REFLECTION AS A TOOL TO ENHANCE CRITICAL THINKING DURING THE NURSING PRECEPTORSHIP EXPERIENCE

by

LINDA SUE ROSE

MARIETTA P. STANTON, COMMITTEE CHAIR
LINDA DUNN
SUSAN GASKINS
RICK HOUSER
CECIL ROBINSON

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ABSTRACT

Critical thinking ability is required for safe nursing practice and nursing scholars agree that nursing students must learn critical thinking skills, however a consensus of how to best teach critical thinking is not readily available from the literature. Additionally, the need to assess and measure critical thinking skills is clear but research on methods of achieving this mandate is limited. The aim of this research study is to test the impact of an intervention applied during the preceptorship experience. The Health Science Reasoning Test (HSRT), a type of California Critical Thinking Skills Test (CCTST); was administered to two groups of nursing students from difference college enrolled in a NUR Preceptorship course. Following the administration of the HSRT the experimental group received the intervention of directions on journaling of response to clinical events; the control group did not receive an intervention. The HSRT was administered again to both groups at the completion of the preceptorship experience and the scores analyzed to determine the impact of the intervention. Specifically, the purpose was to determine if the use of guided reflective journaling resulted in a statically significant difference in scores on a test of critical thinking.
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CHAPTER I:
INTRODUCTION

Background and Significance

In 2003, the American Association of Colleges of Nursing (AACN) endorsed the use of preceptorship models as innovative means to provide students with quality clinical experiences. At that time, preceptorship programs were thought to be beneficial to students during the transition from nursing student to staff nurse in that they provided real-world experience while maintaining the student-learner role (Udlis, 2008). Udlis deduced from this that the preceptorship experience ought to produce more clinically competent, critically thinking, and professionally-prepared graduate nurses by allowing for more individualized attention from the preceptor.

Further, the National League for Nursing (NLN) (2003) has identified critical thinking as an essential component of baccalaureate nursing education. In the article named *Innovation in Nursing: A Call to Reform*, the NLN calls for a worldwide transition from didactic education to more nontraditional education (Brown, Kirkpatrick, Matthias, & Swanson, 2009) in order to equip graduates with critical thinking skills. Shin, Jung, Shin, and Kim (2006) proclaimed that “nurses need creativity and critical thinking skills to make the decisions required of them in their nursing practice” (p. 233).

Acquisition of critical thinking skills is now an expected outcome of nursing education programs. Forneris and Peden-McAlpine (2007) stated that

The literature suggests that nursing practice and patient outcomes are improved by nurses’ critical thinking. This has implications for practice of novice nurses as it highlights their need for support in the clinical setting to incorporate critical thinking along with clinical skills acquisition. (p. 410)
Del Bueno (2005) identified problems with new nurses translating knowledge and theory into practice even though the majority of the nurses were well versed in content. In fact, Del Bueno (2005) found that only 35% of new registered nurses graduate, regardless of educational preparation and credentials, meet entry expectations for clinical judgment. Del Bueno concluded that the probable cause of new registered nurses displaying limited ability in the area of clinical judgment and critical thinking is related to the faculty’s emphasis on teaching more and more content in the nursing curricula rather than a focus on the use of or application of knowledge (p. 281). The clinical preceptorship course would be the ideal learning environment for the focus to be placed on the application of knowledge, the refinement of clinical skills and the measurement of critical thinking skills. This researcher, as a result of this study, made a determination about the relationship of acquisition of critical thinking skills and the preceptorship experience.

Although numerous studies have been conducted to examine the role of preceptorship in staff nurse development within the context of nursing education, few researchers have specifically examined the influence of the preceptorship experience on the development of critical thinking skills in the Associate Degree Nursing Education programs. The purpose of this research study was to discover the impact of reflective journaling as a strategy to improve the critical thinking skills of nursing students in the Associate Degree Nursing Education Program. Specifically, the study’s purpose is to determine if the use of guided reflective journaling during a clinical learning experience and following a decisive clinical event will result in an increase in scores on a test of critical thinking of students in an associate degree nursing program.

**Theoretical Framework**

A critical social theory-based movement in education highlights the relationship between social systems and people, demonstrates how they produce each other and, ultimately, shows
how critical social theory can contribute to the emancipation of both. The foundation of critical social theory is its implicit goal of advancing the emancipatory function of knowledge (Leonardo, 2004). Critical social theory can be useful in the development of the preceptorship experience to improve the quality of nursing education by empowering students to question, seek information, reflect, and criticize. Preceptorship experiences can be transformed into powerful learning experiences when the teacher awakens awareness in the student. In order to awaken student awareness, the teacher must create a learning environment that possesses a milieu of freedom and give greater than usual prominence to educational experiences in which personal involvement is magnified and intensified (Shovein, Huston, Fox, & Damazo, 2005). Critical social theory can serve as the basis for this empowering transformation in nursing education. The student must feel empowered to seek to learn critical thinking skills from the preceptor and the preceptor must remove all constraints to student learning by creating a learning environment of success. This learning environment allows for emancipation of the learner so that critical thinking skills can develop.

Critical social theory has as its most influential theorist Paulo Freire whose name has become synonymous with the very concept and practice of critical pedagogy (Leonardo, 2004). Freire (1987) talks about the fallacy of looking at the educational system like a bank—a large repository where students come to withdraw the knowledge they need for life. Freire refers to this view of education as the “banking system.” The teacher makes deposits and the students make withdrawals from the “banking system.” The teacher bestows a gift of knowledge upon the inferior learner. Freire did not believe that knowledge was a commodity passed from the teachers to the students, but rather that students must construct knowledge from knowledge they already possess. Teachers must learn how students understand the world so that the teacher
understands how students can learn. Teaching, according to Freire (1987), cannot simply be the transfer of information from the teacher to the learner. After gaining knowledge, the learner must shape it through understanding, discussion, and reflection. According to Freire, education in the last thirty years has been suffering from “narration sickness.” Narration, Freire has argued, treats reality as information and static facts divorced from the existential experience of the learner (Shovein, Huston, Fox, & Damazo, 2005). With narration, students are empty vessels waiting for the teacher to pour out needed information in order to memorize it and give it back to the teacher. Real learning cannot take place in such an oppressive environment. The student must be free to learn. Knowledge must emancipate and allow the learner to continue to question, inquire, and learn.

The traditional student-teacher role has students seeking knowledge and understanding from the authority figure: the teacher. In the preceptor/student relationship, the preceptor becomes the teacher by virtue of being the knowledge expert, the leader, the authority, and the most experienced person in the relationship. The student becomes the trainee and the preceptor becomes the trainer. Happell (2009) defined preceptorship as a “strategy to maximize the benefits of clinical nursing education in terms of knowledge and skill acquisition, confidence, and professional socialization” (p. 372). As with traditional nursing education approaches, this definition supports an underlying philosophy that rigidly enforces the paradigm of subservient student and all-knowing teacher. In such a relationship student creativity is repressed, questions are discouraged, and inquiry is limited to what the preceptor believes the student needs to know about nursing and patient care. Ullrich and Haffer (2009) have described the preceptor as facilitator, teacher, resource person, and evaluator. This traditional view of the role has resulted
in limiting knowledge-seeking behavior for the student and has reinforced a “carrying on of traditional” type of learning environment.

**Definitions**

Critical thinking is defined by Myrick (2002) as a “nonlinear, recursive process in which a person forms a judgment about what to believe or what to do in a given context” (p. 155). This implies that critical thinking does not support the kind of decision making that allow the nurse to place facts into a standard formula that can be applied to any clinical situation to determine correct action. In fact, this definition implies that rational, sensible, intelligent, and reflective thought must be applied to each situation before a course of action can be determined. Schön (1991) has described critical thinking as “a process of thinking to understand the many complexities of context to determine what is meaningful and relevant” (p. 96). This concept of critical thinking is especially germane to the profession of nursing because of the need of the nurse to consider the whole person: to look at every aspect of the person and the meaning and relevant of all behaviors, symptoms, and signs. Nursing uses critical thinking as a tool to address problems and situations that alter a person’s ability to function at his highest level; therefore, the determination of meaning and relevant of information must be made before problem solving can occur. The nursing process was the tool to help the nurse with problem solving and critical thinking; this is no longer adequate for the nursing role of today. As Forneris and Peden-McAlpine’s (2007) definition has pointed out, reflection is a key mechanism in the process of critical thinking and problem solving. Critical thinking as defined by these scholars is “a process of reflective thinking that goes beyond logical reasoning to evaluate the rationality and justification for action within context” (p. 411). Further, this definition implies that critical thinking involves decision making and judgment based upon knowledge, experience, and belief.
To a greater extent, the definition suggests that sound and rational reasoning precedes action and that it is possible to justify such actions. Thinking in the clinical setting differs from thinking in the structured classroom learning setting as real world problems provide unique complexities that do not present themselves in structured formats (Forneris & Peden-McAlpine, 2007). Therefore critical thinking skills must be acquired, developed, and strengthened in the context of the clinical setting. Kozier, Erb, Berman, and Snyder (2004) have suggested that critical thinking involves “decisions about actions based on observations, experiences, reflection, reasoning, or communication, as a guide to belief and action” (p. 245). Critical thinking, in this context, is a problem-solving tool that uses information to discover pathways, figure out solutions, make decisions and guide nursing actions. Critical thinking enables problem solving and better decision making by allowing the nurse to recognize important cues, respond quickly and adapt interventions to meet specific client needs (Kozier, 2004).

*The Delphi Report* (Facione & Facione, 1990) offers the most comprehensive and widely used definition of critical thinking available to date. Other theorists (Paul, 1992; Ennis & Millmam, 1985; Beyer, 1995) have developed definitions that are feasible but the construct developed by the information available in *The Delphi Report* served as the navigator for this study. The report proclaimed that

We understand critical thinking (CT) to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. Critical thinking is essential as a tool of inquiry, as such; critical thinking is a liberating force in education and a powerful resource in one’s personal and civic life. (Facione, 1990, p. 2)

This is the definition adopted by the researcher and is commonly used in the literature as the definitive definition for this concept. *The Delphi Report’s definition* implies a dynamic, evolutionary view that is continually subject to change (Turner, 2005) and that allows freedom to
explore meaning and relevance of information. With increasing use, “critical thinking has developed many surrogate terms that are often used interchangeably in the literature---decision making, problem solving, clinical reasoning and nursing process are examples” (Turner, 2005, p. 22). The two terms, critical thinking and clinical judgment, have much in common when used in nursing. Although used interchangeably, critical thinking required the development of clinical judgment before it can be fully useful as a tool for clinical decision making. For this study, the term critical thinking was used to indicate the goal of reasonable reflective thinking of a higher order, a domain-specific process of cognitive activity that determines action and thinking about the process of thinking (Turner, 2005).

Clinical judgment is a conclusion about a patient’s needs, concerns, or health problems and the decision to take action or not to take action (Moyer & Wittmann, 2008). In order to use good clinical judgment, empiric, aesthetic, ethical, and practical knowledge must be used to make generalizations and application to many situations. The application of knowledge to the real-world situation allows the learner to see the beauty of learning as well as possible ethical dilemmas before taking action. Moyer and Wittmann (2008) best described the relationship between clinical judgment and critical thinking. They express clinical judgment as a prerequisite to critical thinking, in other words “clinical judgment requires a disposition for critical thinking” (p. 43). Clinical judgment calls for assessment, evaluation, appraisal and estimation of all the information available before a decision can be made. The preceptorship experience offers the learner opportunities to assess patient needs and make decisions about actions to take based on those needs. Clinical judgment is required for critical thinking to develop. Smart nurses are effective nurses when they think critically. Nursing is a practice art that requires the use of knowledge within a specific set of circumstances (Del Bueno, 2005); the preceptorship
experience offers nursing students the opportunity to gain reasoning skills, sound clinical judgment and critical thinking skills.

