome Questionnaire 45.2 (Lambert et al., 2004). As with hypothesis two, this hypothesis is nearly identical to the first two hypotheses in that they were both examining the effect of treatment on a construct. In this exploratory hypothesis, the researcher investigated the effect of the intervention on treatment outcomes.

In analyzing this construct's data, the researcher had to re-examine the nesting of data. In previous constructs, the data was acquired from participants at the pretest, the midtest, and the posttest. This created a three-level nesting structure with the participant's scores (Level-1) nested under the participant (Level-2), who were nested under the practicums (Level-3). However, with the OQ 45.2, the hierarchical structure added a layer of clients between the repeated measures and the participants. The researcher considered utilizing a four level hierarchical model with (a) Level-1 being the OQ 45.2 scores from the clients, (b) Level-2 as the clients (n = 96) nested under the participants (n = 32), (c) Level-3 being the participants nested

into practicums (n = 8), and (d) Level-4 consisting of the practicums. However after careful consideration the researcher collapsed the client level as (a) the research question examined the effect on the participants and the effect to the client was only applicable as the treatment outcome, (b) the small sample size was not less appropriate for a four-level model (Arnold, 1992), and (c) the research design (i.e., number of levels) greatly impacts the regression equations (Maas & Hox, 2005) supporting the reduction to a three-level model.

To investigate the hypothesis, the researcher developed a null model that showed before controlling for other variables, the data exhibited a 64.9% variance among measures, 35% of the variance accounted for between participants and within practicums, and .01 % accounted for between practicums. The variance between levels sustained the use of HLM on the data. With the baseline of the null model established, the model was expanded to include all the variables and finally converged on a model similar to the one in hypothesis one and seen in Figure 14. The predictors of ($TREATMEN_{tij}$) and ($MEASURE_{tij}$) were added to predict the outcome variable at Level-1, Level-2 added the track of the participant as a predictor of the experimental condition and to the development over time.

Level-1 Model

$$AVGOQ1_{tij} = \pi_{0ij} + \pi_{1ij}*(TREATMEN_{tij}) + \pi_{2ij}*(MEASURE_{tij}) + e_{tij}$$

Level-2 Model

$$\pi_{0ij} = \beta_{00j}$$
$$\pi_{1ij} = \beta_{10j} + \beta_{11j}*(SCHOOL_{ij}) + \beta_{12j}*(MHC_{ij})$$
$$\pi_{2ij} = \beta_{20j} + \beta_{21j}*(SCHOOL_{ij}) + \beta_{22j}*(MHC_{ij})$$

Level-3 Model

$$\beta_{00j} = \gamma_{000} + u_{00j}$$
$$\beta_{01j} = \gamma_{010}$$
$$\beta_{02j} = \gamma_{020}$$
$$\beta_{10j} = \gamma_{100}$$
$$\beta_{20j} = \gamma_{200}$$
$$\beta_{21j} = \gamma_{210}$$
$$\beta_{22j} = \gamma_{220}$$

Figure 14. The final hierarchical linear model to investigate the effect of an intervention on treatment outcomes.

Results. A three level hierarchical model evaluated the effect of experimental condition (i.e., comparison group, experimental group), the repeated measures, the degree of the faculty teaching the practicum and the counseling track of the student on the clients' treatment outcomes for each of the participants. As this was an exploratory research question, there was not an expectation on what would be found, but an interest in understanding the relationship between the development of CSE and the clients' treatment outcomes. The first level of units in the study were scores from the OQ 45.2 given to each participant's clients resulting in 98 scores for analysis. Second level units were the individual participants enrolled in their first semester of practicum in the study who completed the repeated measures resulting in 32 students for analysis. The third level units were the eight practicums during the fall semester.

Table 14. *Three level analysis of the effect of increasing skills and knowledge on treatment outcome.*

Fixed Effect	*Coefficient*	*se*	*p* value	
Model for the effect on the participants' clients' treatment outcomes	72.38			
Model for the effect on treatment outcomes when controlling for the treatment group and the counseling track				
Model for a marriage and family therapy student	9.65	7.27	.190	
Model for a school counseling student	-19.76	9.69	.047	*
Model for a mental health counseling student	-0.11	7.70	.988	
Model for the effect on treatment outcomes when controlling for the treatment group and the counseling track				
Model for a marriage and family therapy student	-4.82	2.45	.059	
Model for a school counseling student	-1.24	3.36	.716	
Model for a mental health counseling student	-0.21	2.89	.941	

Table 14 exhibits most of the predictors (i.e., Treatment, Measures, and Counseling Track were not significantly associated with the treatment outcome of the participants' clients. There was a significant difference for those who were school counseling students and a part of the experimental group, $t(53) = -2.04$, $p = .047$. The model accounted for a significant variance between the students $^2 = 145.90$, $p < .001$, but the difference between the practicums $^2 = 11.48$, $p = .118$ was not significant, as shown in Table 15. A comparison of the deviance showed the final model to be a better fit than the null model $^2(6, N = 96) = 771.39 – 765.33 = 5.06$, $p > .500$. The final model showed the use of a treatment using an embedded, rich-media distributed

learning environment to impact treatment outcomes, for the most part was not significant in improving the participants' clients' treatment outcomes, $^2(29, N = 96) = 145.90, p = < .001$.

Table 15. *The total variance between levels accounted for in the final model.*

Random effect	*Variance component*	*% of total variance*	*df*	^{2}	*p* value
Level-1 variance within students	96.06	71.00			
Level-2 variance between students and within practicums	27.88	21.00	29	145.90	<.001
Level-3 variance between practicums	.10.70	8.00	7	11.48	.118
Deviance = 765.33 Level of parameters = 10					

After a review of the hypothesis and the results, although the impact on treatment outcome differs among the participants and practicums, there is a positive effect on treatment outcome among the school counseling participants who participated in an embedded, rich-media distributed learning environment focused on developing skill and knowledge in counselors-in-training. The results further showed there was not a significant difference on the impact to treatment outcomes for the participants' clients when examining the growth curve from the repeated measures.

Cross validation. A mixed, between-within subjects analysis of variance was conducted to investigate the effect of the treatment intervention on the construct of treatment outcome as measured by the participants' clients' scores on the on the OQ 45.2 during the first, the fifth, and

last session the participant had with their client. An initial examination of the data was conducted to ensure the assumptions had been met and an ANOVA was appropriate, the data was found to be fitting for the statistic. However, due to the circumstances and client schedules every client did not have three assessments collected. The researcher chose to delete the cases where the data was incomplete based on (a) more than 5% of the data was missing posing a threat to the validity of the outcome if the values were imputed (Tabachnick & Fidell, 2007b), (b) the data was collapsed from several client's scores nested under the client and several clients nested under the participant to several scores nested under the participant, and (c) the research question addressed if the change in treatment outcome was affected by the experimental condition and deleting the data, better answered that question. There was not a significant interaction between the repeated measurements of the OQ45.2 and the treatment group of the participants (i.e., experimental group, comparison group), Wilks' Lambda = .97, $F(2, 20) = .28$, $p = .756$, partial eta squared = .03. Additionally, there was a substantial main effect for the repeated measures, Wilks' Lambda = .50, $F(2, 20) = 9.82$, $p < .001$, partial eta squared = .50, with both groups showing an increase in participants' clients' treatment outcomes across the three measurements as shown in Table 16. The main effect comparing the two types of treatment groups was not significant, $F(1, 21) = .11$, $p = .749$, partial eta squared = .01, suggesting no difference exists between the those exposed to an embedded, rich-media, web course than those who were not in affecting the treatment outcomes of the participant's clients.

Table 16. *Descriptive statistics for the repeated measures on treatment outcomes.*

	n	Mean	Standard Deviation
Comparison Group			
First session	10	72.20	16.69
5th session	10	70.30	21.10
Last session	10	58.60	15.69
Experimental Group			
First session	13	71.69	26.87
5th session	13	66.77	31.54
Last session	13	53.86	22.15

Figure 15 graphs the impact on treatment outcomes between the comparison and experimental groups across the repeated measures. While the trajectories are similar, the graph indicates there was a greater improvement in treatment outcomes at the midtest, and posttest for the experimental group than the comparison group.

The objective of cross-validating the results of HLM with another statistic was to reduce the effect of sample size on HLM. For hypothesis three, the mixed, between-within subjects ANOVA did not substantiate the analysis results received from using HLM. A variety of explanations exist and would require further research with a larger sample size to conclude the effect of the treatment on treatment outcomes.

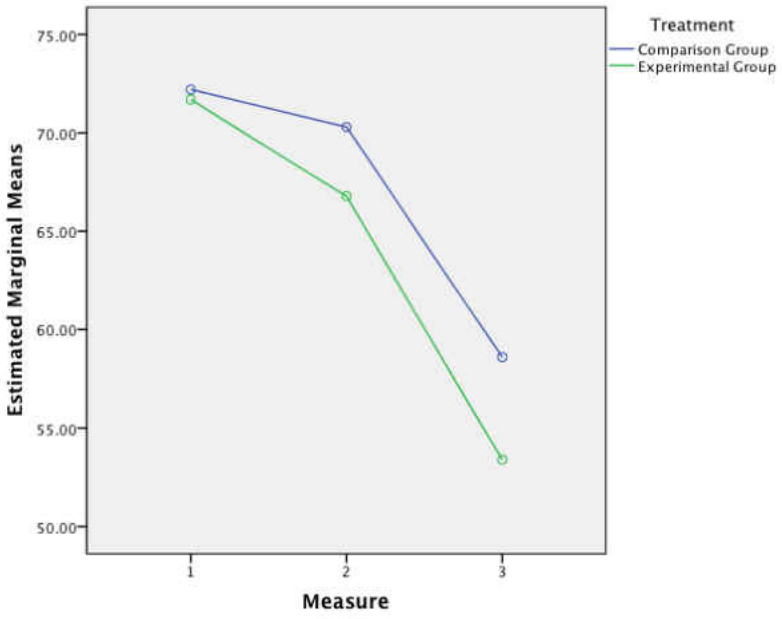


Figure 15. The mean scores for the pretest (1), the midtest (2), and posttest (3) for the experimental and comparison groups.

Hypothesis Four

The final hypothesis was exploratory and postulated the characteristics of individual practicums effect counselor self-efficacy, anxiety, and treatment outcomes as measured by the Counselor Self-efficacy Scale (Melchert et al., 1996b), the State-Trait Anxiety Inventory (Spielberger et al., 1970), and the Outcome Questionnaire 45.2 (Lambert et al., 2004). This hypothesis was similar to the first three in it explored the effect of the treatment on the participants. However, the final hypothesis explored the covariance of CSE, anxiety, and treatment outcomes in a hierarchical structure.

Figure 16 delineates the model for the fourth hypothesis. While this model may look similar to earlier models, this model also examines the added effect of anxiety ($STAI_{tij}$) and treatment outcomes ($AVGOQ1_{tij}$) on the development of counselor self efficacy in Level-1. At the second

level, the model looks at the effect of controlling the slope of the outcome variable for the counseling track the practicum student is enrolled in ($SCHOOL_{ij}$) or (MHC_{ij}), with this being a dummy coded variable and the marriage and family therapy are the negative gap between the mean, ($SCHOOL_{ij}$) and (MHC_{ij}). Level 3 controls for the effect the academic degree of the faculty has on the repeated measures.

Level-1 Model

$$\text{COSES}^{tij} = \pi^{0ij} + \pi_{1ij}*(TREATMEN_{tij}) + \pi_{2ij}*(MEASURE_{tij}) + \pi_{3ij}*(STAI_{tij}) + \pi_{4ij}*(AVGOQ1_{tij}) + e_{tij}$$

$$\pi_{3ij} = \beta_{30j}$$

$$\pi_{4ij} = \beta_{40j}$$

Level-2 Model

$$\pi_{0ij} = \beta_{00j} + \beta_{01j}*(SCHOOL_{ij}) + \beta_{02j}*(MHC_{ij}) + r_{0ij}$$

$$\pi_{1ij} = \beta_{10j}$$

$$\pi_{2ij} = \beta_{20j}$$

$$\pi_{3ij} = \beta_{30j}$$

$$\pi_{4ij} = \beta_{40j}$$

Level-3 Model

$$\beta_{00j} = \gamma_{000} + u_{00j}$$

$$\beta_{01j} = \gamma_{010}$$

$$\beta_{02j} = \gamma_{020}$$

$$\beta_{10j} = \gamma_{100}$$

$$\beta_{20j} = \gamma_{200} + \gamma_{201}(FACULTYj)$$

$$\beta_{30j} = \gamma_{300}$$

$$\beta_{40j} = \gamma_{400}$$

Figure 16. The hierarchical linear model to investigate the mixed effects of the experimental condition, repeated measures, anxiety, and treatment outcomes on the development of counselor self-efficacy in the participants.

Results. A three level hierarchical model evaluated the mixed effect of treatment outcome, anxiety, and counselor self-efficacy for covariance while controlling for other

predictors. The other predictors controlled for in this model are the student's counseling track and the academic background and degree of the faculty teaching the practicum effects on the participant. The covariates in Level-1 of the model were scores from the Counselor Self-efficacy Scale, the State-Trait Anxiety Inventory, and the Outcome Questionnaire 45.2 for each of the participants resulting in 96 scores for analysis and the predictors controlled for the participation of the student in the comparison or experimental group and the repeated measures.

The units in Level-2 of the model were the individual participants enrolled in their first semester of practicum who completed the repeated measures resulting in 32 students for analysis. The Level-3 units were the eight practicums during the fall semester. While hypotheses one, two, and three looked at the individual effect of treatment on CSE, anxiety, and treatment outcomes respectively, hypotheses four investigated if a covariance existed among the constructs. The results of hypothesis four indicated the effect of the treatment did not have a significant effect on the covariance of increasing counselor self-efficacy, decreasing anxiety, and participants' client's treatment outcome among participants or classes.

The researcher began with a null model that identified at Level-1, the treatment group (i.e., comparison group or experimental group) of the participant and effects of CSE, anxiety, and treatment outcome to assess the variance between participants and between practicums. In the final model, no Level-2 predictors converged that more effectively examined the covariance. At Level-3 a predictor was added that controlled for the academic degree and background of the practicum instructor on the repeated measures as a fixed effect, reflecting there would be variance between the instructor's academic background and their development of anxiety over the repeated measures.

Table 17. *Three level analysis of the effect of increasing skills and knowledge on reducing anxiety.*

Fixed Effect	*Coefficient*	*se*	*p* value	
Model for the effect on the development of counselor self efficacy, anxiety, and treatment outcomes.	78.27			
Model for the effect on CSE, anxiety, and treatment outcome when controlling for the treatment group	-4.20	3.26	.204	
Model of developing CSE, anxiety, and treatment outcome over time	4.26	.94	<.001	*
Model when controlling for the faculty	1.64	1.27	.202	
Model for the effect of anxiety on CSE and treatment outcome	-.01	.14	.296	
Model for the effect of treatment outcome on CSE and anxiety	.01	.05	.991	

* *Denotes significance at the .05 level*

Table 17 shows only one of the predictors, the predictor of the repeated measures was significantly associated with the levels of CSE, anxiety, and treatment outcome, $t(51) = 4.26$, $p < .001$. The model did account for a significant variance between the students on the three constructs $^2 = 126.38$, $p < .001$ but not between the practicums $^2 = 2.16$, $p > .500$, as shown in Table 18. A comparison of the deviance showed the final model to be a better fit than the null model $^2(13, N = 96) = 672.03 – 630.27 = 41.76$, $p < .001$. An examination of the final model to the null model, showed the final model to be the best fit $^2(13, N = 96) = 672.402 – 6124.72 = 47.30$, $p < .001$ and accounted for 53% of the variance within the participants, 46 % between participants and within practicums and 1% between the practicums as indicated in Table 18. The final model showed the effect of CSE, anxiety, treatment outcome and the use of a embedded, rich-media distributed learning environment to increase skills and knowledge treatment created a

significant difference over time for first semester practicum students, ^{2} (24, N = 96) = 126.38, p = < .001.

Table 18. *The total variance between levels accounted for in the final model.*

Random effect	*Variance component*	*% of total variance*	*df*	^{2}	*p* value	
Level-1 variance within students	25.67	53.83				
Level-2 variance between students and within practicums	22.00	46.13	22	98.77	<.001	*
Level-3 variance between practicums	.10	.04	7	4.34	>.500	
Deviance = 624.72 Level of parameters = 11						

* *Denotes significance at the .05 level*

After a review of the hypothesis and the results, the covariance of the three constructs with the effect of an embedded, rich-media distributed learning environment focused on developing skill and knowledge in counselors-in-training on the development of anxiety was not significant. The results further showed there was a significant difference in the levels of the constructs from the pretest to the posttest. Additionally, the results showed there was not a significant difference on the constructs attributed to the faculty member's degree (i.e., counselor education, another related field). Finally, the results showed there was not a significant difference between the practicums.

Cross validation. A one-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate the differences between the comparison group and the

treatment group on CSE, anxiety, and treatment outcomes. Before running the MANOVA, the researcher investigated the assumptions to test whether the data conformed to the necessary assumptions. A test of normality by examining Mahalanobis distances found that the value did not exceed the critical value. An inspection of the dependent variables on a scatterplot showed the data conformed to the assumption of linearity. The researcher performed a correlation to determine if the data violated the assumption of multicollinearity and found the data conformed. Finally the data was examined for homogeneity and was also found to conform to the assumption. After conducting the preliminary assumption testing, the researcher found that no serious violations existed. Three dependent variables were used for the MANOVA: counselor self-efficacy, anxiety, and treatment outcomes. The independent variable was the group the participants belonged to (i.e., comparison, experimental). There was not a statistically significant difference between those in the comparison and experimental groups on the combined variables, F (5,26) = .133, p = .983; Wilks' Lambda = .98, partial eta squared = .03. When the dependent variables were considered separately using the Bonferroni adjusted alpha level of .017, there was not a statistical significance in any of the dependent variables.

The objective of cross-validating the results of HLM with another statistic was to reduce the effect of sample size on HLM. For hypothesis four, the multivariate analysis of variance substantiated the analysis results received from using HLM. The corroborating cross-validation results provided additional evidence supporting the original findings.

Summary

The purpose of this study was to examine the effect of an embedded, rich-media distributed learning component added to the practicum experience had on the development of CSE, reduction of anxiety, and effect on treatment outcomes for CITs in their first semester of practicum. The data was initially analyzed using HLM7 and HLM, with the results being cross-validated using a statistic more accepted for use with smaller samples sizes. For the first hypothesis, the results of both HLM and a mixed, between-within ANOVA found the difference between the experimental and control group was significant for the development of CSE. In analyzing the second hypothesis, the results from HLM showed there was not a statistically significant difference for the treatment on reducing anxiety. However, the results from a mixed, between-within ANOVA found a statistically significant difference between the experimental and comparison groups attributed to the treatment. The third hypothesis examined the effect on participants' client's treatment outcomes of the experimental condition on the groups. The results from HLM found there was a significant difference between the experimental and comparison group for participants in the school-counseling program. However, the results from the mixed, between-within ANOVA did not show a difference between the two groups as a result of the treatment. The fourth hypothesis examined the effect of the treatment on the covariance of the constructs (i.e., CSE, anxiety, and treatment outcomes). For this hypothesis, both statistical analyses found there was not a statistical significant for the covariance of the dependent variables.

In sum, this chapter presented the demographic and descriptive statistics describing the sample used in the study. Also, the four hypotheses were analyzed using hierarchical linear

modeling with the findings cross-validated with an ANOVA or MANOVA. The following chapter will review the results of the findings, the limitations of the study, suggestions for further research and the implications of this study to counselor educators.

CHAPTER FIVE: DISCUSSION

This chapter discusses the contents of the first four chapters as they apply to education and the development of counselors-in-training (CIT), and specifically to counselor self-efficacy (CSE). The chapter includes an overview of the study and a discussion of the results and their relationship to previous research. The chapter will continue by discussing the limitations of the study and the implications for counselors, educators, and counselor education, and it will conclude with discussing potential areas for future research.

Overview

Practicum is defined as a course in a university or college that provides practical experience in a specific field ("Practicum," n.d.). The first semester of practicum is a challenging time for CITs. During that time, they begin integrating foundational knowledge and theory into clinical practice, often evoking high levels of anxiety (Barbee, Scherer, & Combs, 2003; Ronnestad & Skovholt, 1993) and limiting counselor self-efficacy (Bernard & Goodyear, 2009; Melchert et al., 1996). One of the main purposes of practicum is to facilitate the transition from foundational knowledge to practical application. This process may be impeded by fear and anxiety, which at the same time interferes with the development of clinical skills. Previous research has mainly focused on how CSE relates to other aspects of counseling, and only a few studies have examined how CSE develops. As a result, the counseling profession has mostly tried to understand how students develop CSE. This study explained a method for increasing CSE that improved the CIT's confidence and competence in practicum (Larson & Daniels, 1998; Larson et al., 1992).

Summary of the study

The purpose of this study investigated if continuing the learning beyond the practicum would improve the CIT's process of developing counselor self-efficacy. The study examined whether or not a difference in the levels of counselor self-efficacy, anxiety, and treatment outcomes existed between practicum students who participated in treatment to build knowledge and skills versus those practicum students who did not. The study used an embedded, rich-media, distributed learning environment, which is a web-based learning site that houses discussion forums and videos designed to increase counseling skills and knowledge.

Constructs

The three main constructs examined were (a) counselor self-efficacy, (b) anxiety, and (c) treatment outcomes. The first construct of this study was *counselor self-efficacy*, a term that is defined as one's belief about the ability to counsel a client in the near future (Larson et al., 1992; Larson & Daniels, 1998; Melchert et al., 1996). Research has found CSE decreases anxiety (Daniels & Larson, 2001), increases confidence and competence (Melchert et al., 1996a), and increases the perseverance a CIT has when facing a challenge (Bandura, 1986).

The second construct was *anxiety*, which is explained as a feeling one has when nervous or uneasy, usually about an upcoming event or a behavior with an uncertain outcome (Freud, 1933). Transitioning from foundational knowledge to clinical skills that occurs during practicum creates a great deal of anxiety for CITs (Cashwell & Dooley, 2001; Larson & Daniels, 1998). A goal for counselor educators is to foster confidence and competence in CITs during practicum (Trepal et al., 2010), and quite often, anxiety gets in the way of accomplishing this goal.

Therefore, reducing anxiety and increasing CSE was thought to help with increasing competence and confidence.

The final construct was *treatment outcome*, which is broadly defined as (a) the act of measuring the effectiveness of the counseling process, (b) measuring symptom reduction, and (c) assessing the client's view of the counseling process' success (M. J. Heppner et al., 1998; Lambert & Cattani-Thompson, 1996; Shimokawa et al., 2010). The construct of treatment outcome originates from a body of literature that started in the 1930s based on the desire of psychotherapists and researchers to determine the success rate of client treatment (Lambert & Cattani-Thompson, 1996). For counseling training programs, the importance of CITs developing and using good clinical skills is secondary to protecting the client's welfare and that the client is satisfied with the treatment outcome (M. J. Heppner et al., 1998). The use of instruments evaluating treatment outcomes by counselors, counselor educators, and counseling programs ensures the goals of protecting clients' welfare and counseling efficacy are met by assessing the client's perspective.

Participants

The study was conducted at a large Council for Accreditation of Counseling and Related Educational Programs (CACREP) accredited university in the southeastern United States. The participants were counselors-in-training during their first semester of practicum. Counselors-in-training were defined as those students who were enrolled in an academic institution and participated in counseling classes that prepared them to be professional counselors (Gibson et al., 2010). The sample ($N = 32$) consisted of students from eight practicums who were divided into

an experimental group (n = 16) and a comparison group (n = 16). The comparison group contained four school counseling students (25%), seven mental health counseling students (44%), and five marriage and family therapy students (31%); the experimental group was comprised of three school counseling students (19%), 10 mental health counseling students (62%), and three marriage and family therapy students (19%). The groups were similar on gender; the comparison group had 14 females (88%) and two males (12%), and the experimental group had 15 females (94%) and one male (6%). The two groups were also similar on ethnicity. The comparison group consisted of one Latin/Hispanic participant (6%), three Black participants (19%), two Asian participants (13%), nine White participants (56%), and one participant that identified as Other (6%). The experimental group included two Black participants (13%), one Asian participant (6%), 12 White participants (75%), and one participant that identified as Other (6%). The participants in the sample ranged in age from 22 to 42 years old (M = 25.938, SD = 4.905). The experimental group and comparison groups were similar on age. The members of the comparison group ranged in age from 23 to 42 years old (M = 25.813, SD = 4.833), and the members of the experimental group ranged from 22 to 37 years old (M = 26.063, SD = 5.131).

Data

The quasi-experimental research design of this study included an experimental group of four practicums (n = 16) that was exposed to an embedded, rich-media, distributed learning environment and a comparison group. The comparison group consisted of four practicum classes (n = 16) that received the usual environment of practicum without the distributed learning environment. The usual environment of practicum had live supervision that gave the CIT a sense

of security that a supervisor was watching and could provide help if the student was stuck or the session became difficult. The usual environment also provided peer and supervisory support for any questions or issues that arose during practicum for the CIT. The research design can be expressed as seen in Figure 17.

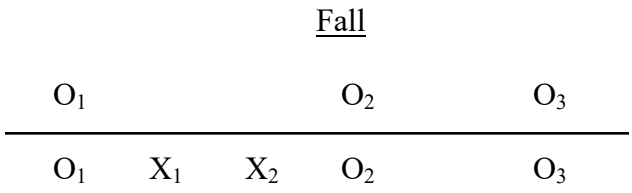


Figure 17. The research design for this study.

Instruments. Each group in the study was given a battery of assessments that included the Counselor Self-Efficacy Scale ([COSES] Melchert et al., 1996b) and the State-Trait Anxiety Inventory ([STAI] Spielberger et al., 1970), at three data collection points which were the pretest (O1), midtest (O2), and posttest (O3). The participants collected the data from their clients for the Outcome Questionnaire 45.2 ([OQ 45.2] Lambert et al., 2004) during the first, fifth, and final sessions. The assessments yielded a raw score that was used to indicate the level of each construct for the participant. Furthermore, the data set was complete (i.e., no missing data) that provided a balanced data set for analysis. The data for this study was naturally nested, meaning the pretest, midtest, and posttest were nested under (i.e., within) individual participants, and individual participants were nested under (i.e., within) individual practicums. Hierarchical linear modeling (HLM) was used for the nested data, and to compensate for the small sample size, the results were cross-validated with statistics less susceptible to Type I errors. Below the results descriptive statistics for the assessments are presented and compared to previous research.