Ullrich and Haffer (2009) used the term “preceptorship” to refer to an educational relationship in which an experienced and skilled professional provides knowledge, skills, support, and encouragement to nursing students in order to enhance their understanding of and level of comfort with the nursing profession. Preceptorship experiences have been used for many years in nursing education as a way to boost recruitment and to help new graduates successfully navigate the dilemmas found in the real world of nursing (Ullrich & Haffer, 2009). Using the preceptorship model, students could experience the real world of nursing without taking on the responsibilities for decision making that they are not yet ready to face. This would give the student the freedom and opportunity to learn, reflect, question, and seek explanations without fear of failure or of causing harm. The relationship is intended to assist students to acquire skills and knowledge, to enhance their confidence, and to achieve socialization (Happell, 2009). Preceptorships are invaluable for nursing education in that they help students to perfect patient care skills and become confident. Furthermore, preceptorships have been shown to be effective in bridging the theory-practice gap in the development of ongoing quality improvement in nursing education and practice and reducing the reality shock of new graduates upon entering the nursing workforce (Kaviani & Stillwell, 2000). The preceptorship experience is the real world experience that could enhance the acquisition of and use of critical thinking skills through the use of reflective journal writing.

Preceptorship programs offer an excellent opportunity for reality-based and skill-oriented learning experiences and are useful for familiarizing new nurses with the clinical settings, hospital policies, procedures, and routines (Hyrkas & Shoemaker, 2007). Ideally, the
preceptorship experience should teach critical thinking skills and increase the critical thinking ability of the student, but little evidence exists that demonstrates how critical thinking is being fostered in the preceptor/student relationship (Myrick, 2002). In fact, there is little research regarding the role of the preceptorship in promoting critical thinking skills. Mangena and Chabeli (2005) identified learning activities that enhance critical thinking in the nursing classrooms but few studies have addressed the acquisition of critical thinking skills during the preceptorship experience.

Opportunity to “put it all together” before stepping into the real world of staff nurse has been one of the positive aspects of the preceptorship experience. Additionally, the preceptorship experience has been used for years in nursing as a method of recruitment, socialization, and tutoring (Happell, 2009). Ullrich and Haffer (2009) have described the precepted experience of the nursing student as one working one-to-one with a more experienced practicing nurse” and being “exposed to the culture of the agency and the unit along with real-world professional roles and practices of the preceptor, self and others. (p. ix)

Much has been gained in the clinical setting through the preceptorship experience, but little evidence exists that validates its impact on critical thinking skills. In a study done by Udlis (2008), it was surmised that preceptorship experiences failed to demonstrate significant benefits over traditional clinical experience in the areas of critical thinking and clinical competence.

Funk and Wagnall (1984) defined reflection as “meditation; thoughtful consideration, to manifest as a result of influence, imitation” (p. 558). Today’s nursing education programs seek “to move beyond rote, passive learning and produce self-directed critical thinkers” (Wright, Powers, Ali, 2007, p. 20). According Schön (1991), reflection involves looking to our experiences, connecting with our feelings, and attending to our theories in use. It entails building new understandings to inform our actions in the situation that is unfolding. Using reflection as a
tool to examine experiences and to relate and connect feelings can help individuals to experience deeper learning. The preceptorship clinical learning experience during the final semester of an associate degree nursing program would be an ideal time to use the narrative pedagogy of journaling or reflective writing. Blake (2005) identified “a number of studies (Fakude & Bruce, 2003; Callister, 1993; Butts & Lundy, 2002) in the literature that support reflective practice as a method of enhancing critical thinking and judgment-making in complex and uncertain situations” (p. 5).

“Reflection or metacognition - thinking about the process of learning and thinking about knowledge” (Sawyer, 2006, p. 12) is a tool that can be used during the preceptorship experience for nursing students “to look back on their performance in a situation and compare their performance to other performances such as their own previous performance or to that of an expert” (Sawyer, 2006, p. 57). The student can use the real life situations (clinical preceptorship) to enhance their ability to critically think. Schön (1991) proclaimed this as a method of uncovering hidden realities or reflective thinking. According to Sawyer (2006), reflection is articulation that promotes better learning. Guided reflective journaling is articulation of developing understanding, which leads to deeper understanding or metacognition. Reflective journaling will take the learner beyond the mere knowledge domain to the level of expert performance (Sawyer, 2006). Reflective thought is a key element in developing the ability to think critically (Riddell, 2007). Various strategies have been introduced in nursing education to move students beyond rote learning. These strategies include interactive computer activities, sharing of clinical experiences in post conference, blogging (Banning, 2006) concept mapping (Irvine, 1995), think-a-loud seminars (Lee & Ryans-Wenger, 1977), structured note taking (Elliott, 1966) and simulation techniques (Wong & Chung, 2002). Guided reflective journaling is
a strategy that has the potential to enhance critical thinking during the nursing preceptorship experience because it is real-life, non simulation, hands-on experience. Lasater and Nielson (2009) used the Lasater Clinical Judgment Rubric based on Tanner’s Clinical Judgment Model as a guide for reflection in a study they conducted. Lasater’s Clinical Judgment Rubric was used in this study to guide the experimental group in daily journaling. Their study concluded that valuable learning, improved evaluation of clinical thinking and enhanced communication about clinical judgment development were the outcomes when a reflective guide and developmental rubric, rooted in an evidence-based conceptual framework, were used.

Critical thinking, as discussed by Riddell (2007), requires an explanation rather than a definition. Critical decision-making, critical analysis, critical awareness, critical reflection and clinical reasoning are elements of the critical thinking process that leads to making clinical judgments. Clinical judgment is a component of critical thinking that involves constant change, interrelations, and feedback loops, beginning with the understanding that the nurse’s background and the context of the situation will influence everything else (Nielson, Stragnell, & Jester, 2007).

**Problem Statement**

Preceptorship experiences are used in the associate degree nursing education programs to offer senior level students opportunities to work alongside experienced, knowledgeable nurses in order to better prepare such students for the role of the registered nurse. No evidence exists that preceptorship experiences result in student acquisition or development of critical thinking skills. A study was needed to identify strategies that would enhance the development of critical thinking skills during the preceptorship experience in the associate degree nursing program.
Purpose of the Study

The purpose of this study was to test the strategy of guided narrative reflective journaling to determine if students who use reflective journaling would have an increase in scores on a California Critical Thinking Skills Test (CCTST) as compared with students who do not use reflective journaling during the preceptorship experience. Specifically, the purpose was to determine if there was a significant relationship between critical thinking skills and guided narrative reflective journaling during the preceptorship experience.

Significance of the Study

Two significant occurrences have prompted an increase in the use of preceptorship experiences: a shortage in nursing faculty and a shortage of professional nurses (Ullrich & Haffer, 2009). The nursing shortage is expected to escalate as society ages and the demand for quality health care intensifies. It is estimated that over 1.2 million new and replacement registered nurses will be needed by 2014. This translates into a registered nurse (RN) vacancy rate of 8.5% (Mancuso-Murphy, 2007). It was predicted by Hayes and Scott (2007) that “a vacancy rate for RNs in the health care arena to average fourteen percent nationwide and to rise to twenty percent by 2010” (p. 27). Although the outcome was better than expected, the shortage is still severe and is expected to continue for some time. Aiken, Clark, Cheung, Sloane, and Silber (2003) found that nurses, particularly those working in hospitals, were dissatisfied with their work (41%) and an inordinate number, particularly young nurses (30%) planned on leaving their jobs. Recent patterns have shown that young male students have shown an increased interest in nursing as a profession whereas in the past, males tended to pursue nursing as a stepping-stone to Nurse Anesthesia School. Additionally, the re-education of older workers from other industries such as the automobile producing industry has caused the shortage to be less
severe than anticipated. These situations have helped, but the need for more highly skilled nurses has not diminished and, therefore, the nursing shortage persists.

Preceptorship activities have provided valuable learning experiences for students during the last semester of clinical nursing courses and have been a positive force in the orientation of newly hired registered nurses in the clinical setting (Finger & Pape, 2002). This type of learning experience is also important to nursing because it is a method frequently used in nursing schools to introduce students to the real world of nursing. Hospitals use preceptorship courses to provide orientation for novice nurses; a positive orientation and nurse retention have a direct relationship (Udlis, 2008). It is imperative to know if the preceptorship experience influences the acquisition of critical thinking skills. Clinical preceptorships provide the critical link between theoretical and practical knowledge (Myrick & Yonge, 2004) and can serve as a valuable tool in student learning to improve evaluation of clinical thinking and enhance communication about clinical thinking judgment (Lasater & Neilson, 2009). Nevertheless, it is not known how or if preceptorship experiences build nursing students’ critical thinking skills. According to Myrick (2002), there is no evidence to support the idea that preceptorship provides students with the opportunity to develop their critical thinking ability. Even more striking is the lack of research regarding the role of preceptorship in promoting critical thinking (Myrick, 2002).

Because so few studies have been done on the topic of preceptorship and critical thinking skills for associate's degree-seeking nursing students, this study provides a major contribution to the literature and to nursing education. Confirmation that students have acquired critical thinking skills during the intense clinical concentration period enables faculty to outline strategies for students and preceptors to follow in order to assure full participation and execution
of all steps of the process. Students would then gain the beginning critical thinking skills necessary for safe and efficient patient care.

**Research Question**

Does guided narrative reflective journaling during the nursing preceptorship experience result in an increase in nursing students’ critical thinking skills as indicated by an increase in scores on the Health Science Reasoning Test (HSRT)?

**Summary**

The need for nursing students to possess critical thinking skills upon graduation and before entering the workforce is imperative. Preceptorship experiences can be useful in providing opportunities for the development of critical thinking skills. This study examined the impact of journaling on critical thinking skills during the clinical preceptorship experience in the final semester of associate degree nursing education. Because so few studies have been done on the topic of preceptorship and critical thinking skills for associate degree-seeking nursing students, the completion of this study would provide a major contribution to the literature.
CHAPTER II:
REVIEW OF LITERATURE

A review of nursing and education literature was conducted using ProQuest for Nursing and Allied Health, Academic One File, Google Search, Expanded Academic ASAP PDF view and EBSCOhost through the University of Alabama Library system. Primary studies were found that directly addressed the problem of preceptorship and/or critical thinking in nursing. There were two older studies done by Myrick and Yonge (2001) and Myrick (2002). The subjects for these studies were baccalaureate nursing students, and both studies used a grounded theory approach. Climate factors emerged as the most influential factors affecting the development of critical thinking in the baccalaureate nursing student according to Myrick and Yonge. Simpson and Courtney (2007) published a study on guiding critical thinking through reflective journaling among Middle Eastern nurses. The purpose of their study was to “present a framework to guide critical thinking through reflective journaling and to describe how a group of nurses used reflective journaling to enhance practice” (p. 203). This was a study found in the literature search that looked directly at reflective journaling to enhance critical thinking in nursing students. This study proved to be interesting and could be replicated to support the findings. Duphorne and Gunawardena conducted a study that examined the Effect of Three Computer Conferring Designs on Critical Thinking Skills of Nursing Students. This study was also interesting and valuable in “supporting the efficacy of computer conferencing in developing learners’ critical thinking by making conscious use of cognitive strategies such as reflective thinking, problem solving, and examining others’ thinking as well as their own” (Duphorne & Gunawardena, 2005, p. 39).
Another study that explored strategies to promote critical thinking among nursing students was done by Twibell, Ryan, and Hermiz (2005). Four strategies were identified in this study as effective to promote critical thinking in nursing students by faculty. These strategies included questioning, written assignments, clinical conferences and student journal writing. The authors added that “evidence of critical thinking may be missing from journal entries, and strict guidelines may help strengthen critical thinking” (Twibell, Ryan & Hermiz, 2005, p. 78). The above-mentioned study indicated that journal writing could be an effective narrative pedagogy if guides were established that help the student achieve the maximum benefit from journal writing. Tanner’s Clinical Judgment Model (2006, p. 208) was used as the guide to journaling in this study as part of the intervention.