Counselor Self-efficacy Scale. The sample was normally distributed (M = 69.66, SD = 9.61) on the pretest. The groups were similar on the COSES given as a pretest with the comparison group average (M = 70.81, SD = 10.15) and the experimental group average (M = 68.19, SD = 8.74) being within one half a standard deviation from each other. On the midtest, the sample was normally distributed (M = 75.63, SD = 5.52). The groups were similar on the COSES midtest scores with the comparison group average (M = 75.19, SD = 6.15) and the experimental group average (M = 76.06, SD = 4.97) being within one half a standard deviation from each other. On the last data collection point (posttest), the sample was normally distributed (M = 80.97, SD = 7.37). The groups were similar on the COSES given as a posttest with the comparison group average (M = 81.94, SD = 7.76) and the experimental group average (M = 80.00, SD = 7.17) being less than one half a standard deviation away from the other.

Comparison to previous research. This study was similar previous research as it was conducted in an academic setting. For example, the sample size was comparable to a previous study (N = 33) examining the effect of supervision on CSE (Cashwell & Dooley, 2001) but slightly smaller than a similar study (N = 61) examining the effect of pre-service learning on the development of CSE (Urbani et al., 2002). These previous studies yielded comparable measures of central tendency. Finally, the mean scores for the sample in this study (M = 69.66, SD = 9.61) were similar to previous studies. The mean for this study was lower than the mean (M = 76.6) of students at a masters level that participated in norming the COSES (Melchert et al., 1996a). However the mean for this study was higher than the COSES scores (M = 42.0) in a study examining the effect of pre-service learning on CSE and anxiety (Barbee et al., 2003).

State-Trait Anxiety Inventory. The treatment and comparison groups were similar on the STAI-S given as a pretest with the comparison group average (M = 45.46, SD = 4.53) and the experimental group average (M = 48.06, SD = 6.07) being within one half a standard deviation of each other. On the midtest, the sample was also normally distributed (M = 44.44, SD = 4.19). The groups were similar on the STAI-S given as a midtest with the comparison group average (M = 45.88, SD = 4.40) and the experimental group average (M = 43.00, SD = 3.54) being less than one standard deviation from each other. On the last data collection point, the posttest, the sample was normally distributed (M = 47.34, SD = 3.24). The groups were similar on the STAI-S given as a posttest with the comparison group average (M = 46.75, SD = 2.86) and the experimental group average (M = 47.94, SD = 3.57) being within one half a standard deviation from of the other.

Comparison to previous research. The first comparison of this study to similar research was that both the current study and previous studies were conducted in an academic setting. Additionally, both this study and previous studies were conducted at the graduate level. The sample size of this study was comparable to a study (N = 45) that examined the effect of feedback on CSE and anxiety (Daniels & Larson, 2001). The sample size of this study was also similar to another study that examined counselor self-efficacy and anxiety (N = 52) in counselor education, counseling psychology, clinical psychology, and social work (Friedlander, Keller, Peca-Baker, & Olk, 1986). This study and the previous studies were comparable on measures of central tendency. Finally, the mean scores for the sample in the current study (M = 45.46, SD = 4.53) were similar to previous studies. One previous study of pre-practicum students on levels of CSE and anxiety (M = 32.44), the mean scores on anxiety were lower than those of the current

study (Friedlander et al., 1986). In a study that examined the effect of feedback on CSE and anxiety, the pretest scores (M = 37.00) were slightly lower (Daniels & Larson, 2001) than those of the current study. In the last similar study that examined CSE and anxiety (Friedlander et al., 1986), the scores (M = 41.00) were closer to those of the current study. An important difference existed between the previous studies and this study. The previous studies assessed anxiety levels in a classroom that was a non-clinical environment, and the participants were not expected to perform clinical skills. The difference in setting may account for the lower anxiety levels in these studies.

Outcome Questionnaire 45.2. In this study, the clients' scores from their first session were near the middle of the range (M = 76.00, M = 65.00, M = 63.22), as were the scores from their fifth session (M = 74.56, M = 57.33, M =59.44), and their final session was somewhat lower, showing improvement (M = 54.22, M = 55.89, M = 37.47). A review of the comparison and experimental groups yielded similar results. For the comparison group, the participants' clients' scores from their first sessions were near the middle of the range (M = 71.50, M = 66.25, M = 63.25), and for the experimental group, the clients' scores were also in the same range (M = 79.60, M = 64.00, M = 63.20). The participants' clients' scores from the fifth session were also comparable, as the comparison group's clients' scores were similar to the normed scores (M = 66.00, M = 58.50, M = 54.50), and the experimental group's client scores were also similar (M = 81.40, M = 56.40, M = 63.40). The final set of client scores was also similar with the comparison group's scores (M = 52.75, M = 52.50, M = 43.00), and the experimental group's scores were also similar (M = 55.40, M = 58.60, M = 57.00).

Comparison to previous research. The first comparison of this study to previous studies was all the studies were conducted in an academic setting and at the graduate level. Although the participants were similar academically, the participants in the other studies were enrolled in counseling psychology, clinical psychology, and social work programs. The sample size is smaller in the current study than those in most recent studies featured in the meta-analysis (N = 6,151) on treatment outcome (Shimokawa et al., 2010). However, the purposes of this study and the featured studies were much different because the studies in the meta-analysis (Shimokawa et al., 2010) examined treatment outcome to prove the efficaciousness of counseling for managed care. The purpose of this study was to examine the effect of the treatment on the participants and the secondary effect on the participants' clients. Regardless of the differences in sample sizes, the studies in the meta-analysis provide a sound comparison for scores. The mean scores in this study (M = 76.00, M = 65.00, M = 63.22) were comparable to the previous research on the initial administration of the OQ 45.2 (Lambert et al., 2004). The range of scores for the six studies (M = 69.23 through M = 83.23) looked at in the meta-analysis (Shimokawa et al., 2010) is comparable to the mean scores for this study.

Discussion

The following section discusses the results presented in Chapter Four and compares the finding to previous research. Additionally, this section will evaluate any events or influences that may have affected the study. Finally, this section will introduce some feedback received from the participants that substantiates the results and implications.

Hypothesis One

The first hypothesis stated that the use of an embedded, rich-media distributed learning environment would increase CSE for CITs during their first semester in practicum. Earlier research found the use of skills training based on the four sources of self-efficacy (Bandura, 1986) during foundational classes increased CSE in pre-practicum students (Urbani et al., 2002). Bandura (1986) identified the four sources of self-efficacy as (a) mastery, (b) vicarious learning, (c) social persuasion, and (d) emotional arousal. In their meta-analysis, Larson and Daniels (1998) summarized previous research supporting the use of role-playing as an effective method of increasing CSE. As a follow up to the meta-analysis, researchers examined the two interventions by comparing a role-playing exercise to viewing a video of a mock session, their results indicate both interventions created similar increases in CSE for CITs (Larson et al., 1999). However, the increase in CSE was more stable for the group viewing the video than the role-playing group. The researchers determined that the decrease in stability occurred because the participants in the role-playing group based their CSE on how well they performed in the role-play. The researchers noted that if the participant performed well, his or her CSE increased, whereas if the participant performed poorly, his or her CSE decreased. The participants who watched the video were not affected by their performance like those in the role-play, so their CSE scores were more stable. The decision to use a video format for this study was based on the results of two previous studies. The current study extended the previous work by including a experimental group to contrast with the comparison group who received the usual practicum experience. This study's results suggest the videos modeling counseling skills were more beneficial for the CITs developing CSE than the usual experience. As seen in Table 8, in

Chapter Four, there was a significant difference in CSE between the comparison and experimental groups.

Participant Feedback. Although the results of this study suggest a significant benefit for those CITs exposed to the intervention, the descriptive statistics show a substantial decrease of web course usage for participants in the experimental group who received the intervention (i.e., videos, discussion boards) after the first six weeks as shown in Figures 6, 7 and 8. The reason for the decrease in usage is perplexing, but a participant helped to potentially identify the reason, suggesting the format of using a web course may be inconvenient as seen in this comment:

> The idea is excellent, but the actual "forum" is way out of the way. It is difficult to remember to go there. Perhaps a closed Facebook group or an easier to access forum would help. Some email system that would remind people and provide a direct link to new posts would also be helpful.

Another participant expressed the same sentiment: "It was difficult to remember to write/look at the discussion boards but it was helpful." A consideration for future research is to incorporate the features of Facebook (i.e., update notifications, email reminders) into the intervention or integrate the embedded, rich-media from this study into a format that is familiar and used by CITs.

Summary. The current study extended previous research studies by integrating the embedded, rich-media distributed learning environment into the practicum experience and extending the learning beyond the practicum classroom to include all the hours of the week

between classes. The findings of this study support previous results that providing vicarious learning for CITs during practicum increases CSE.

Hypothesis Two

The second hypothesis posited that access to an embedded, rich-media in a distributed learning environment would decrease the levels of anxiety experienced by counselors-in-training during their practicum. In Larson and Daniels' (1998) meta-analysis of the CSE literature, they found that state and trait anxiety was negatively correlated with CSE. Four of the studies they examined, included methods for reducing anxiety through interventions such as modeling, role-playing, positive and negative feedback, and watching videos of counseling sessions. The major findings of the studies were that CITs who received positive feedback had lower anxiety levels, and pre-practicum students who had practiced counseling skills in role-plays had lower anxiety levels than those who did not. The findings of Hypothesis One in this study suggest that the media intervention increased CSE, and based on the previously found inverse relationship between self-efficacy and anxiety, the researcher expected to find a conclusive reduction in anxiety for the experimental group.

In analyzing the data in this study, hierarchical linear modeling (HLM) did not find a significant difference in the level of anxiety between the comparison and experimental groups. However, in cross-validating the same data, a mixed, between-within analysis of variance (ANOVA) found a significant difference between the two groups. Scholars suggest cross validating the HLM results with a statistic less sensitive to smaller samples when a study has fewer number of participants (Tabachnick & Fidell, 2007a). The HLM results were initially

perplexing as previous research findings supported the inverse relationship between anxiety and CSE (Larson & Daniels, 1998).

Several factors may have influenced the results. The first factor is the sample size. Substantial debates exist over the appropriate sample size for HLM, and there is no clear rule of thumb for samples sizes (Maas & Hox, 2005). One perspective states that a large sample is necessary for accurate results (Raudenbush & Bryk, 2002). However, there is evidence that HLM can also be robust with small sample sizes (Maas & Hox, 2005). As a result of these differing opinions and the lack of decisive evidence, using HLM with small sample sizes requires cross-validation techniques to substantiate the findings. Thus the researcher concluded the sample size of the current study may not have been large enough to reflect a significant difference in the State-Trait Anxiety Inventory ([STAI] Spielberger et al., 1970).

Another factor that may have influenced the results is *experience* or more precisely, the effect of pre-service learning. Pre-service learning is defined as the exposure to a counseling environment prior to beginning practicum and is most often obtained through volunteer service when beginning practicum (Barbee et al., 2003). A previous study of 113 graduate students found that the participants with pre-service learning experience or previous exposure to a counseling environment had significantly lower levels of anxiety (Barbee et al., 2003). The level of exposure to a counseling environment was not considered at the beginning of the current study; however, an item on of the demographic questionnaire asked if the participant would answer follow-up questions. All the participants in this study agreed to answer follow-up questions. After analyzing the data, the researcher emailed the participants asking if they had experience working or volunteering in a counseling environment. The variable was categorically

yes or *no* and revealed that 75% of the participants ($N = 28$) had previous experience in a counseling atmosphere. The demographic for pre-service learning can be found in Table 3. Based on the findings of previous research on pre-service learning and the substantial percentage of participants in the current study with prior exposure to a clinic environment indicate this factor may have impacted the statistical results of this hypothesis.

The final factor that may have affected the level of anxiety in CITs during their first practicum is *orientation.* The university where the research was conducted provided an orientation to the practicum students two weeks prior to beginning their first day of practicum. During the orientation, one of the program's goals was to provide information and reduce anxiety the CITs experienced prior to beginning the class. The goal of the practicum orientation may have affected the results.

Participant Feedback. While the results of the study lack conclusive significant results, the participants' feedback supports the benefit of the intervention. One participant said, "Watching the videos has helped me feel a little less apprehensive," and another stated, "the web courses was helpful in regard to normalizing some of the thoughts and feelings regarding our working with clients." The CITs' feedback supports the usefulness of an embedded, rich-media distributed learning environment.

Summary. The second hypothesis stated that the levels of anxiety would be positively affected by the treatment in this study. The statistical analysis used found a significant difference between the experimental group and the comparison group with a mixed, between-within ANOVA and did not find a statistical difference with HLM. There are several factors that may explain these mixed results; the factors include the samples size and the effect of previous

experience in a counseling environment, and the practicum orientation prior to beginning practicum.

Hypothesis Three

The third hypothesis stated that the use of an embedded, rich-media distributed learning treatment would have a positive effect on CITs' clients during the study. The construct of treatment outcome and the relationship this construct has to CSE was examined in the meta-analysis (Larson & Daniels, 1998) and the findings showed mixed results about the relationship between the two constructs. The researchers found that three studies examined the relationship between CSE and treatment outcome. Two of the studies found a significant correlation existed between CSE and treatment outcomes. Additionally, one of the studies that found a significant covariance existed between experience, CSE, and treatment outcomes (Sipps et al., 1988). At the time of the CSE meta-analysis (Larson & Daniels, 1998), the instruments that measured treatment outcome had weak psychometrics, which may have affected the results of the previous studies. Since that time, the Outcome Questionnaire 45.2 ([OQ 45.2] Lambert et al., 2004) has been widely accepted with more sound psychometrics than earlier instruments (Pfeiffer, 2010).