Even though there has been an increase in the number of studies done on the preceptorship experience for nursing students in the baccalaureate program, no studies were found that addressed critical thinking skills of the associate’s degree nursing student during the preceptorship experiences. This gap in the research persists despite scholars such as Sorensen and Yankech (2006) proclaiming that “professional practicing nurses need critical thinking skills to be competent, safe, and skillful providers of care” (p. 209). Many studies focused on preceptorship for novice nurses in clinical units during orientation to the role of registered nurse after completion of nursing school or as a newcomer to a hospital or hospital unit. There is a need for studies that will explore strategies that will promote critical thinking during the preceptorship phase of the nursing curriculum in an associate degree program. Magana and Chabeli’s study (2005) offered suggestions on teacher activities to use in the classroom that facilitated critical thinking and activities that serve as an obstacle to critical thinking for the graduate nurses once they have received a good foundation in nursing knowledge and clinical
experience. The activities suggested by these researchers to teachers to facilitate critical thinking include “seating arrangement to facilitate group dialectic and dialogic interaction, encourage students to ask questions and challenge issues and giving students’ thought-provoking learning task” (Magana & Chabeli, 2005, p. 294). This study did not examine the preceptorship experience as a tool to enhance critical thinking in the associate degree nursing student nor did it include the variable of reflective journal writing. A study by Dickerson (2005) focused on activities to foster critical thinking after completion of nursing school. Dickerson has suggested that the nurse educator apply eight strategies to strengthen their ability to nurture critical thinkers. These eight strategies include 1) assessing their own skills; 2) reflecting about teaching style; 3) possessing the willingness to change; 4) giving themselves the title of “facilitator” instead of teacher as they introduce the concept of critical thinking at the beginning of the learning experience; 5) preparing in a different manner for the student learning experience by using creative teaching tools and resources; 6) remaining open to questions, challenges, and periodic feedback; 7) allowing the learner to reflect; and finally, 8) learning continually. This was among the few studies found to offer strategies to faculty that would improve teaching of critical thinking skills and nurturing the critical thinker. This study provided valuable and helpful information but, like other studies, it did not address the associate degree nursing students’ need to acquire and develop critical thinking skills before graduation.

**Reflective Journaling**

Topics that need further research on preceptorship and critical thinking are the critical thinking skills of the preceptors, the preparation of the preceptors for teaching critical thinking skills, the time needed by the preceptors to teach critical thinking skills to the students during the preceptor experience, and the use of reflective journaling as a tool to increase critical thinking
skills for the associate degree nursing student. The literature search focused on research associated with the use of reflective journaling and critical thinking, associated degree nursing programs and the use of preceptorship as a method of acquiring critical thinking skills. The literature search also revealed information on the positive use of journaling in nursing. Charles’ (2010) stance on the use of reflection in nursing education is that it has proven to be valuable in “helping individuals discover themselves” and to “discover their own identity, their right place in the scheme of the universe” (p. 181). By using the pages to create a place to dump our unhappiness and worries, we enable ourselves to create new space to tune in to our inner creative voices. Reflective journaling has multiple outcomes, according to Blake (2005), including discovering meaning in discrete events, making connections between experiences and classroom learning, instilling the values of the profession, gaining perspective, developing critical thinking, developing problem solving skills, developing affective skills, improving writing skills, and caring for self. Charles (2010), who endorses nurses caring for themselves, has suggested journaling as a “means of caring for oneself as well as creating a heightened sense of responsibility in caring for others” (p. 181). This is one of the many positive outcomes of journaling for nursing. Other positive outcomes of journaling include empowering, validation and clarification of meaning in care experiences (Lauterbach & Hentz, 2005), journaling’s role in the movement of physician assistant students beyond rote, passive learning, and the production of self-directed critical thinkers (Wright, Powers, & Ali, 2007), increased students’ confidence in justifying actions and supports decision making in their professional role (Langley & Brown, 2010), and finally, focused reflection as a method of promoting the development of clinical reasoning (Murphy, 2004).
Freed and Horn (2008) conducted a research study to examine the use of writing to increase reflection and problem solving in the clinical setting when students were paired with other students based on critical thinking ability. The finding of this study was in support of dialogue and journaling in the construction of knowledge. Journaling is a pedagogy that has a positive impact on nursing education in that it helps to connect theory content and clinical learning experiences and helps the learner to focus on self and responsibility towards others.

Journaling has been recognized as a valuable tool in the preceptorship experience because it allows faculty an opportunity to understand and evaluate student’s clinical thinking (Lasater & Nielson, 2009). As Nielson, Stragnell, and Jester (2007) emphasized in their study project, journaling is valuable and widely used in nursing education to facilitate learning, but students need guidance in reflective journaling in order to improve the quality of learning description. Nielson, Stragnell and Jester’s study project was conducted out of concern about the faculty being unable to consistently be with the student in the clinical setting and the quality of the reflective writing submitted by the nursing students while working with preceptors. These study conductors used Tanner’s Clinical Judgment Model as a guide to the journaling required of the students. The benefit of “the use of a clinical judgment model to guide student reflection and faculty questioning often results in deeper, more meaningful reflections on learning and fostering the movement toward greater competence in nursing care” (Nielsen, Stragnell & Jester, 2007, p. 514). Hubbs and Brand (2005) also advocated guided reflective journaling as a means to deeper, more meaningful learner for students in college counseling programs and for students in any educational program. Reflective journaling pedagogy is the tool that will be used as an intervention in this study but students will receive a guide to that strategy to prevent inconsistent responses and unstructured logging of feelings, task and evidence of objective completion.
Gwozdek, Klausner, and Kerschbaum (2009) revealed that “reflection played an active role in education, influencing the learning environment and its processes” (p. 2). Daroszewski, Kinser, and Lloyd (2004) determined that “reflection also assisted in actively focusing learning, while reducing anxiety and increasing peer support and cooperation” (p. 1). Ruth-Sahd, Beck, and McCall (2010) conducted a study that looked at the critical thinking and reflective practices as identified by Schön (1990) and Brookfield (2004) in a nursing external program. The findings suggested that reflective practices as identified by Schön and Brookfield are very helpful in identifying transformative learning within an external program. The literature review suggests that journaling helps the student to focus on developing self-awareness and understanding and has direct practice nursing implications (Lauterbach & Hentz, 2005). Journaling will be used as an intervention when comparing the two research groups.

**Tanner’s Model and Lasater’s Rubric**

Nielsen, Stragnell and Jester (2007) reported on the use of a *Guide for Reflection Using Tanner’s Clinical Judgment Model* (2006) in leading students to examine and explore a clinical situation to assist in their development of and confidence in clinical thinking. This publication was very helpful in directing the writer toward the selection of guidelines for journal entry. Kathie Lasater (2007) developed a rubric that measure clinical judgment. Lasater’s Rubric consists of four dimensions that included noticing, interpreting, responding and reflection based on Tanner’s Clinical Judgment Model. To each of the dimensions, a description of the major components of clinical judgment that occurs in complex patient care situations that involved changes in status and uncertainty about appropriate course of action (p. 500- 501). The rubric identified the progression of clinical judgment from beginning (lowest) level to exemplary (highest) levels for each dimension. Measuring student’s level of clinical judgment using this
model would give the faculty a clear picture of the student current level of clinical judgment and would help the student to improve or move from beginning level on to exemplary level once they become aware of level. Preceptors could be instructed to use this or a similar tool to measure clinical judgment so that critical thinking could be developed.

Tanner’s Model of Clinical Judgment (2006, p. 208) introduces four aspects of clinical behavior in the process of developing clinical judgment in a rapidly changing situation that requires reasoning in transition and continuous reappraisal and response as the situation unfold (as would be the case in the acute care environment). These four aspects of Tanner’s Model proceed from

1. noticing, a personal grasp of the situation as it unfolds;
2. interpreting, developing a sufficient understanding of the situation to respond;
3. responding or deciding on a course of action deemed appropriate for the situation;
   and
4. reflecting, attending to the patient’s response to nursing action while in the process of acting.

Additionally, the task of reviewing the outcome, referred to as reflection-on-action, is established by Tanner. The four aspects are not phases as might be used with the nursing process but are based on nursing experience, knowledge level, reasoning patterns, a sense of responsibility, and the opportunity for clinical learning and growth. This model was used as a guide to reflective journaling as part of this study. Because reflective journaling involves a listing of ones most personal feelings about an action, situation or circumstances the subject must be willing to be honest in recording his/her responses to decisional events and significant occurrences.
awareness of one’s own biases, values, and experiences and how these influence the nurse-patient interaction is necessary for effective use of journaling.

Figure 1. Tanner’s Model of Clinical Judgment

A study on reflective journal writing to improve critical thinking ability in nursing students during the preceptorship experience in an associate’s degree nursing program would remedy some of the deficiencies associated with the literature gap. Because so few studies have been carried out on this topic, a major contribution to the science of nursing education was made with the completion of this study. Educators could use the information to devise learning experiences so that students could gain the critical thinking skills necessary for safe and efficient patient care.
CHAPTER III:

METHODOLOGY

Preceptorship Course

The preceptorship course in the associate degree nursing program (NUR 204, *Role Transition for the Registered Nurse*) is offered as the last course requirement in the second year of the program of study alone with the course NUR 203, *Nursing Through the Lifespan* (Alabama Department of Postsecondary Education, 2006). Description for this course is written as follows:

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided for preparing for the NCLEX-RN. (The Alabama College System, Course syllabus NUR 204, 2006, p.1)

This is the course that allows the nursing students to apply principles learned in theory to actual patient care situations with experienced registered nurses serving as advisors, mentors, preceptors, leaders, teachers, and role models. All course work in the program of study must be successfully completed at this point with the exception of a humanities elective and NUR 203. These courses are taken alone with NUR 204. This course allows the student to apply principles of patient care with emphasis on various health care delivery models, factors that influence health care, the role of the registered nurse in selected health care settings, the effect of staffing patterns, acuity level, and patient classification systems. The responsibilities of the registered nurse regarding reimbursement, maintaining accreditation and licensure of health agencies, and the registered nurses role in quality improvement in the health care system are also included in
the course. NUR 204 is the application in the clinical setting of theory content previously mastered. Critical thinking skills as clinical skills are outlined in Module B- Nursing Leadership and Management and Module C-Professional Practice for Registered Nurses in the course syllabus of NUR 204.