Client treatment outcome is a construct examined in psychotherapy literature and has increased over the past decade as a result of managed health care's desire to quantify the effectiveness of treatment (Shimokawa et al., 2010). A meta-analysis of the treatment outcome research studies found that (a) the OQ 45.2 (Lambert et al., 2004) has been widely used to measure client treatment outcome, (b) counseling has a positive causal effect on treatment

outcome, and (c) giving feedback to the clients regarding the assessment results improved the treatment outcome (Shimokawa et al., 2010).

The current study found mixed results when investigating the efficacy of videos and discussion boards on client treatment outcome. The results of the HLM analysis showed there was a significant difference in the OQ 45.2 (Lambert et al., 2004) scores for school counselor CITs as a result of the treatment; however, no other significant difference existed. The results were cross-validated with a mixed, between-within ANOVA that found there was not a significant difference between the comparison and experimental groups over the course of the semester. However, the ANOVA results found an overall significant difference in the clients' OQ 45.2 (Lambert et al., 2004) scores from pretest to posttest. This suggests that the effect of the intervention in the current study did not significantly affect the results; however, it supports the general findings from earlier research that counseling has a positive effect on client outcome (Larson & Daniels, 1998).

Another factor that potentially influenced the current study's findings of this hypothesis was found in previous research. In the meta-analysis (Shimokawa et al., 2010), the researchers examined the efficacy of counseling based on client treatment outcomes and found the counselors providing the results of the OQ45.2 to clients in counseling sessions significantly improved treatment outcomes. However, the studies in the meta-analysis did not examine if counselor characteristics affected the treatment outcome. More closely related to the current study, in the meta-analysis on CSE (Larson & Daniels, 1998), the researchers found mixed results from the effect of counselor related variables (i.e., CSE, anxiety) on treatment outcomes. Previous research measured if providing feedback of the OQ45.2 scores in counseling created a

positive outcome for the client, whereas this study examined if a change in the counselor's skills and knowledge affected the client and then affected the client's treatment outcome. This difference in variables investigated in this study compared to previous research suggest the results from previous studies may be attributed to the process of counseling more than the personal attributes of the counselor.

One more factor to consider was the correlational statistics of previous research. In the meta-analysis of CSE (Larson & Daniels, 1998), the authors noted there was a correlational relationship between CSE and treatment outcomes. Although previous research found a correlational relationship, the current study investigated whether or not a causal relationship existed between the experimental condition and the effect on treatment outcome. The difference in research methodology may also contribute to better understanding the mixed results of this hypothesis.

Another factor that may have affected this findings was that the OQ45.2 (Lambert et al., 2004) is a self-report instrument. As a self-report measure, the scores may be skewed by personal biases (Gay et al., 2006). The participants' client may have been motivated to over-represent or under-represent the results in an effort to continue the free counseling services being offered through the university counseling clinic. The clinic requires the students to provide the OQ 45.2 scores to the clients after each of three administrations of the instrument during the semester. The clients may infer that choosing more severe answers on the instrument will increase their chances of continuing to receive free counseling.

A final factor that may have influenced the results was the collected data. The data was collected from participants' clients who completed two or more OQ 45.2 assessments. In the

event the client did not return for the final session, the score from the fifth session OQ 45.2 was used to measure the change. Research has shown that psychological functioning often declines before the benefits of counseling create an improvement in the client's psychological functioning (Lambert, et al., 2004). As a result of this change, the overall effect of the treatment may not have accurately been represented in the data.

The current study found there was a significant difference between the treatment and experimental groups for school counseling CITs when using HLM to analyze the data. However, the other counseling tracks did not experience a significant difference between the groups. Due to sample size, a mixed, between-within analysis of variance (ANOVA) was used to validate the findings. The ANOVA found there was not a significant difference in the OQ45.2 scores between experimental and comparison groups. The sample size of the current study and the smaller sub-sample of the school counselor participants (n = 3) suggest the results should be interpreted with caution and further research should examine this finding. The results of this hypothesis reflect the varied results found in previous research.

Hypothesis Four

The final hypothesis was exploratory and postulated that the unique climate characteristics of individual practicums would affect counselor self-efficacy, anxiety, and treatment outcomes. In reviewing the existing literature, the researcher found that previous studies did not examine these potential differences. This study sought to extend the previous research by exploring whether or not a group effect from the individual practicum characteristics existed. The current study found there was no significant difference between the practicum

classes on their levels of CSE, anxiety, or the treatment outcomes for their clients. Additionally, the results showed the difference between the practicums on the covariance of the three constructs was not significant.

Although the analysis in HLM showed there was not a significant difference between practicums, the results confirmed findings in earlier results that a significant difference existed between the participants' scores on the three constructs from the pretest to the posttest. Finally, due to the sample size the results of the HLM analysis were further investigated using a MANOVA without controlling for the group effect that showed there was no significant variance between the three constructs. A MANOVA investigated if a mean difference between the experimental and comparison groups occurred by chance. As a result of using both statistics, the results suggest that the effect of the practicums' individual characteristics was not significant.

While it may be postulated that the effect of individual practicums' climates are minimal, other influences are worth considering. First, the demographic characteristics of the practicums were similar. The groups were in the same environment at different times of day, they were equally divided between day and evening practicums. The academic degrees of the instructors were all at a doctoral level. For the analysis to show a statistically significant difference between the two groups, the groups would need to be substantially different. However, the many similarities of the classes kept the differences in the groups from being significant.

Another factor that may have influenced the analysis is the small number of groups. The debate over the sample size for using HLM continues, but a prevailing concept in the literature is that the greater the number of groups, the greater the possibility in finding group variance (Arnold, 1992; Castelloe et al., 2001; Maas & Hox, 2005; Woltman et al., 2012). The possibility

exists that the number of practicums in this sample ($N = 8$) may not have been sufficient to recognize the group variance. Additionally, the number of the groups and the homogeneity of the groups could have kept the differences between the practicums from being significant. It is important to note that while the analysis did not find a statistical significance between the practicums, a larger sample size may be better suited for revealing the effect of individual practicum characteristics.

Limitations

Research Design

The first limitation in the current study was that a quasi-experimental research design was used to investigate the effect of the intervention on the constructs. The research design was selected to allow the researcher to manipulate the independent variable and use a non-random sample. Although the quasi-experimental design was appropriate for this study, the choice limited the ability to generalize the findings to a greater population.

Another element of the research design that contributed to the limitation of the research design was that the participation in the study was voluntary and not a required component of the practicum. The study was conducted at a large southeastern university that required Institutional Review Board (IRB) approval to conduct the study. The IRB required participation in the study to be voluntary and not part of the participants' grades. The voluntary nature of the study affected the participation as seen in the following participant comment.

> It was difficult to keep up with it [the discussion boards and videos] on top of everything else. I feel that since it was optional, I didn't use it much because

graded assignments had more importance at the time, but I still feel that it was very beneficial, especially, the videos.

Future research efforts should consider incorporating the discussion board and videos into the curriculum as part of the student's grade, with an alternate assignment for those students who may choose not to participate. These components of the research design may have limited the study.

Sampling

Several characteristics of the sample potentially limited the current study. The first characteristic was the sample size ($N = 32$), which was divided into two groups of 16. However with a group of 16, the results are more influenced by a single extreme score than a much larger group would be. Although the study found significant results with a small sample size, both the significant results and the results not finding statistical significance should be interpreted cautiously. Furthermore, future research should be conducted on a larger sample size to investigate the consistency of the findings.

Another sample characteristic that may have limited the study was conducting the research study at a single site. The size and the single location of the sample may have limited the ability to generalize the findings to a greater population. A single site may have inherent characteristics that influenced both the participants and the results. Even though a review of the demographics showed diversity, the geographic attributes may have affected the results. Adding multiple, geographically diverse sites in future studies would reduce the effect that occurred from

any traits of an individual site. Due to the single location and the sample size, the sample in the current study limits the ability to generalize the findings to a greater population.

History

History is defined as the events that occur during the study that affect the dependent variable (Gay et al., 2006). In the design of the current study, an inherent problem with using practicums is that the classes occur at different periods of times (e.g., different days of the week, different times of the day). Thus, the classes experienced different events that may have influenced their CSE, anxiety, or treatment outcomes. For example, an instructor for the Thursday afternoon practicum in the comparison group had a family emergency around the middle of the semester and needed to stop teaching the practicum. An instructor from the Wednesday morning practicum in the experimental group agreed to finish teaching the practicum in addition to the Wednesday morning practicum. Each instructor has a distinct style of teaching and a different approach to handling CITs, supervision, clients, and facilitation of a practicum. The possibility exists that this change of instructors may have affected the three main constructs of this study. To further investigate the possible effect of this change, the researcher looked at the effect changing the faculty had on CSE and anxiety.

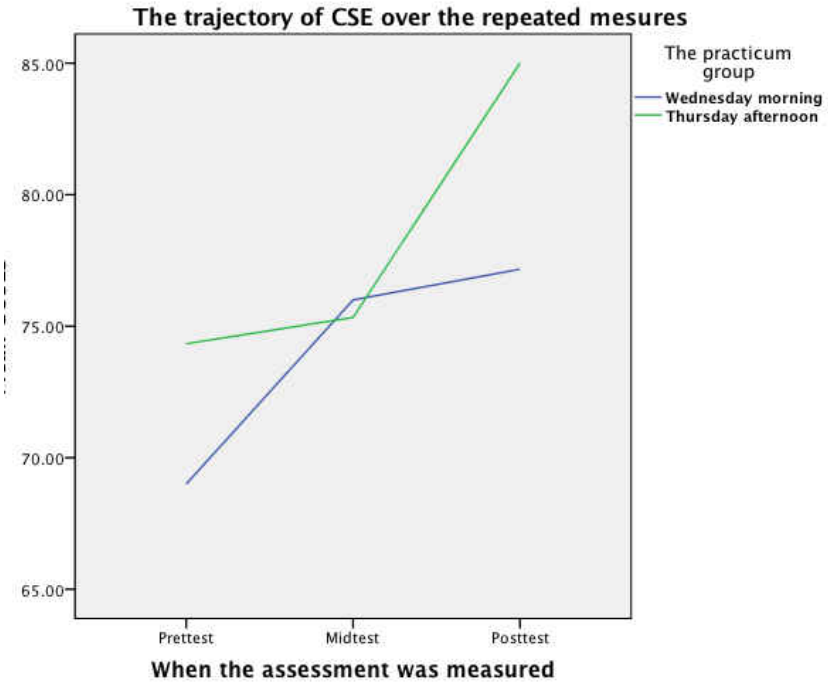


Figure 18. A comparison of the Wednesday morning and Thursday evening practicums to examine the effect of changing the instructor had on counselor self-efficacy

Figure 18 compares the changes in CSE during the semester for the Thursday evening practicum to the changes in CSE for the Wednesday morning practicum. The two practicums are compared because the instructor from the Wednesday morning practicum also became the instructor for the Thursday evening practicum at the middle of the fall semester. The Thursday evening practicum received a new instructor on the same day that the midtest was given to the participants, which provided a good point to measure the change from. Figure 18 suggests the instructor plays a role in the participants' levels of CSE and that the change in instructor changed the trajectory for the practicum. From the beginning of the semester to the midtest, the Thursday evening practicum experienced a minimal increase in CSE, whereas the Wednesday morning

practicum experienced a substantial increase. After the midtest, with the change in instructor, the Thursday evening practicum experienced a substantial increase in CSE.

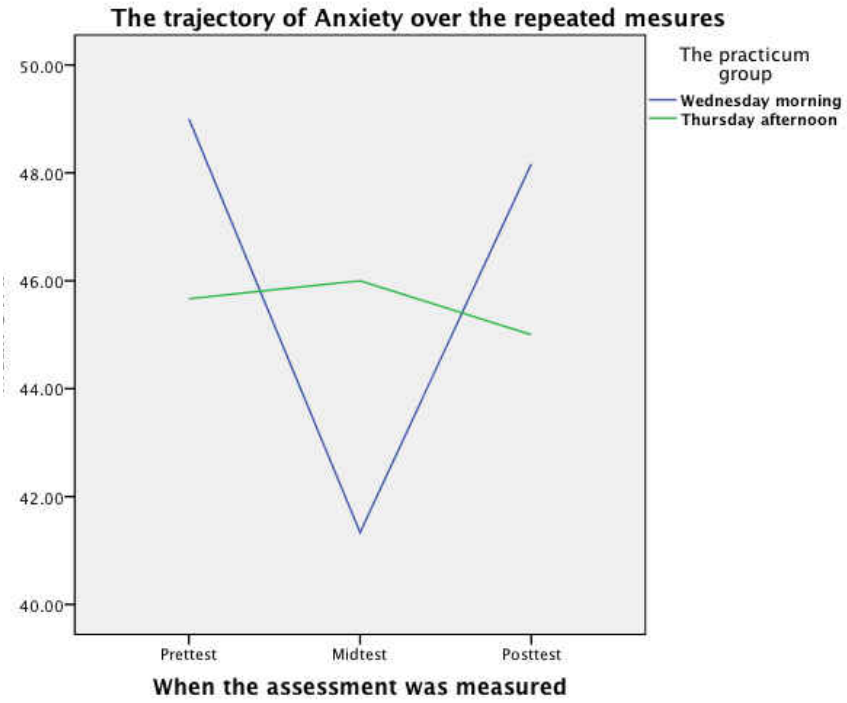


Figure 19. A comparison of the Wednesday morning and Thursday evening practicums to examine the effect of changing the instructor had on counselor anxiety

Figure 19 compares the effect on anxiety for the same two practicums at the same testing points. It appears from Figure 19 that the change of instructor for the Thursday evening practicum may have affected the CIT's levels of anxiety in the practicum. Although the sample size for the two practicums is small and the results should be interpreted with care, the figures suggest history affected the two constructs.