Requirements for Preceptors

The total clinical hours required during the NUR 204 preceptorship course are ninety hours. Arrangement for preceptorship hours with the nursing preceptor is the responsibility of the student but the educational institution is responsible for prearrangement of the required number of preceptors for the semester, providing the necessary health screening, background checks and evidence of current basic life support certification and any other legal matters necessary for students to work in the facility alongside the preceptor. A copy of the course syllabus is provided to the hospital and the preceptor. This syllabus explains the objectives, goals and hours required for the course to the student and the preceptor. Students are to develop their own personal objectives for the experiences based on the type unit assigned. These objectives are communicated to the faculty and the preceptor. Faculty members will communicate weekly (more often if student and/or preceptor indicates that is more frequent contact is needed) with the student and the preceptor by email, telephone or face-to-face. The purpose of the contact between faculty, student and preceptor is to prevent problems, keep lines of communications open, and to handle issues or problems that may arise before escalation occurs and the problem become impossible to handle.

Registered Nurses (RNs) are selected by the hospital for the preceptor role; the academic institution has no control over the selection of preceptors or preparation of RNs for the preceptorship role. Information gathered from telephone inquiry from hospitals in the
Birmingham and Jefferson County areas on the selection of preceptors disclosed the following common RN preceptor qualifications among the hospitals that provided information:

1. two years of full-time experience in a medical surgical nursing (adult health);
2. BSN preferred but ADN or diploma nurse will be considered based on experience and upon recommendation from nurse manager; and
3. a recommendation by the nurse manager/coordinator.

Preceptorship training classes may or may not be a part of the requirement for preceptors. All hospitals do not have a formal preceptor class. The nurse manager may select an experienced, competent, confident, trusted RN who “loves to teach and who has had experience as a Preceptor or just always works well with the students or new nurses” as the unit preceptors when the nursing students start the preceptorship rotation. These dedicated RNs may work various shifts and the nursing students must arrange her/his schedule with the preceptor so that the contact hours will be obtained and the learning experiences needed by the student will be available. Students must attend the clinical learning experience when the Preceptor is assigned to work, even if weekend attendance is necessary. Preceptor and student meet, arrange schedules, discuss student and course objectives, methods of meeting those objectives and proceed with what is usually a meaningful learning experience for the nursing student, a satisfying preceptorship experience for the RN preceptor and perhaps, a new staff RN for the hospital.

Research Design

This experimental study used a selection process that involved convenience sampling with random assignment of subjects from eligible groups of nursing students from the campuses of Jefferson State and Bevill State Community Colleges in the state of Alabama. Information for the student trends for Jefferson State Community College was from the 2009-2010 College
Catalog and Student Handbook (2010). There were four campus sites; two of which offer nursing education at the associate degree level, Birmingham and Shelby, Alabama. Total college enrollment is 8,700 students, with 36% enrolled in the health science programs. 572 students were declared nursing majors and 65 were anticipated to enroll in the NUR 204 preceptorship course in the summer of 2011. Currently, approximately 14% of the class is male. The racial distribution of the class was 80% Caucasian, 17% African American, and 3% others. The college had campuses that offer nursing education in the eastern section of Birmingham, Alabama, and in Shelby County.

Information related to student trends for Bevill State Community College came from Fact Book (2010) complied by the colleges’ Office of Planning, Research, and Institutional Effectiveness. Bevill State Community College is located in the western portion of the state of Alabama with four main campuses and an instructional site in the County Educational Center in Carrollton, Alabama. Total enrollment for 2010 was 4,563 with 37% (or 1,693) of enrollment being male students and the majority as Caucasian. Nursing enrollment was listed as 29% with ages ranging from 18 to 51 years old. Only 5% of the participating class was male.

Procedure

Permission for this research was granted by the Institutional Review Board (IRB) for the Protection of Human Subjects of The University of Alabama Office of Research. The HSRT was ordered from INSIGHT ASSESSMENT upon approval of above-mentioned authorities. The community colleges were first contacted by telephone and then by email about the desire to use their nursing programs in the conduction of this study. Written permission as well as verbal permission was granted by the colleges and full cooperation of the college officials was granted to the researcher. Contact with the senior faculty of the colleges was made to ascertain their
cooperation in communicating class times, clinical times and information about the preceptor selection and the hours that students would be on campus. It was also necessary to contact faculty to assure that no class would be in any way disturbed or disrupted by this study procedure.

**Recruitment of Subjects**

Recruitment of subjects was done by asking for volunteers to participate in the study after a script had been read to the possible participants that explain the study (see Appendix B). Students that did not wish to participate were dismissed from the room. Those that volunteered to be subjects were given two consent forms: one was signed and returned to the investigator with date and the participant’s written signature, indicating informed consent the other was kept by the participant. After obtaining informed written consent, all the volunteers wrote the HSRT in the nursing computer lab of the college. The total number of participants was 51. Both the control and experimental groups were composed of students of various ages ranging from 19 to 55 years and gender distribution was based on the gender distribution of the two preceptorship classes. The generalizability of the study is enhanced by the selection of the subjects from different colleges and different campuses, thus representing a broader population. Placement of participants in the control or experimental group was determined by random blind draw of ID numbers from a hat by the researcher.

**Anonymity and Identity Protection**

Original consent forms, pretest results, journaling note books, post-test results and all identifying information about the study subjects have been place in a secure place under double lock for five (5) years. A coding system has been established to protect the identity of the subjects. No names or student numbers are used for data storage. Apart from the investigator
only the researcher’s committee members have access to the coding system developed to protect the subjects. Identity and anonymity of all data and subject information will be maintained for five years, at which time the journals will be shredded. Statistical data will be maintained for research use but no subject identification will be stored after five years. The investigator has made the participating colleges aware that prior to study completion no individual subjects will be identified in the study and individual subject’s test results will not be made available to the colleges. A copy of the study will be made available to the colleges involved upon request and with the approval of the researcher’s committee. Summary statistics based on data will be published but subjects’ identifying information was removed and there was no identifying information about individuals or specific colleges.

**Instrument**

HSRT was administered by the researcher by e-testing (electronic testing) in the schools’ nursing computer laboratory before the preceptorship experience began. The test were scored by INSIGHT ASSESSMENT and results sent to the researcher using participants’ name but also a coding method for protection of participants’ identification. All identifying information was kept secured in a locked desk and the individual results were not shared with the faculty of the college. The researcher’s committee will be able to view the results as needed for evaluation of the study. The HSRT was administered again the week following the completion of the preceptorship experience. The test and all scores are secured in a locked desk in the researcher’s office. A coding method such as 1P, 2P, 3P, etc for the subjects in the control group and 1EP, 2EP, 3EP for subjects in the experimental group was used. No names or student identification numbers was used. This method protects the identity of each subject; only the researcher will know the coding system. For the posttest, the coding method will be 1PT, 2PT, 3PT, etc for the
control group and 1EPT, 2EPT, 3EPT for the experimental group. Permission for use of the HSRT has been obtained from INSIGHT ASSESSMENT; a division of the California Academic Press. A sample question of the HSRT is attached (see Appendix C). A copy of the HSRT is not attached because of copy right restrictions.

The HSRT has a reliability coefficient of .81, with an internal consistency estimate (Kuder Richardson-20) ranging from .77 - .84 with an overall internal consistency of .81 (INSIGHT ASSESSMENT, 2010). Construct validity of the HSRT has been validated by subject’s improvement in critical thinking scores after taking a course in critical thinking. This testing association is well established and has given written guarantee of identity protection for participants, college and researcher. The requirement of INSIGHT ASSESSMENT for test result is that the data be analyzed by the company and that the study, after completion could be used in their advertisement brochure for promotional reasons. No names, locations, school names or any identifying information will be used in their promotional advertisement.

Thirty three multiple choice questions are included on the HSRT. Subjects were given written instructions on completing the test while on the computer and given up to 55 minutes to take the examination. Questions in the categories of inductive reasoning, deductive reasoning, analysis, inference and explanation and evaluation were asked. Subjects were instructed on properly exiting the test and the researcher was able to collect results within one hour of test completion. Results were not shared with the subjects until after the post test was recorded and the completed journals returned.

Independent variable for this study is journaling based on the instructions given by the researcher for daily preceptorship experience and for decisional events for the experimental group. These instructions will be based on Tanner’s Clinical Model (see Appendix E) of guided
reflective journaling. This group was designated as the experimental group. Other participants (control group) were asked to keep a log of attainment of the clinical objects in a notebook. A briefing of the control group subjects will be given that includes a script which reads as follows:

For this study, during your preceptorship experience, you will enter into your notebook every clinical day, a note that addresses which clinical objective you have met and how you have met that clinical objective for the day. This notebook will be given to your clinical instructor weekly.

After data collection is completed, journaling briefing will be provided for the participants in the control group.

The experimental group will receive instructions on journaling using the guide for reflective journaling provided. This was given only to those in the experimental group; also the materials of a spiral notebook, and Bic ink pens were provided to the experimental group. A diagram of this quasi-experimental study is as follows: Group A (E) = O----------X----------O and Group B(C) =O----------O. An intervention will be given to the experimental group only before the preceptorship experience begins. The instructions were read with examples of journal entry to the experimental group. The goal of the instruction is to provide the subjects with the definition of reflection, the benefits of reflective journaling along with the expected frequency of journaling. Additionally, the purpose is to assure that subjects were aware of what to include in the journal. Lasater’s Rubric will be used by the investigator to measure the progress of the experimental group toward meaningful journaling. The researcher was also be responsible for interval monitoring of the experimental group’s journal entries for compliance with the criteria outlined in Tanner’s Clinical Model. Interval monitoring by the researcher will occur at 16 hours into the preceptorship experience, at 24 hours of the preceptorship experience and at 60 hours of the preceptorship experience for the experimental group. Journaling notes will be examined by the researcher for compliance with Lasater’s “rubric.” If any subject shows evidence of failure
to enter into the journal as directed, a repeat of instructions will be given face to face to the individual in the experimental group at that campus.

The control group will receive the instruction on keeping a log of activities related to clinical objectives. These instructions are part of the clinical requirement for course completion and will be monitored by the clinical instructor as indicated in the clinical evaluation tool.

The dependent variable was the post-preceptorship score of the HSRT. The intervening variable is the preceptorship experience itself. Variables of age, gender, and previous licensure as a practical nurse were considered. In the State of Alabama, the associate degree nursing programs have a common course curriculum. This means all programs must have the same courses in the same sequence with the same content. This assures the same content and same amount of clinical hours for all students in the NUR 204 class.

Potential threats to internal validity of the study include participant selection methods and diffusion of treatment. Participant selection methods can be controlled by keeping the age range between 18 and 55 years, and diffusion of treatment thread can be minimized by keeping the groups as separate as possible. External validity threats include interaction of setting and treatment. This threat will require additional experiments in new settings in order to generalize the results. In order to eliminate the external validity threat of interaction and history, the study will be replicated at a later time.

The participants will be told in the informed consent (see Appendix E for Consent Form) that their identities will be protected and that all test results will be held in confidence. They will be assured that no one other than the researcher and the researcher’s committee members will see the individual results of the HSRT and that the results of the test will be used in research and reported by coded numbers to protect identity. All the participants will be assured in the
informed consent letter that grades for the current course will not be affected by the pre- and post-HSRT scores (see appendix D). They will be informed in writing that neither faculty nor institution will be provided with copies of their individual scores. The information obtained by the researcher will be kept locked in a file cabinet in the researcher’s office. Participations will also be informed that there is no cost for participating in this study and that there is no potential for physical, emotional or spiritual harm from the study. Participants may refuse to participate in the study and may withdraw from the study at any time without fear of penalty. The institution and individual nursing programs will receive a copy of the completed and graded research report from the researcher after approval from the research committee. Participants may contact the investigator to make appointment to view test results after completion of the study. The investigator’s telephone number was provided for participants at the introduction and a times frame given when the investigator could be reached.

**Data Analysis**

**Research Question**

Does guided narrative reflective journaling during the nursing preceptorship experience result in an increase in nursing students’ critical thinking skills as indicated by an change in scores on a HSRT?

Data from the two groups on the pre- and post-test results of the HSRT was analyzed and compared for significant changes in critical thinking scores on the total score and on subscale scores. Variables were summarized in statistical table format for ease in examining their relationship to the results. The variables under consideration are age, gender, previous college education, and licensure as a Licensed Practical Nurse (LPN). A t-test was used to analyze the mean difference in pre-test and post-test scores of the experimental and the control groups. The
hypothesis that there was a significant difference in scores between the experimental group and the control group on a test of critical thinking was tested using a t test. Statistical tables were used to communicate results of the t test for the pretest and the post-test scores. A statement of hypotheses supported, unsupported, acceptance, or rejection was made based on the findings of the study.

**Limitations**

Several limitations are noted in this study. Random selection of subjects is not possible for this study. A convenience sample was used and this could cause sampling bias according to Polit and Peck (2008). The generalizability of the study is limited because of sample size and the use of only two associate degree nursing programs in a small southern state for subject selection. Also, selection of preceptors and hospitals for the clinical experience was not under the control of the investigator. Effectiveness of the preceptors and the acuity of the patients could not be accounted for in the planning of this study.
CHAPTER IV:

RESULTS

The researcher conducted an experimental study using associate degree nursing programs in two community colleges in a southern state. The purpose of this study was to determine the impact of reflective journaling and critical thinking during a 90-hour nursing preceptorship experience in an associate degree program. Specifically, the purpose of this investigation was to examine the relationship between critical thinking skills and guided narrative reflection during the preceptorship experience. It was hypothesized that journaling would result in an increase in critical thinking skills as indicated by an increase in total mean score on a test of critical thinking after a 90-hour preceptorship experience.

Description of Sample

Two community colleges were used in recruitment of subjects for this study. Students enrolled in the community colleges traditionally live within fifty miles of the college and may seek to further their education due to loss of employment opportunities in local industry. Many students enrolled in community colleges are seeking education at various ages in new fields due to loss of employment in previous fields. In 1999, in Alabama, the principal employers among industry groups were food and kindred products, textile mill products, apparel and other textile products, primary metal industries, industrial machinery and equipment, electronic equipment, and transportation equipment (Trent, 2006). The 2010 census for Alabama shows a shift in industry toward health care, automobiles production, and construction. With the addition of two major automobile facilities: Mercedes and Honda, the community college enrollment has
increased in preparation for jobs associated with these industries. Health care as an industry has placed a demand on the educational system to provide qualified workers in various fields to include nursing, physical and occupational therapy assistants, dental hygienists, and radiation technologists.

Although the nursing profession is experiencing a nursing shortage, male enrollment in nursing programs has increased. Of the 2.24 million registered nurses in the nursing workforce in 2006, 8% (or 200,000) were men (Lerardi, Fitzgerald, & Holland, 2010). Another reason for the increasing male enrollment in community colleges includes the returning Iraq and Afghanistan veterans who served as health care provider while serving their country. Many of these soldiers want a career in nursing and the current government administration want to make it possible for these soldiers to reach their goal of becoming registered nurses. The United States government has provided funding for returning Iraq and Afghanistan veterans to transition into nursing by allowing key military leadership to work with nursing schools to identify strategies to align enlisted health care training and nursing academic credit (Wakefield, 2011). Community colleges may well be the programs these highly trained, skilled veterans need to transition into a nursing career. One of the community colleges included in this study has as its goal “to serve as a leader in workforce development” in the areas located (Bevill State Community College, 2010, p. 5). The other college stated in its 2010 catalog that it had a:

commitment to providing accessible educational and workforce development programs through which students may obtain the skills and knowledge necessary to pursue their life’s work and to become educated members of society. (Jefferson State Community College Catalog and Student Handbook, 2010, p. 3)

Both community colleges are accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree. The nursing programs are accredited by the National League for Nursing Accrediting Commission. Each college has
multiple campuses where nursing education was offered and students’ completion of the National Council Licensure Examination (NCLEX) for school year 2010-2011 was greater than 90%.

The above description of the sample populations indicates that the community colleges were similar in goals, NCLEX pass rate, and in the number of students enrolled in nursing programs. Another important factor that the schools had in common was the requirement to adhere to the common course curriculum of the Associate Degree Nursing programs in Alabama. This assured that every student had the same objectives to satisfy and the same number of hours for the preceptorship requirement. As indicated in table 3 on the t-test for equality of means there was no difference in the control and experimental groups at pretest.

**Demographics**

Demographic data for the variables considered are displayed in Table 1. Total number of subjects to complete the study was 33. Variables considered for this study were age, gender, prior practical nursing licensure, and educational level. Six (6) male ranging in age from 21 years to 41 years of age participated in the study. Age was included because of the variation in age range of students in community colleges. Age range for students was listed from 18 to 65 with many seeking nursing as a second profession after the closure of an industry or the loss of earning ability in certain industries. For these reasons age was considered an important variable for this study. Nineteen (19) was the minimum age of the subjects and 51 was the maximum age. The percentage of subjects between the ages of 19 and 22 years was 24% with the largest age group being in the 23 to 33 years old range. The total means score for this age group was 18.3. The 34–44 years old age group scored twenty-one (21) as the total means score. Although not statistically significant, twenty-one (21) was the highest total mean score for all age groups.
listed. Noteworthy was the fact that the ages of subjects in the experimental group were, on average, one year younger than the control group subjects. Small sample size may have contributed to this difference and will be researched in a future study on critical thinking. This may also explain the somewhat lower test scores observed in the experimental group.

Table 1

*Demographics*

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</table>

All participants had some college courses

Additionally, nursing is a profession with the majority of its members being females; therefore, gender was considered an important variable. Females made up 80% of the study population and males represented 20% of the subject population. This is an interesting fact
because males have traditionally not sought nursing as a career and 5 to 14% of the class population was male (Bevill State Community College, 2010 and Jefferson State Community College, 2010). There was no difference in total mean score for females and males; both were groups total mean score was 22.

The randomly assigned control group consisted of fifteen (15) subjects, three (3) males and twelve (12) females. Male ages were of 34, 38, and 41 years. Of the three male, one (1) had a BS degree and all three had previous college credits. All the males in the control group were Caucasians. The oldest male (41 years) in the control group scored 27 on both the pre and post HSRT. Twelve (12) females were in the control group, there were four (4) subjects whose ages were twenty (21) years to twenty two (22) years, five (5) subjects whose ages were twenty three (23) to twenty five (25) years, one (1) subject was 31 years old, one (1) was 41 years of age and one (1) subject was fifty two 52 years of age at the beginning of the study. The oldest female in the control group scored 24 on the pretest and 25 on the post test of the HSRT. One African American was included in the control group; all the other subjects were Caucasians.

Randomly assigned subjects to the experimental group included with 4 males and 14 females. Females who identified age were 11.2 females did not list their age and 1 male did not list age. Age ranges for females were 21 to 23 were 3, those 25 and 26 years were 4 and finally those 33 to 41 was listed as 4. The female with the lowest score in the experimental group (12 pretest and 11 post test) was 25 years old and the female subject with the highest score was 40 years of age. All the females in the experimental group had some college courses. One (1) African American was included in the experimental group; one (1) Asian; and sixteen (16) Caucasians were also included.
All of the subjects had some college education before enrolling in the nursing program. Level of education was considered in the study because many of the subjects enrolled in community colleges were seeking a new/change in profession. Only 10% of subjects had a bachelor’s degree. 90% of the subjects had technical certifications or had completed courses required for entry into the nursing program of study. Three subjects (or 9%) were Licensed Practical Nurses (LPNs). There was no difference in the total mean scores between non-LPN and the LPN on this test of critical thinking.

Post-test total mean scores indicated that the age group with the highest score was the 34 to 44-year-old age group. Twenty-one was the total mean score for this group on this test of critical thinking. The subjects who happened to be in the experimental group were on average one year younger than the control group. A subject who was 52 years of age had the highest total mean scores in the population and she was in the control group. Possible reasons for differences especially those differences associated with age will be discussed in Chapter V. This may also explain the somewhat lower test scores observed in the experimental group.

**Frequency of Journal Monitoring**

The plan for frequency of journal monitoring was established in the research design. Plans for journal monitoring by the researcher included collection and reading of journals at completion of sixteen hours of the clinical preceptorship, again at completion of twenty four hours of clinical preceptorship and finally at completion of sixty hours of clinical preceptorship. These times were not consistently followed because of the various schedules of the subjects. However, adherence to journaling guidelines was assured by monitoring of subject’s journal entries and by giving the participants the freedom to seek clarification from the researcher as needed. Journals were read at various times. Also, journal entries were monitored when subjects
called for clarification or when contact was made to seek clarification or to ask questions about journaling. This interaction with the subjects helped the researcher in monitoring the subjects’ progress in journaling as well as their understanding of the journaling guidelines. Eighteen journals were completed according to guidelines and posttests were administered only if journals were completed according to guidelines. The researcher met with individuals and groups of subjects a total twenty two (22) times during the course of this research study. Additionally subjects were contacted by telephone and subjects were allowed to call the researcher for feedback on the journal entries. All journaling notebooks were returned to the researcher at the completion of the preceptorship experience as was agreed upon at the beginning of the study.

Content of the journals followed the guidelines as explained or the subjects they were not included in the study. Reflective statements such as “I should have had a plan together, I spent too much time talking to the patients;” and “I need to learn to operate in any situation.” The need to “take control” was a common theme of the journals, also showing self confidence and staying positive appeared several times in several journals. All journals had some reference to time management. Examples included spending too much time with one patient and not spending enough with other patients, getting everything done that needed to be done. Few of the journals contained information on specific nursing skills and this was surprising. Only one entry addressed the fact that the subject felt good about starting IVs or giving shots. One subject was in an Intensive care situation and communicated that she was in a state of shock because of the patient situation. Ventilators and invasive lines were very “shocking” and alarms were “constantly going off.” This student, I felt used the reflective guide to help her prepare for the experiences that she may encounter in the ICU unit. Many of the entries addressed problem solving and the need to be able to better solve the patient care problem. The investigator gleamed
from the journal reviews that the subjects were well organized, caring and compassionate toward patients and had a desire to learn as well as perform as a registered nurse during the preceptorship experience.

College faculty did not participate in the research study but were very helpful in many ways. The instructors made the school computer laboratory available for testing and notified the researcher of best time to meet with subjects after class. It was requested by faculty that no meeting or testing be done by the researcher on the scheduled testing days for the NUR 204 course. This request was honored by the researcher. The college faculties were supportive of the research study by communicating to the researcher valuable information that allowed the study to be conducted. Information such as start and stop time for class, testing and clinical days, and availability of the computer labs, opening computer laboratory doors, assuring that computer laboratory doors was locked after use and disturbing journaling material. These acts of kindness on the part of the faculty made the study much easier for the researcher and the subjects.

Distribution of post-test total mean scores by range is displayed in Table 2. The interpretive guidelines are recommended by Insight Assessment as “cut scores” to help determine what proportion of a testing group is performing at various levels of competency (Insight Assessment, 2011, p. 25). A score of 25 or above indicates strong core critical thinking skills, which could enable the individual to benefit from training and educational opportunities. Scores in the mid-range (15-24) are associated with demonstrated competence in critical thinking in most situations. Mid-range is associated with the “level of skills [which] indicates the capability to benefit from staff development or educational programs focused on training, reasoning and decision making” (p. 25). Finally, scores 14 or lower are suggestive of
“fundamental weakness in core critical thinking skills.” It is believed that “test takers with scores in this low range may fail to transition successfully from college to workplace” (p. 25).