Implications and Recommendations

Implications

There are several key points of this study that are significant to the development of counselors, to the practicum experience, and to counselor education in general.

Counselor development. Helping counselors-in-training understand the concept and effects of counselor self-efficacy can affect their development (Cashwell & Dooley, 2001). Counselors teach their clients that becoming more aware of behaviors or traits are the first step to changing. Perhaps if counselor educators were to help CITs be more aware of CSE, the students could better understand how the construct affects their anxiety, their comfort with expanding or improving their clinical skills, and the approach they take with a client, session, or treatment plan.

A second implication is that using an embedded, rich-media learning environment may help the CITs in developing their clinical skills. The Social Cognitive Theory (Bandura, 1986) places vicarious learning near the top the hierarchy in sources of self-efficacy. Using videos to model a counseling session helps CITs to learn vicariously by watching a more experienced counselor successfully complete the skill featured in the video, which in turns help them feel more prepared to have a similar experience when using the same skill in a counseling session. One participant stated, "I think it [the videos] is a great help for counselors." On the questionnaire distributed at the posttest, the participants were asked to rate how helpful they thought the videos and discussion groups would be for other practicum students. The question used a scale from one (i.e., slightly helpful) to five (i.e., extremely helpful). Four of the students answered the question with a three (25%), nine of the students rated the usefulness at a four

(56%), and three of the students rated the components as a five (19%) for helpfulness to future practicum students. The use of a program similar to the treatment in this study can help in the development of future counselors.

A final implication for this area is that using a distributed learning environment provides a foundation for future counselor development. If the CIT is less anxious during their practicum and feels greater CSE, the student can focus on applying their foundational knowledge and increasing the retained knowledge after practicum and eventually graduation. The greater the retention for the CIT, the greater the success rate for counseling tests (e.g., National Board of Certified Counselor exam, state licensure exam). Furthermore, the more efficacious the student feels, the more likely the student will be to experiment with counseling skills and techniques in an environment that can facilitate the student's growth as a counselor and possibly increase the quality of the student's counseling skills.

Practicum. There are several implications from this study that apply to the practicum experience. First, CACREP has specific time requirements for practicum; however, the requirements lack specific information about how to use that time to develop competent counselors. The results of this study imply that utilizing technology and discussions beyond the classroom is beneficial for (a) increasing the students' CSE, (b) normalizing the emotions the students may experience, and (c) improving the methods for development through vicarious learning. Also, as technology continues to evolve and as education continues to adapt by integrating technology into the classrooms, counselor educators should begin exploring how to best use technology to teach students during practicum. Traditionally, based on the nature of counseling, practicum has been an interpersonal experience, but the results of the current study

imply the methods of extending learning beyond the traditional class time is beneficial. During practicum, students often have more questions than they can get answers to with the limited time in class and supervision. Perhaps introducing a distributed learning environment and extending the students' access to information can increase competency and efficacy earlier in the developmental process, allowing the student to experiment with counseling skills and furthering their growth as counselors during this period. Furthermore, the descriptive statistics of the CITs' usage of the discussion board and videos suggest there is a developmental process that occurs for the CITs during their first semester in practicum. The graphs in Figure 6 and Figure 8 show that during the first six weeks of the semester, the students use the resources more. After this initial period, the usage declined.

Previous research has identified that the beginning of the practicum experience contains a great deal of emotion for CITs, and during this time CITs worry about their competence, preparation, and supervision (Jordan & Kelly, 2011). One participant reflects this level of initial worry and emotion:

> What I've found most helpful is being able to voice my fears, worries and feelings throughout this experience and getting feedback from my peers who may identify or have some advice. Sometimes there isn't enough time in supervision to do these things so having this second outlet is great.

While the current study results lack conclusive results on the effect of the treatment on anxiety, the participants' feedback supports that the intervention was beneficial. One participant said, "Watching the videos has helped me feel a little less apprehensive," and another stated, "the web course was helpful in regard to normalizing some of the thoughts and feelings regarding our

working with clients." The feedback from the CITs supports the usefulness of an embedded, rich-media distributed learning environment.

The current study's results support earlier research that identified emotion-focused and problem-focused coping mechanisms are used in stressful situations (Folkman & Lazarus, 1980). Figure 6 and Figure 8 suggest that the participants were more emotion-focused during the beginning of the semester and more problem-focused toward the end of the semester. Moreover, an implication for practicum is that using a distributed learning environment assists in both the emotion-focused and problem-focused coping for the CITs. The discussion boards provide forums to discuss and normalize the feelings that the CITs are experiencing during practicum. Also, as this student suggests, "I look forward to this tool [the discussion boards and videos]! I already started watching the videos and they seem useful and relevant to Prac 1 students!" The videos and discussions provide vehicles for resolving the problems that are weighing on the CITs during the week between each practicum. Furthermore, as higher education continues to integrate remote learning into the curriculum, finding and using effective methods for continuing the integration into the practicum experiences will assist in attracting more students in remote locations while ensuring the quality of supervision and education that the student receives.

Counselor education. From the current study, there are several implications for counselor educators. First, using a distributed learning environment can ease the anxiety CIT's experience in practicum. A goal for counselor educators is to increase students' CSE earlier in practicum, an environment that creates anxiety and self-doubt (Bernard & Goodyear, 2009; Cashwell & Dooley, 2001). The results of this study show that vicarious learning through video and online discussions can assist in accomplishing the goal. Another implication for counselor

education that derives from this study is the benefit of exposing CITs to a counseling environment (i.e., pre-service learning) prior to beginning practicum. The reduced pretest anxiety scores suggest that pre-service learning improves the CITs' practicum experience due to reduced anxiety. The exposure the CIT receives can be from working or volunteering in a counseling clinic, agency, or any environment that offers counseling. Furthermore, when counselor educators are selecting applicants for counseling programs, investigating the applicant's exposure to counseling environments can assist in placing the student at appropriate practicum and internship sites. Using prior exposure to a counseling environment as a selection criterion assists in reducing anxiety and improving CSE for students during practicum.

Recommendations for future research

Although this study aimed to address all the research issues, there remain several recommendations for future research. First, future researchers should expand the sample size to investigate whether or not the results can be replicated and if a difference in groups (i.e., practicums) is more significant with a larger sample. A participant provides another recommendation: "The idea is excellent, but the actual 'forum' is way out of the way. It is difficult to remember to go there. Perhaps a closed Facebook group or an easier to access forum would help." Future researchers should use an easily accessible and familiar format. The format should proactively involve the students through email or updates and investigate if the format change affects participation, CSE, and anxiety.

Additionally, this study did not find a significant difference in the constructs from the academic degree of the practicum instructor; the results suggest the need for further research

examining the academic degree (e.g., counselor education, counseling psychology, social work) of the faculty teaching practicum and the development of the CIT during practicum. Anecdotal research supports that a difference exists between the types of degrees; however, further research could determine if a significant difference exists. Furthermore, the significant moments body of literature suggests a difference exists between the client's perception of what is significant about the counseling process and what the counselor perceives is significant about the therapeutic process (Elliot, 1985). A similar difference in perception may exist on the construct of counselor self-efficacy and would be an area for further research to identify if the difference exists. Finally, the current study indicated the intervention was significant for the treatment outcome for school counselors. The findings may be a result of the small sample size, and this should be further investigated with a larger sample. If the findings of future research are consistent, the use of a distributed learning environment could significantly impact any CIT that has only one semester of practicum.

Conclusion

This study investigated the effect of an embedded, rich-media distributed learning environment on counselor self-efficacy, anxiety, and treatment outcome. The quasi-experimental study used pretest, midtest, and posttest data to examine the effect of the intervention. The participants were first semester practicum students that were divided into an experimental and comparison group. The study investigated four hypotheses and in the first hypothesis found significant results that revealed that the media intervention increased CSE. The results of the second hypothesis were mixed regarding the effect of the media-based intervention

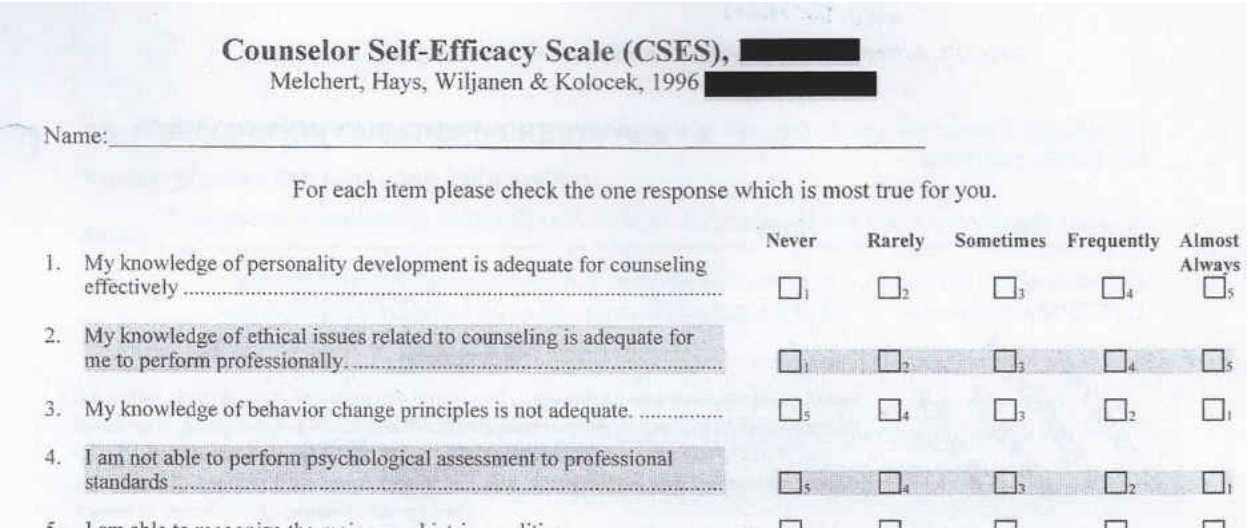
on anxiety; HLM did not find a significant difference, but the use of a mixed, between-within ANOVA showed a significant difference. The mixed results suggest the need for further research with a larger sample size. The results of the third hypothesis, which examined client treatment outcomes, showed that the difference between the comparison and experimental groups was not significant. Thus, the third hypothesis was rejected. The final hypothesis explored whether or not a group difference between practicums existed and if this difference was affected by the treatment. HLM was used to analyze the results for this hypothesis, as the statistic is best suited for nested data. The results did not reveal a significant difference between the practicums. The results of the first two hypotheses are the most interesting as these two constructs directly affect the CIT's development in practicum. Further, the mixed results of the second hypothesis appear to be influenced by the levels of pre-service learning the participants experienced before beginning practicum.

This study has investigated if an embedded, rich-media distributed learning environment affected the development of counselor self-efficacy, decreased anxiety and improved client treatment outcomes. The results of the study indicated the use of technology to increase skills and knowledge benefits counselors-in-training. The results showed extending learning beyond the classroom increased counselor self-efficacy.

APPENDIX A: INSTRUMENTS AND FORMS USED IN THIS STUDY

The instruments display only the first few questions to meet the copyright requirements.

Counselor Self Efficacy Scale (Melchert et al., 1996a)



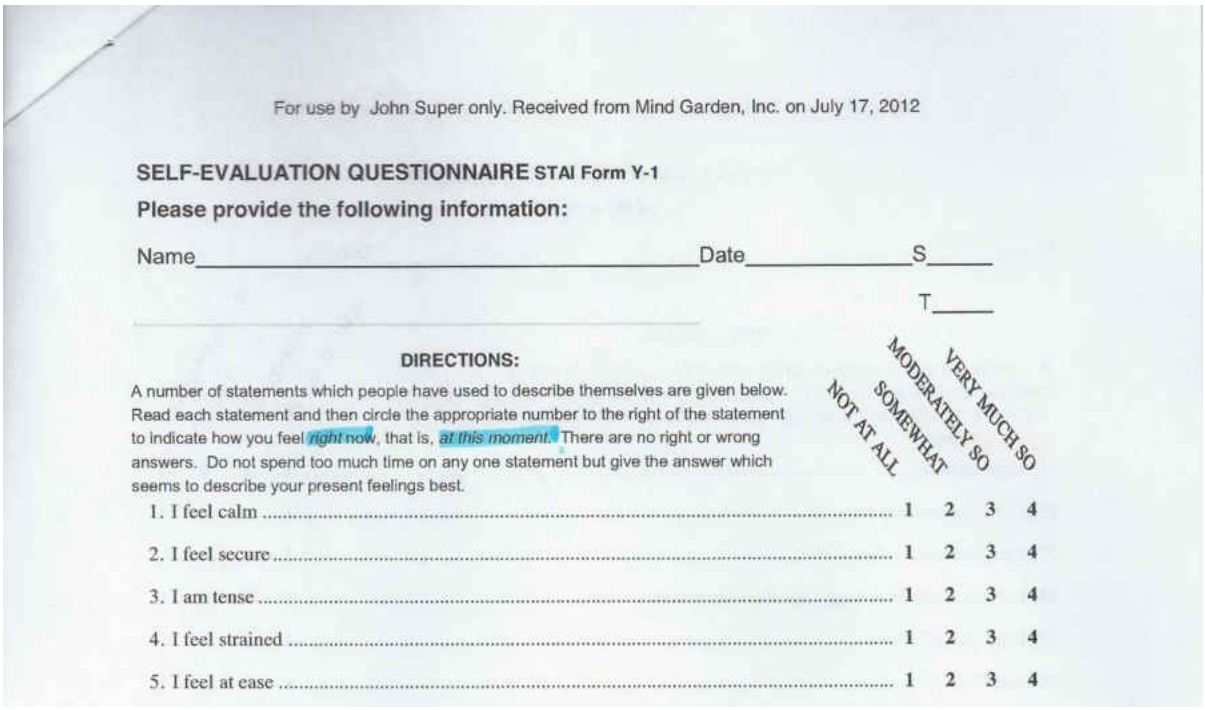
Counselor Self-Efficacy Scale (CSES), [redacted]
Melchert, Hays, Wiljanen & Kolocek, 1996 [redacted]

Name:_____

For each item please check the one response which is most true for you.