Table 2

_Distribution of Posttest Scores by Range_

<table>
<thead>
<tr>
<th>Score</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 or above High</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>15-24 Mid Range</td>
<td>24</td>
<td>75%</td>
</tr>
<tr>
<td>14 or Below</td>
<td>4</td>
<td>10%</td>
</tr>
<tr>
<td>Low range</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Scores of 19.05 and 21.13 both fall in the mid-range grouping of scores as indicted in Table 2. Mid-range scores are associated with “skills levels that indicates the capability to benefit from staff development or educational programs focused on training, reasoning and decision making” (Insight Assessment, 2011, p. 25).

**Research Question**

The research question for this experimental study was “would guide reflective journaling during the preceptorship clinical experience result in an increase in critical thinking skills as indicated by an increase in total mean score on a test of critical thinking?” The Health Science Reasoning test (HSRT) was the tool used for evaluation of the subjects’ critical thinking skills. Table 3 shows that the pretest total means score for the experimental group was 19.05 and the control group’s total means score was 21.13. The _t_-Test for equality of means showed a mean difference of -2.08, the standard deviation was .51 at a Sig of .538 indicating homogeneity of variances, an assumption that variances of the population are equal. The _t_-test for between
groups shows no difference. Therefore, any difference in total mean scores at posttest is attributed to the intervention of reflective journaling.

Table 3

*t-test for Equality of the Means*

<table>
<thead>
<tr>
<th>Pretest Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>18</td>
<td>19.05</td>
<td>3.99</td>
<td>.94</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>21.13</td>
<td>3.48</td>
<td>.89</td>
</tr>
</tbody>
</table>

Equality of Variances

<table>
<thead>
<tr>
<th>Levene’s test for Equality of Variances</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>.387</td>
<td>.538</td>
</tr>
</tbody>
</table>

*t-test for Equality of Means

<table>
<thead>
<tr>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95%CI Lower</th>
<th>95%CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pretest</td>
<td>-1.58</td>
<td>31</td>
<td>.125</td>
<td>-2.08</td>
<td>-1.318</td>
<td>-4.76</td>
</tr>
</tbody>
</table>

*Level of significant > .05*
Journaling is thought to be a pedagogy that has a positive impact on nursing education in that it helps to connect theory content and clinical learning experiences and helps the learner to focus on self and responsibility towards others. A study that explored strategies to promote critical thinking among nursing students was done by Twibell, Ryan, and Hermiz (2005). Four strategies were identified in this study that could be used by faculty to effectively in promote critical thinking in nursing students. These included questioning, written assignments, clinical conferences, and student journal writing. These authors added that “evidence of critical thinking may be missing from journal entries, and strict guidelines may help strengthen critical thinking” (Twibell, Ryan, & Hermiz, 2005, p. 78). The above statement suggests that journal writing could be an effective narrative pedagogy if guides were established that help the student achieve the maximum benefit from journal writing.

The guide for journaling used for this study was Tanner’s Clinical Judgment Model (2006). This model was selected as a guide to journaling because of its “relevant for the type of clinical situation that may be rapidly changing and require reasoning in transitions and continuous reappraisal and responses as the situation unfolds” (Tanner, 2006, p. 206). The clinical preceptorship experience offers a variety of experiences with patients at various acuity levels for the nursing students. Each clinical day offers new and different clinical learning situations. Tanner’s research model may be applied to clinical situations that may arise during the preceptorship learning experience on a medical surgical unit, on obstetrics’ unit and/or on a newborn/nursery unit. Four aspects of Tanner’s model used as guides for student’s reflective journaling were 1) a personal grasp of the situation at hand- noticing; 2) developing a sufficient understanding of the situation to respond- interpreting; 3) deciding on a course of action deemed appropriate for the situation, which may include “no immediate action”- responding; and 4)
attending to patients’ responses to the nursing action while in the process of acting -reflection (Tanner, 2006, p. 208). Although Tanner’s model may also serves as a guide to faculty members to help students seek learning experiences that are based on learning needs and areas of needed growth; that is not the intended use of the model in this study.

Fifty-one (51) participants sat for the Health Science Reasoning Test (HSRT) pretest and thirty-three (33) completed the posttest. Twelve subjects dropped out of the study without explanations to the researcher, as was their right. Six participants offered explanation for their withdrawal. These explanations included “not enough time, more time needed to journal than anticipated in the beginning, family matters required that participation would take too much time, forgetting and misplacement of journal guidelines; and finally, two participants “just no longer desired to participate.” Fifteen subjects wrote the posttest in the control group and eighteen subjects completed testing and journaling in the experimental group.

Post-test total means scores (dependent variable) on the HSRT was used to evaluate the subjects’ critical thinking skills. The experimental and control groups’ scores were 18.33 and 21.53, respectively. Analysis of the total mean scores was done using SPSS 16.0 (2012). Results for the data are shown in Table 4. The experimental group’s total mean score actually decreased on the posttest from 19.06 to 18.33. A t-test indicated a significant difference in the post test mean score and the standard deviation showed quite a difference with more variability among experimental subjects than control. This is a significant finding with important implications for nurse educators and associate degree nursing students. Overall, journaling did not improve critical thinking skills and the analysis suggests that journaling actually hindered the acquisition of critical thinking skills. Table 4 showed differences between controls and experimental groups.
Table 4

*t-test for Equality of the Means*

**Group statistics**

<table>
<thead>
<tr>
<th>Post Test</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>18</td>
<td>18.33</td>
<td>5.075</td>
<td>1.196</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>21.53</td>
<td>2.996</td>
<td>.773</td>
</tr>
</tbody>
</table>

**Independent Samples Test**

<table>
<thead>
<tr>
<th>Levene’s Test for Equality of Variances</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Post test</td>
<td>4.093</td>
<td>.052</td>
</tr>
</tbody>
</table>

**t-test for Equality of Means**

<table>
<thead>
<tr>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Post test</td>
<td>-2.146</td>
<td>31</td>
<td>.040</td>
<td>-3.200</td>
<td>1.491</td>
<td>.159</td>
</tr>
</tbody>
</table>

*Level of significant > .05*

To further determine difference in the experimental and control group at posttest, the five subscales were analyzed. The five subscales were inductive reasoning, deductive reasoning, inference, analysis, and evaluation and explanation. Table 5 shows the five pre-test subscale total mean scores, which indicated no mean difference for each area tested. There was no statistically significant difference in the groups at pretest.
Table 5

*t- Test Subscales Means and Standard Deviation for Pre-test Total Mean Scores*

<table>
<thead>
<tr>
<th>Pretest group</th>
<th>N</th>
<th>Mean</th>
<th>Std</th>
<th>Std Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive Reasoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>7.0556</td>
<td>1.76476</td>
<td>.41596</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>7.7333</td>
<td>1.53375</td>
<td>.39601</td>
</tr>
<tr>
<td>Deductive Reasoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>5.2222</td>
<td>1.89599</td>
<td>.44689</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>6.0667</td>
<td>1.43759</td>
<td>.37118</td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>3.3889</td>
<td>1.37793</td>
<td>.32478</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>4.0000</td>
<td>1.13389</td>
<td>.29277</td>
</tr>
<tr>
<td>Inference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>3.1667</td>
<td>.70711</td>
<td>.16667</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>3.0000</td>
<td>.92582</td>
<td>.23905</td>
</tr>
<tr>
<td>Evaluation and explanation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>4.5000</td>
<td>1.38267</td>
<td>.32590</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>5.0667</td>
<td>1.16292</td>
<td>.30026</td>
</tr>
</tbody>
</table>

*Level of significant > .05*
### Independent Sample Test t-test for equality of means Subscale scores

<table>
<thead>
<tr>
<th>Pretest group</th>
<th>t-test</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive reasoning</td>
<td>-1.16</td>
<td>31</td>
<td>.253</td>
<td>-.677</td>
</tr>
<tr>
<td>Deductive reasoning</td>
<td>-1.41</td>
<td>31</td>
<td>.166</td>
<td>-.844</td>
</tr>
<tr>
<td>Analysis</td>
<td>-1.37</td>
<td>31</td>
<td>.180</td>
<td>-.611</td>
</tr>
<tr>
<td>Inference</td>
<td>.586</td>
<td>31</td>
<td>.562</td>
<td>.166</td>
</tr>
<tr>
<td>Evaluation</td>
<td>-1.25</td>
<td>31</td>
<td>.218</td>
<td>-.566</td>
</tr>
</tbody>
</table>

*Level of significant > .05*
Analysis of the post-test subscale total means score for the five areas listed above are included in Table 6. There were significant difference found on the total means score between the two groups. Results of neither pretest nor post-test scores were shared with the subjects. Subscale post-test results for the experimental group showed a decrease in critical thinking total means score for every area tested. The experimental group performed noticeably lower (see Table 6) on the posttest in every subscale grouping with the greatest decrease observed in inductive reasoning and evaluation and explanation scores. Guided reflective journaling did not enhance critical thinking during a ninety hour preceptorship learning experience; and, the experimental group had significantly lower total mean scores on posttest of critical thinking.
### Table 6

*Subscales Means and Standard Deviation for Post-test Total Mean Scores*

<table>
<thead>
<tr>
<th>Posttest</th>
<th>N</th>
<th>Mean</th>
<th>Std</th>
<th>Std Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inductive Reasoning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>6.11</td>
<td>2.27</td>
<td>.535</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>7.93</td>
<td>1.09</td>
<td>.284</td>
</tr>
<tr>
<td><strong>Deductive reasoning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>5.55</td>
<td>1.976</td>
<td>.465</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>6.40</td>
<td>1.594</td>
<td>.411</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>3.38</td>
<td>1.33</td>
<td>.315</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>4.40</td>
<td>.736</td>
<td>.190</td>
</tr>
<tr>
<td><strong>Inference</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>2.67</td>
<td>1.37</td>
<td>.323</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>3.20</td>
<td>.941</td>
<td>.243</td>
</tr>
<tr>
<td><strong>Evaluation &amp; Explanation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
<td>3.94</td>
<td>1.86</td>
<td>.439</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>5.07</td>
<td>.961</td>
<td>.248</td>
</tr>
</tbody>
</table>

### t-test Subscales Means and Standard Deviation for Post-test Total Mean Scores

<table>
<thead>
<tr>
<th>Posttest</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive reasoning</td>
<td>-2.83</td>
<td>31</td>
<td>.008</td>
<td>-1.82</td>
</tr>
<tr>
<td>Deductive reasoning</td>
<td>-1.33</td>
<td>31</td>
<td>.193</td>
<td>-.844</td>
</tr>
<tr>
<td>Analysis</td>
<td>-1.46</td>
<td>31</td>
<td>.154</td>
<td>-.566</td>
</tr>
<tr>
<td>Inferences</td>
<td>-1.28</td>
<td>31</td>
<td>.212</td>
<td>-.533</td>
</tr>
<tr>
<td>Evaluation and Explanation</td>
<td>-2.11</td>
<td>31</td>
<td>.043</td>
<td>-1.12</td>
</tr>
</tbody>
</table>
A review of the data suggested that age may play a factor in critical thinking. Consequently a \( t \) test was calculated comparing experimental and control group at pretest by age. Table 7 shows the \( t \)-test for differences by age. The \( t \) test comparison by age found no significant difference between age groups. Therefore no additional analyses were completed since age did not show any significant impact on critical thinking.

Table 7

\( t \)-test for Differences by Age (Pretest)

<table>
<thead>
<tr>
<th>Age</th>
<th>Group Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Control</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th>Age</th>
<th>( t )-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( t )</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.658</td>
</tr>
<tr>
<td>Equal variance not assumed</td>
<td>.668</td>
</tr>
</tbody>
</table>

*Level of significant > .05*
Summary

The purpose of this investigation was to examine the impact of guided narrative reflection on critical thinking skills during the preceptorship experience. The quantitative study failed to support the hypothesis that guided reflective journaling would enhance critical thinking skills during a ninety hour preceptorship experience in the associate degree nursing program. The fact that this study did not demonstrate enhancement of critical thinking skills through the use of narrative journaling is a significant finding that has implications for nursing education. This finding could be especially useful for the associate degree nursing programs utilizing preceptorship clinical learning experience. Posttest did not demonstrate an increase in total mean scores for the experimental group, which must be considered when planning clinical experiences. Subscale results also showed noticeable differences between the control and the experimental group. A decrease in the total means scores for each of the subscales areas was particularly significant. Examination of the results showed a decrease in total mean score for the experimental/journaling group. These findings will be discussed in Chapter V because of their importance to nursing education and the fact that journaling, at least in this research, had an inhibiting effect on critical thinking skills during the preceptorship experience. The findings indicated that guided reflective journaling does not enhance the development of the kind of critical thinking skills tested in this study.
CHAPTER V:
DISCUSSION

This study examined the impact of guided narrative reflection on the development of critical thinking skills during the nursing preceptorship experience. It was hypothesized that journaling would result in an increase in critical thinking skills as indicated by an increase in total mean score on a test of critical thinking after a ninety hour preceptorship experience. Chapter V discusses interpretation of the findings, consideration of the findings in light of the existing research, significant findings, implications for nursing education, and the limitations of the study that may affect the validity or the generalizability of the results and recommendations for further research.

Interpretation of the Findings

Results of the data analysis indicated no increase in total mean scores in the two groups. In fact, the experimental group’s total means score decreased on the posttest. Scores for the control group remains constant for pretest and posttest, but there was a difference in the post-test scores for the experimental group. Differences in mean scores of the five subscale categories were also significant. The five subscale areas were inductive reasoning, analysis, deductive reasoning, inference, evaluation, and explanation. The control group’s total mean score for all the subscales tested was higher than the experimental group on posttest.

In examining post-test scores, it is interesting to note that the participants with the higher scores were in the range of 21 to 52 years of age. These participants were randomly placed in the control group without the researcher’s knowledge of participants’ age or critical thinking ability.
Two subjects in this age group were over 40 years of age and scored 25 or greater on posttest. These were the same subjects who scored 24 or better on pretest. Three subjects who were 21 years of age had total scores of 16 or less on pretest, and one of these subjects had a total score of 10 on post. These results were interesting but no data were found that supports a relationship between age and critical thinking. Riddell (2007), in her study on critical assumptions, agreed with Martin’s (2002) findings that “critical thinking and clinical nursing expertise were found to be higher with age and clinical experience but not with progression through the nursing education program” (p. 125). The results of this study suggest more research is needed to determine a correlation between age and critical thinking.

In discussing the results obtained from this study, it is necessary to consider subjects’ desire to benefit from the journaling process. Attrition was high for this study with 18 subjects withdrawing from the study before completion. This included subjects who did not follow the directions for journaling and those that verbalized to the investigator that they thought “it took too much of their time.” Subjects had a full academic load and had little motivation to take the journaling process and the pre- and post-test seriously. All participants wanted to advance the knowledge of nursing science, but as the semester progressed, many did not continue. As stated earlier, they expressed that they “were too busy for journaling.” Ralph, Walker, and Wimmer (2009) reported responses to various aspects of the practicum experience in their study of the practicum experience with baccalaureate students. Journaling was listed in the negative responses column. They reported that “some students are not journalers but doers.” Another indicated that she never wanted to journal again as a result of the exercise.

The guide for reflective journaling using Tanner’s Model may not have been the best model for this particular study. Subjects followed the guide but found the journaling process to
be time consuming and did not help them to meet their clinical objectives. This model was originally intended to provide students with structure and guidance for consideration of clinical experiences when journaling (Neilson, Stragnell, & Jester, 2007) and for faculty to provide feedback using Lasater’s Clinical Judgment Rubric. Further studies are needed using this guide when perhaps the faculty may pre-assign the topic of the journaling based on the course objective for the week or based upon the course competency for a specified time period. In this study, the subjects were instructed to select a situation: a patient problem or family situation or ethical issue that occurred during the week. Journaling may have been more beneficial if the focus or topic of the journaling was determined by the instructor.

Reflective journaling has gained credibility in nursing education as a tool to enhance personal growth and development (Brown, Kirkpatrick, Mangum, & Avery, 2008) but further research is needed to determine its effectiveness in the development of critical thinking skills. The findings of this study indicates that guided reflective journaling does not play a significant role in the development of the kind of critical thinking skills tested in this experiment.

**Consideration of Findings in Light of Existing Research**

The results of the study showed no increase in total mean scores between the pretest and posttest between the two groups. In fact the experimental group’s total means scores decreased on the posttest. Also, no improvement was shown in the subscales of inductive reasoning, deductive reasoning, inference, analysis and evaluation, and explanation between the groups. These findings are consistent with findings of previous studies on the topic. Adams (2008) found “no statistical difference on any of the subscales between the two groups.” Thompson and Rebeschi (1999) found in their review of “seven studies that assessed critical thinking (CT) in nursing students, three studies shows no significant changes in critical thinking scores, three
studies showed a significant increase and a one study showed a decrease in critical thinking scores.” (p.249). Banning (2006), in an article discussing tools for measurement of critical thinking, also found inconsistencies in results from studies measuring critical thinking in nursing students. Daly (2001), who conducted a study similar to this study but used the Watson-Glaser Critical Thinking Appraisal instrument, also found no significant differences in pre- and post-clinical experience total means scores.

Two studies did show an improvement in critical thinking scores using problem-based learning (PBL) as a strategy. One study conducted by Tiwari, Lai, So, and Yuen compared the effects of problem-based learning and lecturing in the development of students’ critical thinking. Tiwari, Lai, So, and Yuen (2006) found significant differences in critical thinking disposition between two groups. The group who received the intervention of PBL had higher scores than the lecture group. Another quasi-experimental study conducted by Yuan, Kunaviktikul, and Klunklin (2008) reported an increase in critical thinking skills on the HSRT posttest for critical thinking using problem based learning as an intervention.

Lauterbach and Hentz (2005) have advocated the use of “reflective journaling as a tool to empower students; it validates and clarifies meaning in care experiences” (p. 29). In keeping with the findings of this study, Riddell (2007) noted that critical thinking and clinical nursing expertise were found to be higher with age and clinical experience.

**Implications for Nursing Education**

This study added to the body of knowledge of nursing education by establishing the fact that the pedagogy of guided, narrative, reflective journaling did not enhance critical thinking skills during the nursing preceptorship for the associate degree nursing students. In fact, from this research, journaling had a negative impact on the development of critical thinking skills.
Using the HSRT yielded information on levels of critical thinking skills, which could perhaps assist nursing programs in structuring the curriculum to build on a strong to moderate levels of critical thinking. Teaching strategies and learning approaches must be developed to enhance critical thinking skills and prepare the associate degree graduate nurse to translate knowledge and theory into practice. Journaling may actually hinder the development of critical thinking skills in the areas assessed by the HSRT. The benefits of journaling for nursing students exist as seen when using the California Critical Thinking Disposition Inventory (CCTDI) tool (Tiwari, Lai, So, & Yuen, 2006). This study compared PBL with lecture in the development of critical thinking skills in nursing student. Areas where improvements were seen was with an intervention was in truthseeking, analyticity, critical thinking, self-confidence, and systematicity. These areas measured the disposition toward critical thinking. “Nurturing the disposition toward critical thinking is considered as integral to ensuring the use of critical thinking skills outside the narrow instructional setting, with an extension into professional practice and civic life” (Tiwari, Lai, So, & Yuen, 2006, p. 548). Facione and Facione (1997) suggested that critical thinking disposition correlates with critical thinking skills. Journaling may be used in the curriculum of nursing programs to “build students’ sense of empowerment through personal clarification of opinions, beliefs, and feelings” (Langley & Brown, 2010, p. 13). This could be a powerful learning experience in itself for young nursing students and novice nurses from an associate degree nursing program.

**Limitations**

Although examining the impact of narrative, guided reflective journaling on critical thinking skills development is important, this study has several important limitations. A small sample size restricted the ability to generalize the findings. These limitations are similar to that
of the published work reviewed for this study. Sample size is an important factor in quantitative nursing research and it is most difficult to recruit students to participate especially when it is imperative that research continue in order to graduate nurses with critical thinking skills at the entry level of practice.

Also convenience sampling was used for subject recruitment for this study. The sites used to select subjects were community colleges located near a large metropolitan city. Subjects were randomly placed in the control or experimental group by blind draw but subjects may have shared their journals contents. Additionally, subjects did not try to avoid disclosure of group placement at the individual community college. Many of the subjects communicated with each other during the study and may have even compared journal notes. Some of the questions the subjects had concerning journal entry started with “we were wondering if we were doing this according to the guidelines, is this what we should be doing?” The researcher could not prevent this interaction between and among subjects at the individual community college.

The length of the preceptorship experience was 90 hours over one semester. Some subjects completed the experience in three weeks where as others took up to nine weeks. Posttests were administered within one week of preceptorship completion but some subjects did not complete the preceptorship experience for up to nine weeks. The ninety hours of preceptorship remain constant for all subjects but the time between clinical experiences was varied and therefore the time for thoughts and examination of feelings regarding the clinical experiences varied.

Selection of preceptors was not under the control of the researcher. The investigator had no knowledge of preceptors in terms of baccalaureate degrees, teaching skills or ability,
experience as a preceptor or their experiences as nurses. Strategies that could enhance or hinder critical thinking skill development were not discussed by the researcher with the preceptors.

The sample was 80% female and 20% male subjects. Although nursing programs do not limit their enrollment of male students, females make up the largest group in nursing schools in Alabama. Both colleges in the study had male students’ enrollment in the nursing program at 5% or greater; the male participation in this study was above the class average at 20%. Possible reasons for this fact may include the attrition of female students in the study. Males were lost from the study but the greatest loss was the female subjects especially in the control group. A summary of reasons given for female withdrawal from the study included heavy responsibility at home, work, and school; inadequate time to continue in the study; and no time to make journal entries. Males that did not complete the study did not offer explanations or did not complete the journals as instructed.