		Never	Rarely	Sometimes	Frequently	Almost Always
1.	My knowledge of personality development is adequate for counseling effectively	☐1	☐2	☐3	☐4	☐5
2.	My knowledge of ethical issues related to counseling is adequate for me to perform professionally.	☐1	☐2	☐3	☐4	☐5
3.	My knowledge of behavior change principles is not adequate.	☐5	☐4	☐3	☐2	☐1
4.	I am not able to perform psychological assessment to professional standards	☐5	☐4	☐3	☐2	☐1

State-Trait Anxiety Inventory (Spielberger et al., 1970)



For use by John Super only. Received from Mind Garden, Inc. on July 17, 2012

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name_____Date_____S_____

T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right now*, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4

Announcement for the second treatment videos

Its time for new webcourse videos!

The videos cover:

- ✓ How to handle suicidal ideation
- ✓ What to do when you suspect child abuse
- ✓ How to screen a client you suspect of alcohol or substance abuse
- ✓ How to deal with difficult client behaviors

Please take a little time and check out the videos.

A great big **THANK YOU** for helping with the research study. Hopefully, we will make a difference in the way counselors are trained in the future.

Demographic Questionnaire

Demographic Information

While the following demographic information is optional, the information will assist with understanding and interpreting the results based on your demographic information. This information will **not** be associated in any way with your identity or the responses to any assessments. Additionally, this information will remain secure and confidential with the research team (John Super). Any information or responses included that may be published will take extreme measures to remove any personally identifiable information. Finally, you will have the opportunity to access the results of this study, once it is completed.

Please provide the correct answer below by circling or filling in the blank:

Gender: M F

Track: School Mental Health Marriage and Family

Age: _____

How do you identify ethnically?

Latin/Hispanic Black

Asian White

American Indian Other: _____

Semester: Prac 1 Prac 2 Other

Overall Prac Experience: Poor Fair Average Good Excellent

How would you rate the level of support by Instructors:

Low Average High

Would you be willing to participate in a follow up interview about this study at a later time?

Yes No

(Over)

University of Central Florida IRB
IRB Number: SBE-12-08582

Did,you,find,the,videos,helpful?! ! Yes! ! No!
!
Did,you,refer,to,the,videos,to,help,you,with,a,particular,client?! Yes! No!
!
Do,you,feel,the,Webcourse,helped,in,feeling,more,capable,as,a,counselor?,
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!
How,helpful,do,you,feel,the,Webcourse,in,this,study,is,for,other,prac,students?,
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Instructions read to participants during data collection.

Instructions

1. Confirm there are two pages to your package.
2. Write your name on the first page.
3. On the first page, the question ask about your thoughts and feelings toward counseling.
4. Check the box that matches how closely you feel describes how you feel about the question at this moment. You will notice the highlighted text to remind you this is how you feel at this moment.
5. On the second page, the questions ask about your anxiety **at this moment.** Circle the number that best describes your anxiety.
6. When you flip the second page, you will see similar question to the previous side. These questions ask about your anxiety overall, meaning not just right now, but **overall**. You will notice the highlighted text to remind you this is how you feel at overall.
7. When you've completed the package, slide your package into the envelope.
8. If you make a mistake and would like to begin again, I do have extra packets. Feel free to ask me for one. When you complete the new packet, attach the old packet to the new packet with a staple or paperclip and slide them both into the envelope.

APPENDIX B: IRB APPROVAL AND FORMS

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **John T. Super**

Date: **July 30, 2012**

Dear Researcher:

On 7/30/2012, the IRB approved the following activity as human participant research that is exempt from regulation:

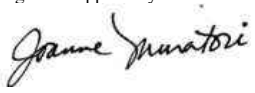
Type of Review:	Exempt Determination
Project Title:	The effect of media based training on anxiety and self-efficacy for counselors-in-training.
Investigator:	John T Super
IRB Number:	SBE-12-08582
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 07/30/2012 02:43:08 PM EDT



IRB Coordinator

EXPLANATION OF RESEARCH

Title of Project: The Effect of Media Based Training on Anxiety and Self-efficacy for Counselors-In-Training
IRB Number: SBE-12-08582

Principal Investigator: John Super, MA

Other Investigators:

Faculty Supervisor: Mark E. Young, Ph.D.

You are being invited to take part in a research study. Whether you take part is up to you.

The Purpose of this study is to examine how counselors-in-training develop self-efficacy during their practicum experience where anxiety and evaluation may exist

You are being invited to take part in a research study, which will include about 50 counselor education practicum students in their first semester. You have been asked to take part in this research study because you are a student enrolled in a section of practicum for the fall 2012 semester. You must be 18 years of age or older to be included in the research study.

You will be asked to complete the following two assessments at the beginning, middle and at the end of this semester: (a) complete the State Trait Anxiety Inventory; (b) complete the Counselor Self-efficacy scale. You will complete the instruments outside of class time. The assessments will be completed electronically.

The researchers expect that you will be able to complete in this research study for from 5 to 10 minutes.

You must be 18 years of age or older to take part in this research study.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints John Super, doctoral candidate, Counselor Education Program, Department of Educational and Human Sciences, College of Education, at (407) 770-1201 of Dr. Mark Young, Faculty Supervisor, Department of Educational and Human Sciences at (407) 823-6314 or by email at myoung@cfl.rr.com.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

FERPA RELEASE AUTHORIZATION FORM

College of Education
Phone: 407-823-2835
Email: CED308@mail.ucf.edu
Website: education.ucf.edu

WHAT IS FERPA

FERPA, the Family Educational Rights and Privacy Act of 1974, as Amended, protects the privacy of student educational records. It gives students the right to review their educational records, the right to request amendment to records they believe to be inaccurate, and the right to limit disclosure from those records. An institution's failure to comply with FERPA could result in the withdrawal of federal funds by the Department of Education. For more information on FERPA, please visit the Registrar's website: www.registrar.ucf.edu/ferpa.

WHAT INFORMATION IS PROTECTED UNDER FERPA?

FERPA-protected information includes, but is not limited to:

- ☐ Social Security Number
- ☐ Student ID - PID
- ☐ ISO Number
- ☐ Residency Status
- ☐ Gender
- ☐ Religious Preference
- ☐ Race/Ethnicity
- ☐ Grades/ GPA
- ☐ Student's Class Schedule
- ☐ Test Scores
- ☐ Academic Standing
- ☐ Academic Transcripts
- ☐ Email Address
- ☐ Photos

FERPA RELEASE AUTHORIZATION

To authorize the release of FERPA-protected information, the student must complete all items below and submit this form to the Dean's Office, ED 308.

Student's Name: _____ PID: _____
(Please print)

Records for which you authorize release:

___ Email Address
___ Photograph
___ Other (please list specific records to be released):

_____

_____

_____

Website on which your information will be published:

Website URL: _____

As required by the Family Educational Rights and Privacy Act of 1974, as Amended (FERPA) and Florida law, by my signature I hereby authorize the College of Education, University of Central Florida, to furnish the University records I have noted upon this form to the party I have identified above. This authorization shall remain in force until I submit to the COE Dean's Office a written and signed notification rescinding my permission to release the records noted or until the end of my employment at the COE or, until I graduate and am no longer a student at UCF, whichever should come first.

Student's Signature: _____ Date: _____

APPENDIX C: LETTER TO THE FACULTY

John T. Super
2505 Norfolk Road
Orlando, Florida 32803
jsuper@knights.ucf.edu

June 14, 2012

Counselor Education Faculty
University of Central Florida
College of Education, ED 322
Dept. of Educational & Human Sciences
Orlando, FL 32816-1250

Dear Faculty Members,

I am writing to ask permission to use resources administered by the Counselor Education department to facilitate data collection with my dissertation.

I am in the process of finalizing the research design of my dissertation topic, and from discussions with Dr. Young and Dr. Hagedorn, I have been advised to seek the approval of the faculty in utilizing practicum students for my dissertation research. It is my intention to study the counselors-in-training's development of self-efficacy during their practicum experience. More specifically, to see if anxiety and the effect of the evaluation mediates the development of self-efficacy of the counselor in training.

To complete this study, I am hoping to do a pretest, mid-semester test, and posttest measure for the summer and fall semester of 2012 using the Counselor Self-efficacy Scale (COSES) and the State-Trait Anxiety Inventory (STAI). During the semester, a treatment will be applied to help the students make meaning from the added information. In short, I request permission to:

Use the practicum students during the fall term as the treatment and the summer practicum students as the control group.

Access and use the data that has been collected and is known as "the big shell" as a comparison for the Counselor Self-efficacy Scale.

To distribute the COSES in the practicum orientation, at mid-semester and end of the semester. Also, to distribute the STAI at mid-semester and posttest.

The Counselor Competency Scores will be come from the "big shell". This access to the students will be under the direction of an IRB and all measures of confidentiality provided to clients will be extended to the participants in this study.

I am willing to answer any questions you may have and sincerely appreciate any consideration you can give to this matter.

Respectfully,

John T. Super
Doctoral Student

APPENDIX D: PERMISSIONS

From: John Super <jsuper@knights.ucf.edu>
To: W. Bryce Hagedorn Hagedorn <Bryce.Hagedorn@ucf.edu>
Re: questions

Good afternoon!

Thanks for the information this morning! As I understand it, I am "approved/approved" meaning I can use the practicums this fall to collect data as long as the data collection is outside class time. Also, I will be able to split the practicums into two groups, each group with four sections, with one being an experimental group and the other being a comparison group. So, I have a few questions to follow up:

1. Did the faculty discuss amending the practicum to take something away from the students as we are adding the online component?
2. What date will you have a list of the practicum instructors?
3. When do you think you'll have the distribution of practicum students? Meaning, how many prac 1's and prac 2's in each practicum?
4. Would you suggest I meet with the practicum instructors individually to explain my study?

I think that should do it for now. :) Thank you for all the help!

Be well!

John Super, MA,
Doctoral Candidate
Registered Marriage and Family Therapist Intern
University of Central Florida
College of Education
Department of Educational and Human Sciences

mind garden

www.mindgarden.com

To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material;

Instrument: ***State-Trait Anxiety Inventory for Adults***

Authors: ***Charles D. Spielberger, in collaboration with R.L. Gorsuch, G.A. Jacobs, R. Lushene, and P.R. Vagg***

Copyright: ***1968, 1977 by Charles D. Spielberger***

for his/her thesis research.

Five sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any other published material.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

APPENDIX E: RESEARCH EVENT LOG

June 19, 2012

In researching the topics that cause anxiety for practicum students, I emailed the faculty teach practicum ($N = 11$) to solicit their observations and thoughts. The email stated,

> I am contacting you since you are either currently teaching or have taught practicum recently.
>
> I am in the beginning of the dissertation process and planning to study how anxiety and the effect of evaluation mediate the development of counselor self-efficacy during students' first semester of practicum. In a meeting with Dr. Young, we were discussing ideas for developing an intervention that would address the issues building anxiety or decreasing students' self-efficacy during their first practicum, and thought we would ask those who have recently taught practicum for their thoughts. Is there any knowledge or skill that stands out to you that might help the students feel more efficacious as counselors during that first semester?
>
> If you have a moment and are willing, would you share any thoughts that come to mind? Any and all thoughts and information will be greatly appreciated in any stage of development you can provide.

June 19-25, 2012

The researcher received five responses during this period. The researcher began dialogs with the instructors to further understand the observations the practicum instructors shared. During this time, the instructors identified the areas of (a) suicidal ideation, (b) non-

nurturing environment, (c) role-playing helps alleviate anxiety, (d) helping the students move beyond the right and wrong mentality in conceptualizing their counseling skills, (e) how to have difficult conversations, (f) setting accurate expectations, (g) mistakes are not bad, (h) discussing the evaluation of competencies, (i) addressing the fear of failure and (j) provide immediate feedback to the students after their sessions.

August 18, 2012

To prepare for the beginning of the semester, I emailed all the practicum instructors explaining the research study slated to be conducted in the Community Counseling Clinic during the fall semester. In the same email, I asked for a few minutes before the first class to speak with the students in their individual practicum sections about the study, the risks, the benefits and what the students could anticipate by participating

Additionally, I telephoned the Center for Distributed Learning (CDL) hourly to check on the progress of creating a Web course shell. The CDL was running behind due to a staff shortage and a transition of the technology platform that supports the web course. Initially, the CDL projected the web course shell would be created by the second week of the semester. However, for this study, the students needed to view the videos before seeing their first client. Eventually, after seven calls, I received an email with a link explaining the creation of the shell and how the students would need to self-enroll.

August 19, 2012

With the shell being created, I was able to begin generating the Webcourse interface the students would be using. The welcome was written for the students to see upon entering the site

and an explanation of the study was provided. Additionally, the first four videos were made available for students, the videos consisted of (a) the typical first session with an adult, (b) the typical first session with a minor, (c) creating a treatment plan, and (d) overcoming feeling stuck in a session.

August 20, 2012

This day, I visited the morning and afternoon sections of practicum to (a) explain the research study, (b) get the students' assent, (c) explain how the videos were kept on Dropbox to allow for quicker downloads, (d) to walk the students through self-registering for the Webcourse and (e) to answer any questions the students asked. After each class, I sent an invitation to the students individually to join the Dropbox folder.

August 21, 2012

This day, I visited the morning and afternoon sections of practicum to (a) explain the research study, (b) get the students' assent, (c) explain how the videos were kept on Dropbox to allow for quicker downloads, (d) to walk the students through self-registering for the Webcourse and (e) to answer any questions the students asked. After each class, I sent an invitation to the students individually to join the Dropbox folder.

August 22, 2012

This day, I visited the morning and afternoon sections of practicum to (a) explain the research study, (b) get the students' assent, (c) explain how the videos would be kept on Dropbox

to allow for quicker downloads, (d) to walk the students through self-registering for the Webcourse and (e) to answer any questions the students asked. After each class, I sent an invitation to the students individually to join the Dropbox folder.

August 23, 2012

This day, I visited the morning and afternoon sections of practicum to (a) explain the research study, (b) get the students' assent, (c) explain how the videos were kept on Dropbox to allow for quicker downloads, (d) to walk the students through self-registering for the Webcourse and (e) to answer any questions the students asked. After each class, I sent an invitation to the students individually to join the Dropbox folder.

That evening, the new weekly discussion topic for the students was posted.

August 27, 2012

I collected the weekly usage data for all practicums to include (a) the number of individual visits to the Webcourse, (b) the cumulative length of time the individual users are on the Webcourse, (c) the number of individual viewing of the posts, (d) the number of individual posts, and (e) the number of viewing of the treatment videos. The decision was made to collect the data at 9 AM on Monday mornings, as this would be the beginning of the practicum week. At this time (each week), I responded to individual posts.

August 30, 2012

After a meeting with Dr. Mark Young (the major advisor and committee chair for the research study) it was decided to break out the data by individual practicums to determine if there were differences between the groups in usage and participation. From that point, I began collecting the collective usage for each practicum on a weekly basis that included (a) the number of individual visits to the Webcourse, (b) the cumulative length of time the individual users are on the Webcourse, (c) the number of individual viewing of the posts, (d) the number of individual posts, and (e) the number of viewing of the treatment videos.

In this meeting, the topic of student distribution was also discussed and the original distribution of 3 (Wednesday morning, Wednesday evening, and Thursday morning) practicums to the experimental group and 5 practicums to the comparison group was re-evaluated as the students added, dropped and transferred classes during the first week and the distribution was no longer even. The topic was thoroughly discussed and evaluated leading to the decision to add the Monday evening practicum to even the distribution after the shifting of students. The final distribution included four practicums to the experimental group consisting of the (a) Monday evening practicum, (b) Wednesday morning practicum, (c) Wednesday evening practicum, and the (d) Thursday morning practicum. And the remaining four practicums distributed to the comparison group consisting of (a) the Monday morning practicum, (b) the Tuesday morning practicum, (c) Tuesday evening practicum and the (d) Thursday evening practicum. The resulting distributions consisted of 17 students in the experimental group and 18 students in the experimental group.

That evening, the new weekly discussion topic for the students was posted.

September 3, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

Later that day, I sent an email to the students participating in the experimental group who did not log into the Webcourse that week to determine the reasons. The purpose of the email was two-fold, first to let the students know I was actively participating in the study and second to determine if the student was experiencing a problem I could help them work around.

I received several responses from students. The students' responses included "the first week was definitely tough and I completely forgot", "I did not have internet access this past week", "I have felt overwhelmed" and "I thought I had two weeks to get started".

September 5, 2012

At 11 AM, I collected the weekly data for the Wednesday morning practicum.

At 4 PM, I collected the weekly data for the Wednesday evening practicum.

September 6, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

That evening, the new weekly discussion topic for the students was posted.

September 10, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

That evening, I emailed students who had not logged into the Webcourse to see if there were any issues stopping them from connecting to the Webcourse.

September 12, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

September 13, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

In the early afternoon, I received an email from the clinic director asking I substitute for the instructor on the Thursday evening practicum. The instructor had a family emergency and needed to leave town quickly. I discussed the impact on this study with my dissertation chair, and we concluded as the section was in the comparison group, the impact would be minor. Based on this discussion, I substituted for the instructor that evening. During the time with the class, I was aware to be impact on the study and avoid discussions or directions that would affect counselor self-efficacy or anxiety. In the situations where the constructs would be affected, I deferred to the doctoral student assisting the instructor and let the guidance come from him.

That evening, the new weekly discussion topic for the students was posted.

September 17, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum. I visited the Monday evening practicum to explain the second treatment (the next set of four videos) and answer any questions the students may have.

To announce the second round of videos being available to the students, a flyer was created to alert the students the videos were available via Webcourses and Dropbox to be viewed. The flyer announced the videos, discussed the topics the videos covered and thanked the students for participating in the study.

September 19, 2012

At 11 AM, I collected the data for the Wednesday morning practicum. I visited the Wednesday morning practicum to explain the second treatment (the next set of four videos) and answer any questions the students may have.

At 4 PM, I collected the data for the Wednesday evening practicum. I visited the Wednesday evening practicum to explain the second treatment (the next set of four videos) and answer any questions the students may have. While in the clinic, I inserted a flyer into each of the experimental group's class folders reminding the class of the new videos.

September 20, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

At 12 PM, I posted the four new videos to the Webcourse and alerted the students via email the videos were now available for them. The videos covered the topics of (a) identifying and assessing alcohol abuse and discussing with the client a referral, (b) identifying and assessing child abuse and discussing with the client the process for reporting the suspicion to a state agency, (c) identifying and assessing suicidal ideation and navigating the discussion of hospitalization with the client, (d) overcoming difficult client behaviors during a counseling session.

That evening, the new weekly discussion topic for the students was posted.

September 24, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

An email is sent to all practicum instructors to confirm when the midterm evaluation of skills and competencies would be given to the students.

September 26, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

That afternoon I received a text from another doctoral student also conducting a research study in the clinic that the students who are participating in this research study are deleting the

Dropbox folder because the students are exceeding the maximum space with the newly added videos.

September 27, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

On this day, the instructor for the Thursday evening practicum changed. The original instructor had a family emergency and was not capable of completing the remainder of the semester as the instructor of record. The original instructor was replaced with the Wednesday evening practicum instructor, giving this instructor one practicum in the experimental group and one practicum in the comparison group.

That morning, I sent an email to the practicum instructors in the experimental group alerting them to low participation in their sections and attached the cumulative spreadsheet to compare the participation. I asked for suggestions of how to address this. The Monday evening practicum instructor composed an email and sent it to the students in his section encouraging their participation. The Wednesday evening practicum instructor contacted me and expressed his concern for internal validity if each practicum instructor composed individual statements to their students. I sent the verbiage used by the Monday evening instructors to the remaining experimental group instructors and asked them to send identical emails to their students.

That evening, I posted the new discussion topic for the students. I also composed an email to the students with the same graphs showing usage by practicum in an effort to increase participation.

October 1, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

October 3, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

October 4, 2012

At 4 PM, I collected the data for the Thursday morning practicum.

The Thursday evening practicum was cancelled due to the campus closing for a football game being broadcast on national television.

That evening, I posted the new discussion topic for the students.

October 8, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

In the Monday morning practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the

Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. After leaving the class, I checked all assessments for completing and hand scored the assessments. I scored the assessments and they were triple checked for accuracy. In this section one of the students was late arriving to class, so the distribution of assessments started two minutes late.

October 9, 2012

In the Tuesday morning practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. After leaving the class, I checked all assessments for completing and hand scored the assessments. I scored the assessments and they were triple checked for accuracy.

Later that day, a thank you note was sent to the practicum instructor thanking her for allowing the data to be collected from her Monday and Tuesday morning practicums.

October 10, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

In the Wednesday morning practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation.

Later that day, a thank you note was sent to the practicum instructor thanking her for allowing the data to be collected from her practicum.

October 11, 2012

At 4 PM, I collected the data for the Thursday morning practicum.

In the Thursday evening practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation.

Later that day, a thank you note was sent to the practicum instructor thanking her for allowing the data to be collected from her practicum.

That evening, I posted the new discussion topic for the students.

October 15, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

In the Monday evening practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. During the data collection, the practicum instructor encouraged the students to use the Webcourse that is available to them.

Later that day, a thank you note was sent to the practicum instructor thanking him for allowing the data to be collected from his practicum.

That evening, I checked all assessments for completing and hand scored the assessments for the Wednesday morning, Thursday evening and Monday evening practicums. I scored the assessments and they were triple checked for accuracy.

October 17, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

In the Wednesday evening practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation.

Later that day, a thank you note was sent to the practicum instructor thanking him for allowing the data to be collected from his practicum. At that time the assessments were reviewed for completion when it was realized one student did not complete the second side of the assessment that measured Trait anxiety. As the construct is a continuous construct and not a momentary construct, the student was contacted and met the next day to complete the second page of the assessment. It was determined by the research team that the construct was not situational and the slightly later date for colleting the data would not influence the data collection.

October 18, 2012

At 4 PM, I collected the data for the Thursday morning practicum.

In the Thursday morning practicum, the mid-semester evaluations of competence and skills had been delivered to the students the previous week. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the

center of the table and collected the envelope after the last student completed the evaluation. Immediately after the data was collected, I reviewed the assessments for completion when it was realized two students did not complete one question each on an assessment. The missed questions were measuring State anxiety (at the moment) and Counselor self-efficacy (also at the moment) that needed the participant's impression at the time of data collection. Within a few minutes of leaving the practicum, I revisited the class and asked the students to complete the missed questions.

Later that day, a thank you note was sent to the practicum instructor thanking him for allowing the data to be collected from his practicum.

That evening, I posted the new discussion topic for the students.

October 19, 2012

I composed an email to the instructors of the practicum sections in the experimental group that included the graphs comparing the participation by practicum sections. I asked the instructors if they had any thoughts on increasing participation and any assistance they could provide would be appreciated. I did not receive a response from any of the instructors.

October 20, 2012

I followed the email to the instructors up with a similar email to the practicum students in the experimental group with the same graphs sent to the instructors. In this email I asked the students for feedback if they would be willing to provide it that I could better understand why the participation was decreasing.

The responses I received from the students included: forgetting to check the Webcourse, there isn't enough time to participate with all that is asked of the students, didn't like the Webcourse, feeling processed out, and other things in life became a priority.

October 22, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

October 24, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

October 25, 2012

At 4 PM, I collected the data for the Thursday morning practicum.

October 29, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

That evening, I posted the new discussion topic for the students.

While in Germany at the European Branch of the American Counseling Association annual conference, the instructor of the Thursday morning section shared with me that she had a discussion with her students the previous week that addressed her concerns with their attitudes and behaviors. In the conversation, she stated that she concerned about their openness to feedback, the attitude they were already master counselors, some of the client management skills and their continued lack of participation in the research study.

October 31, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

November 1, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

November 5, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

November 6, 2012

Upon returning to campus, another third year doctoral student met with me to relay some information she received from students participating in the study. She had been approached by

the students who were frustrated with the confrontation within the Thursday evening practicum and asked the doctoral student if I had broken the confidentiality they had in the study. The doctoral student reported that she assuaged the practicum students' concerns and as she further listened to the practicum students vent on the issue, she felt the students were more concerned about the confrontation and less about the confidentiality.

November 7, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

November 8, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

November 9, 2012

I contacted Dr. Mark Young to discuss sending an email to the students participating in the experimental study to reinforce the student's right to confidentiality and to announce a new topic being posted.

November 12, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

I discussed the email further with Dr. Young and we both agreed the email would be helpful. After the conversation I sent an email to the students covering both topics. After sending the email, I did not receive any responses from the students.

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

At 7 PM, I individually emailed all of the practicum instructors to remind them that I would be visiting their practicums during the last class to collect data and to agree on a time that would be convenient for the class and the instructors for the data collection. In each email, I asked for a few minutes before classes began to collect the data. I received a response from all of the instructors except one. I scheduled various times with each instructor to cause the least interruption to the class.

November 15, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

November 19, 2012

At 9 AM, I collected the weekly usage data for all practicums and responded to individual posts.

At 4 PM, I collected the data for the Monday evening practicum.

November 21, 2012

At 11 AM, I collected the data for the Wednesday morning practicum.

At 4 PM, I collected the data for the Wednesday evening practicum.

November 22, 2012

At 11 AM, I collected the data for the Thursday morning practicum.

November 28, 2012

At 10AM, I followed up with the Wednesday afternoon practicum instructor to confirm the time I would be visiting his practicum the following Wednesday, as I had not received a response to my earlier email. At 11, I received an email explaining the instructor had cancelled his practicum the final week of class and asked if I could visit today. I confirmed I would.

At 4 PM, I collected the data for the Wednesday evening practicum.

In the Wednesday evening practicum, the students were seeing clients for the last session and would be completing their paperwork today. The instructor and class decided not to formally meet the final week of class. I visited the practicum for a few minutes before the beginning of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I used the empty classroom next door to check all

assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

Later that day, a thank you note was sent to the practicum instructor thanking him for allowing the data to be collected from his practicum. The assessments were hand scored and checked again for items that were missed by the participants.

That evening an email was sent to all the remaining practicum sessions reminding them that I would be visiting during their last class and alerting the students that I would be collecting the OQ-45 scores for their clients. The email was sent to prepare the class the data would be needed and if possible to make a note of their client's OQ-45 score to save the students the inconvenience of returning to a computer and looking up the scores.

November 29, 2012

In the Thursday morning practicum, the students were seeing clients for the last session and would be completing their paperwork today. The instructor and class decided not to formally meet the final week of class. I visited the practicum for a few minutes before the ending of class to distribute the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I returned to suite 209 to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

Later that day, a thank you note was sent to the practicum instructor thanking her for allowing the data to be collected from her practicum. The assessments were hand scored and checked again for items that were missed by the participants.

December 3, 2012

At 10:25 I arrived at the clinic to prepare for a 10:30 data collection. The clinic staff was running behind schedule and I began to collect data at 10:50. In the Monday morning practicum, the students were meeting for the last class, in which they would (a) complete assessments for three studies, (b) participate in a termination activity with their instructor and (c) complete their paperwork. I visited the practicum at the time stipulated by the clinic director and staff (after the clinic staff collected their assessments and before another doctoral student collected her assessments) during the class to distribute the State-Trait Anxiety Inventory, the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I returned to suite 209 to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

Later that day, a thank you note was sent to the practicum instructor thanking her for allowing the data to be collected from her practicum. The assessments were hand scored and checked again for items that were missed by the participants.

At 4 PM, I arrived for the data collection. The practicum instructor met, had prepared the class for my visit and left to provide the students the space to complete the assessments. While in the class, I distributed the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I used an empty counseling room in the university's counseling clinic to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete. After leaving, I realized when printing the demographic questionnaire, the section asking for Outcome Questionnaire 45.2 scores was omitted. I met with the clinic director and she supplied the missing scores for the participants.

Later that day, a thank you note was sent to the practicum instructor thanking her for allowing the data to be collected from her practicum. The assessments were hand scored and checked again for items that were missed by the participants.

December 4, 2012

At 10:25 I arrived at the clinic to prepare for a 10:30 data collection. In the Tuesday morning practicum, the students were meeting for the last class, in which they would (a) complete assessments for three studies, (b) participate in a termination activity with their instructor and (c) complete their paperwork. I visited the practicum at the time stipulated by the clinic director and staff (after the clinic staff collected their assessments and before another doctoral student collected her assessments) during the class to distribute the State-Trait Anxiety Inventory, the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the

assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I returned to suite 209 to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

At 4:30 PM, I arrived for the data collection. While in the class, I distributed the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I used an empty counseling room in the university's counseling clinic to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

Later that day, a thank you note was sent to both of the practicum instructors thanking them for allowing the data to be collected from her practicum. The assessments were hand scored and checked again for items that were missed by the participants.

December 5, 2012

The Wednesday morning practicum asked to schedule the data assessment at 12:30 to coordinate with the clinic's data collection and best meet the class and student's schedules. I arrived at 12:30 for the data collection. While in the class, I distributed the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the

completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I used an empty counseling room in the university's counseling clinic to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

Later that day, a thank you note was sent to both of the practicum instructors thanking them for allowing the data to be collected from her practicum. The assessments were hand scored and checked again for items that were missed by the participants.

December 6, 2012

The Thursday evening practicum asked to schedule the data assessment at 4:30 to coordinate with the clinic's data collection and best meet the class and student's schedules. I arrived at 4:25 for the data collection, and the collection was running a little behind, I started the collection for this study at 4:35. While in the class, I distributed the State-Trait Anxiety Inventory and the Counselor Self-Efficacy Scale and a demographic questionnaire. I distributed the assessments, read the detailed instructions to the students, instructed the students to place the completed assessments in a 9 x 12 envelope in the center of the table and collected the envelope after the last student completed the evaluation. Immediately after leaving class, I used an empty counseling room in the university's counseling clinic to check all assessments to ensure the students completed each item on each assessment. I found all the assessments were complete.

Later that day, a thank you note was sent to both of the practicum instructors thanking them for allowing the data to be collected from her practicum. The assessments were hand scored and checked again for items that were missed by the participants.

APPENDIX F: WEB COURSE DISCUSSIONS

Discussion 1

Topic: Welcome

How was your first day of practicum this semester? Thinking forward to next week, are there any ways you can prepare to keep yourself calm and collected in a hectic environment? For those in their second semester of practicum, are there any tips or hints you found helpful in better navigating the long practicum day that you would be willing to share?

Discussion 2

Topic: Competence/Skills

Congratulations! This first week is behind you. Whether this is your first semester of practicum or your second, there is always a little anxiety when seeing a client for the first time, or even after a long break. Looking back on the last session, was there something you said or did that worked well this week? Did you hear something in class or from another student that was useful? Is there something you be willing to share? Is there something you would like to improve for your next session? Often, other students are experiencing the same challenge and you may be helping others by posting the challenge.

Discussion 3

Topic: Competence/Skills

It is great to see the synergy the discussion board is building. The suggestions about better ways to organize and itemize a week by week breakdown of practicum is a great idea and one that will be passed along to Dr. Hagedorn and Dr. Hundley, if that is ok with you all.

Thoughts? It sounds like there is a balance between the counseling skills needed during the session, client management skills and clerical skills to get through a week of practicum. Practicum is a class that asks for a lot from you, you have more time, energy and awareness needed than in any other class so far and it can be pretty draining. To help combat some of that, is anyone having a challenging situation working with a client that might benefit from the group's suggestions on ways to handle it? What is most challenging for you right now? Any suggestions for managing the paperwork and a 50 minute session? Is there anything that is working for you that might help others?

Discussion 4

Topic: Client Relations

We are a couple of weeks into the semester and you've had several sessions with your clients over the past few weeks. What have you found worked well for you? Is there a moment where you thought, "I really like doing this and I might be pretty good at it"? Was there a moment with the client where you thought the rapport could go either way? Have you done something that strengthened the relationship you have with your client that you would be willing to share with the rest of us. Counseling is in an interesting process. It doesn't matter if a counselor has one day's experience or 35 years; there is always something new that can be learned from the counselors around him or her.

Discussion 5

Topic: Effectiveness

How do you know counseling is effective? In the counseling process, there comes moments where you may wonder or even know the client is stuck or isn't willing to go any further. You may be meeting with the client week after week, talking about the same issues and the client seems exactly where they were on the first day (or even worse) and you're feeling frustrated counseling isn't helping the client. If you feel or experience any of these, how do you know what you're doing is working?

Discussion 6

Topic: Evaluation

We are halfway through the semester! Congratulations on reaching this milestone! You've worked with clients for a few weeks, you've built therapeutic rapport, you've developed treatment plans and now you're in the working phase. And now, the CCS comes along and you realize someone is looking at your counseling skills to give you feedback. With that comes the knowledge someone is watching you. How do you feel about that? Do you feel its necessary? What is the benefit? As we teach our clients, there is a positive and negative to every action, so what are the negatives? Where are you now that we are approaching this mid point?

Discussion 7: Suicide

Topic: Efficacy/Skills

The topic of suicide is a major concern for most counselors. But as new counselors, there is another layer, that of wondering how we would know if our client was suicidal and what to do with them if they were. How would you know if a client was suicidal? Sometimes, clients can

be on the border of us wanting to hospitalize them. Where is your line? When would you hospitalize and when would you wait another week to see how your client is doing?

Discussion 8

Topic: Competence/Skills

You have been assigned a client in practicum who is a 25-year-old male presenting with a desire to learn better coping skills. In the first few sessions you learn he is a server in a restaurant/bar and experiencing relationship problems. His girlfriend insisted he gets counseling as a last resort before ending their relationship. He tells you in the last year he mother died of a drug overdose and his twin brother was killed in an auto accident. He also tells you he has moments where he is sad, but has dealt with the loss fairly well. He reports his girlfriend is upset because of his drinking, so you use a CAGE to assess for abuse and determine he is abusing alcohol. The client tells you he feels like you're the only person he can talk to and he feels like his situation is improving. You discuss this client in group supervision and some students and your supervisor think you should terminate with the client and refer him for treatment for the alcohol abuse. What would you do and why?

Discussion 9

Topics: Termination and Competence/Skills

Now that we are reaching the end of the semester and you've had some clients since the beginning of the semester and some you may have only had for a few weeks, you have been dealing with termination. Some clients may have terminated early; some may not have shown up

for their last appointment. Any thoughts on termination? Was there an activity that worked well? Is there a termination activity you can recommend to other counselors?

APPENDIX G: OVERVIEW OF VIDEOS

***Video one*:** **First session (clinician skills)**

Setting: The scene started with the doorbell ringing in the Master control room, the counselor (Lamerial) moved to the lobby, met the client (Dodie), then both the counselor and client transitioned to the counseling room. The purpose of the video was modeling the mechanics of the first session by an experienced counselor.

Control room: counselor getting the ready for the first session

Counseling room: The counselor setting the scene. The counselor arranged the furniture and turned on/off lights to create therapeutic environment.

Lobby: The counselor introduced herself to the client and invited the client back to a counseling room. During the transition the counselor made small talk about parking or explaining the clinic.

Counseling room: The counselor's goal was to join with the client and begin establishing therapeutic rapport. The areas covered were:

1. Where to sit
2. Confidentiality
3. Cameras/Student
4. Explain policy for missing a session and contacting the counselor.
5. Only works one day a week
6. Explain how counseling works
7. Parent in the room modeling what it would be like to talk with parent and child first

***Video two*:** **Setting goals (counseling)**

Setting: This video contained three scenes that occur in the (a) the counseling room, (b) the control room and (c) the counseling room. The first scene was set in the counseling room for the interactions between the counselor and the client, the second scene was set in the counseling room and showed the counselor at a white board collaborating with the client , and the third scene is also in the counseling room for the delivery of the treatment plan. The segments used voice overs to explain any additional information on how to write a treatment plan.

Counseling room: The scene starts with the counselor and the client discussing what the client would like to accomplish in counseling (Goal setting).

Counseling room: The counselor went to the white board in the counseling room and collaborated with the client on determining goals, objectives and interventions. The process was conversational and collaborative to show successful treatment outcomes involve the agreement between the counselor and client in developing the treatment plan.

Counseling room: The counselor is with the same client and delivered the treatment plan. The approach of the counselor is collaborative and seeks the client's acceptance of the goals and objectives.

***Video three*:** **First session with a minor (counseling)**

Setting: In a counseling room, the video was shot over the shoulder of the client and the client's child under the age of 18. An actual child did not appear in the video. The video inferred the child was present but did not show the minor in the segment. The video was similar to the first video however the information was adjusted to be age appropriate. The counselor discussed the limits of confidentiality, the process of the counselor working with the minor, the benefit of the counselor maintaining the minor's confidential information between the counselor and client to preserve the therapeutic relationship.

***Video four*:** **Counselor is stuck (counseling)**

Setting: In a counseling room, the video was shot over the shoulder of the client. The counselor said "does that sound right?" and the client responded with a "yes". The counselor stared ahead blankly with the sound of a ticking clock in the background. After this there will be a voice over that explains there are several directions the counselor could go in from this point.

Reflection: Video from LAH will show a reflection

Summarization: A video from LAH will be used (Linda Robertson)

Using "I" statements: A video from LAH (Dr. Jones)

Open-ended question: The counselor will rephrase the closed-ended question with an open-ended question.

Stepping out to consult: The counselor will tell the client he/she is stepping out to consult with a supervisor

(Treatment II)

Video five: Alcohol use and abuse

Setting: This video was filmed with the counselor and client in a counseling room.

Awareness: The counselor became aware when talking to the client there were indications of alcohol use and abuse.

Confrontation: The counselor used the CAGE to assess and determines the client is abusing alcohol. The counselor explained the assessment to the client and interprets the results.

Result: The counselor presented the treatment options for the client (in and out patient hospitalization) and the benefits of both options. The client concluded with

supporting her belief a problem existed and committed to seeking treatment. The counselor committed to following up on the client.

Video six: Child abuse (counseling)

Setting: The scene was filmed in the counseling room with a counselor and a client.

Suspicion of child abuse or neglect: In this scene the counselor was working with a mother who expresses a concern about her child being abused. The counselor asks a series of questions to assess for abuse.

Investigation: the counselor explained that based on what the client divulged the counselor would have to contact the authorities to investigate the situation. The counselor explains the benefits of the investigation and the client can see the benefit.

Result: The client stated she harbored a fear that something may be occurring. The client asked questions about what would happen next. The counselor explained the process to the client and answered any questions.

Video seven: Assessing suicidality (counseling)

Setting: The scene was filmed in the counseling room with a counselor and a client.

Suspicion of suicidality: In this scene, the client made a statement that hinted at thoughts of suicide. The counselor used the SLAP that assessed for suicide and determined the threat of suicide is imminent.

Investigation: the counselor explained that based on what the client divulged the counselor had to contact the authorities and involuntarily commit the client. The counselor explains how the process can help the client and the client agrees the benefits will be worthwhile.

Result: The client stated she recognized she was in a lonely and dangerous place. Also, that although she doesn't want to be hospitalized, she appreciated the counselor looking out for her best interest.

<u>Video seven:</u> difficult therapeutic behaviors (counseling)

Setting: The counselor and client were meeting in a counseling room when the counselor notices behaviors that the interrupt the therapeutic process. The counselor points the behaviors out to the client who admits she has heard the same comment from other people.

Difficult behaviors:

- Storytelling
- The client not doing homework between sessions.

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