**Recommendations**

This study should be replicated with a larger sample and in various geographic locations. Strategies to enhance critical thinking during the preceptorship experience must be employed by the associated degree programs. Considering the hours and effort required of the student during the preceptorship period, benefits associated with critical thinking skills is a reasonable and expected outcome. This study explored the impact of one intervention used during the preceptorship experience but others strategies are available to the faculty. Such methods as preceptor questioning, modeling of thinking process (Sorensen, 2008), pairing of students during clinical experiences to check each other for accuracy and comparing solutions and options and clinical conferences (Brown, Kirkpatrick, Greer, Matthias, & Swanson, 2009) may serve to enhance critical thinking.
Critical thinking skills of registered nurses are essential for patient safety. The search to discover strategies to improve critical thinking skills in nursing students is ongoing. Journaling has many benefits in nursing education but, in this study, it did not increase critical thinking skills. Journaling’s impact on critical thinking skills was negative for the areas tested and may be a more useful tool for building self-confidence and self-regulation. Further research is indicated to identify strategies to enhance critical thinking during the preceptorship experience in the associate degree nursing program.
REFERENCES


## Appendix A
Lasater’s Clinical Judgment Rubric

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<th>Noticing</th>
<th>Interpreting</th>
<th>Responding</th>
<th>Reflecting</th>
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<td>Focused observation</td>
<td>Prioritizing</td>
<td>Calm, confident manner</td>
<td>Evaluation/self analysis</td>
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<td>Recognizing deviations</td>
<td>Making sense</td>
<td>Clear communication</td>
<td>Commitment to improvement</td>
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<td>Information seeking</td>
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<td>Well-planned intervention and flexibility</td>
<td>Being skillful</td>
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Appendix B

Questions for students’ self-reflection after decisional event:

1. What was I doing?
2. How was I doing?
3. How was I being?
4. What do I need to do differently?
5. How do I need to think differently?
6. How do I need to be different?
Appendix C

The Health Sciences Reasoning Test

1. For the last couple of days Julie, a twenty-six year old female, has been experiencing a mild sore throat and nasal congestion. These symptoms could be associated with a variety of illnesses but they are most commonly associated with a common cold virus. What is the most reasonable thing to think at this point?
   A = Julie definitely has a cold.
   B = Julie probably has a cold.
   C = Julie probably doesn’t have a cold.
   D = Julie definitely doesn’t have a cold.

2. When a new drug is approved for use, it is usually believed to be a little better than previously available drugs. Suppose that a new drug, Bexivong, is introduced. Fred is currently using the old drug, Pinafax. Pinafax works better for Fred than the drug he used to take, Zygorhyme. What is likely to happen if Fred switches to Bexivong from Pinafax?
   A = Bexivong will definitely be better for Fred.
   B = Bexivong will probably be worse but it might be better for Fred.
   C = Bexivong will definitely be worse for Fred.
   D = Bexivong will be no better nor worse than Pinafax or Zygorhyme.
   E = Bexivong will probably be better for Fred, but it might be worse.

3. On a damp March afternoon a person stops at the pharmacy to buy some over the counter cold medicine for herself. She sees dextromethorphan to suppress a cough, pseudoephedrine for nasal congestion, and acetaminophen for fever and discomfort. There is also a nationally known and widely advertised combination preparation that mixes all of these drugs. She has no fever and no cough; for now her symptom is her nasal congestion. So, for her, the best choice of medication would probably be
   A = the combination preparation because the box says “For colds.”
   B = acetaminophen because she might develop a fever.
   C = pseudoephedrine to ease her nasal congestion.
   D = dextromethorphan in case she does get a cough.
   E = none, because it is always better not to take any medications.

4. Suppose that the city’s health care services are suddenly inundated with hundreds of victims seeking emergency care. Initially they present with nausea, vomiting, severe headaches, bleeding from the gums and nose. Within six to eight hours many of these victims begin experiencing severe respiratory distress. Within twenty-four hours children and elderly begin dying. At about the same time the health care workers who had been on duty caring for these victims begin exhibiting some of the same symptoms. At this point, the cause of the symptoms has not been identified. Given what is known and what is not known about the situation, which of the following principles should take the top priority in guiding decision-making in this time of crisis?
   A = Assure that the victims give their informed consent to treatment.
   B = Use all necessary means to find and quarantine all who have been exposed.
   C = Respect the rights of all citizens to privacy and freedom of assembly.
   D = Minimize the threat of litigation by refusing to accept any more patients.
   E = Ration food, water, and medical supplies for an uncertain future.
Appendix D

Sample CCTST

Instructions

ON-LINE:
1. Obtain a login and password from the instructor or test administrator.
2. Follow the instructions given on the on-line testing computer screen.
3. When answering, select the best choice from among those provided.
4. Read questions carefully.
5. Respond to all the questions.

PAPER & PENCIL:
1. Use a pencil.
2. Use the Health Sciences Reasoning Test Answer Sheet.
3. Bubble in your ID number and write your name on the Answer Sheet.
4. When answering, select the best choice from among those provided.
5. Read questions carefully.
6. Respond to all the questions.

EXAMPLE QUESTION:

E.g. Three friends, Anna, Barbara, and Carol, completed the same clinical skills training course. The three of them worked together as a team the whole time. When the final grades came out, Anna had earned a grade of “pass with distinction,” which was higher than Carol’s grade of “pass.” Carol’s grade was the same as Barbara’s, who also earned a “pass.” Deirdre, who always had said that she thought the course was silly and too easy, was given a grade of “fail.” Given this information only, it follows that

A = Carol and Barbara deserve “pass with distinction.”
B = Barbara’s grade was higher than Carol’s.
C = Barbara’s grade was higher than Anna’s.
D = Deirdre’s grade was lower than Anna’s.
E = Anna will decide to take more advanced courses.

EXAMPLE RESPONSE:

| A | O  |
| B | O  |
| C | O  |
| D | *  |
| E | O  |

EXPLANATION OF CHOICE D:

D: Yes. Deirdre’s grade was lower than Carol’s and, as a result it is lower than Anna’s. Choice “D” must be true.
E: Maybe, but from the information given we cannot determine what she will decide to do.
Appendix E
Tools for journal writing: loose-leaf paper (100 sheets), a one-inch three ring binder, and one package of medium-point Bic ink pens.
Appendix F


Instructions

This guide for reflection is intended to help you think about a given clinical situation you have encountered during the past week and your nursing response to that situation. The situation can be a specific physiological patient problem, such as an elevation in temperature, respiratory difficulty, or electrolyte imbalance. You may choose to describe a situation involving a patient’s family. The situation can be a description of your role in interdisciplinary problem solving. The reflective situation may describe an ethical issue you encountered in practice. Use the guide for reflection as a way to help you tell the story of the situation you encountered. The guide provides you with a way of thinking about care that supports the development of your clinical judgment. Although there are many ways of organizing your thinking about patient care and professional nursing practice, Tanner’s (2006) Clinical Judgment Model provides the framework for the questions you are to answer about the situation. Feedback about your reflection will be provided using the Lasater (2007) Clinical Judgment Rubric.

Introduction

Background

- previous contact with patient and/or family member, the quality of your relationship).
- Consider experiences you have had that helped you provide nursing care in this situation.
- Describe your formal knowledge (e.g. physiology, psychology, communication skills, previous nursing experience with a similar problem, and/or personal experience that helped guide you as you worked with the patient).
- Describe your beliefs about your role as the nurse in working on the situation.
- Describe any emotions you had about the situation.

Noticing

- What did you notice about the situation initially?
- Describe what you notice as you spent more time with the patient and/or family.

Interpreting

- Describe what you thought about the situation (e.g. its’ causes, potential resolutions, patterns you noticed).
- Describe any similar situation you have encountered in practice before. Describe any similarities and difference you observed when compared with current situation.
- What other information (e.g. assessment date, evidence) did you decide you needed as you considered the situation? How did you obtain this information? What help with problem solving did you get from your preceptor?

Your conclusion: What did your observations and data interpretation lead you to believe? How did they support your response to the situation? Include patient pathophysiology and/or psychopathology.
Responding

- After considering the situation, what was your goal for the patient, family, another staff? What was your nursing response, or what intervention did you do? List all actions that you took.
- Describe the stressors you experienced as you responded to the patient or others involved in the situation.

Reflection in Action

- What happened? How did the patient, family and/or staff respond? What did you do next?

Reflection on Action and Clinical Learning

- Describe three ways your nursing care skills expanded during the experience.
- Name three things you might do differently if you encounter this situation again.
- What additional knowledge, information, and or skills do you need when encountering this kind of situation or a similar situation in the future?
- Describe any change in your values or feelings as a result of this experience.
Appendix F

Informed Consent

STUDY TITLE: Reflection as a Tool to Enhance Critical Thinking during the Nursing Preceptorship Experience

INVESTIGATOR’S NAME, POSITION, FACULTY OR STUDENT STATUS: Linda F. Rose, MSN, RN-BC, graduate student at The University of Alabama.

You are invited to participate in a research study on "Reflection as a Tool to Enhance Critical Thinking during the Nursing Preceptorship Experience". The study is being done by Linda F. Rose, who is a graduate student at The University of Alabama. Ms. Rose is being supervised by Dr. Marietta Stanton who is a professor of Nursing and Department Chair at The University of Alabama.

WHAT IS THE STUDY ABOUT? This research study will be done to determine if the intervention of reflective journaling, during the nursing preceptorship experience, will increase critical thinking skills as measured by the California Critical Thinking Skills Test. Two groups of nursing students will be compared, one group will use the intervention of reflective journaling during the clinical experience and the other group will keep a log of attainment of clinical objectives. Subjects in both groups will write the CCTST before the beginning of the preceptorship experience and subjects in both groups will write the CCTST at the completion of the preceptorship experience. The data will be analyzed to determine if there is a significant difference in critical thinking skills scores between the two groups.

PURPOSE: The purpose of this study is to determine if the strategy of guide narrative reflective journaling during the nursing preceptorship experience will result in a significant difference in scores on a test of critical thinking skills. Specifically, the purpose is to determine if there is a significant relationship between critical thinking ability and guided narrative reflection during the preceptorship experience.

WHY IS THE STUDY IMPORTANT OR USEFUL? This study is important because of the escalating shortage of registered nurses. It is estimated that over 1.2 million new and replacement nurses will be needed by 2014. The associate degree nursing programs produce the greatest number of registered nurses in America. The National League for Nursing has identified critical thinking as an essential component of nursing education. In 2003, the American Association of Colleges of Nursing (AACN) endorsed the use of preceptorship models as an innovative means to provide students with quality clinical experiences. It is imperative to know if the preceptorship experience influences the acquisition of critical thinking skills.

Because so few studies have been done on the topic of preceptorship and critical thinking skills for associate’s degree seeking nursing students, the completion of this study would provide a major contribution to the literature. If this study finds that preceptorship programs result in acquisition of critical thinking skills, educators could use the information to update the curriculum by including the use of reflective journaling in the practicum course placed in the final semester before graduation. Confirmation that students have acquired critical thinking skills during the intense clinical concentration period would enable faculty to outline strategies for students and preceptors to follow in order to assure full participation and execution of all steps of the process. Students would then gain the critical thinking skills necessary for safe and efficient patient care. If no relationship exists between the preceptorship experience and critical thinking,
faculty will then be able to place critical thinking in the appropriate section of the curriculum in order to assure that this vital part of nursing education is not be omitted.

**WHY HAVE I BEEN ASKED TO BE IN THIS STUDY?** You are being asked to participate in this study because you are currently enrolled in NUR 204, the clinical Preceptorship Course of your nursing program. The researcher will study the relationship of the acquisition of critical thinking skills and the preceptorship learning experience in an associate degree nursing program.

**HOW MANY OTHER PEOPLE WILL BE IN THIS STUDY?** There will sixty (60) subjects in this study. You will be asked to participate in a study that will analysis the difference in results obtained on the CCTST between two groups of subjects. You will be randomly placed either in the experimental group or the control group. The experimental group will receive the intervention of a narrative journal writing, the control group will not receive the intervention of narrative journaling. Random selection means that all participants in the study will have equal chance of being placed either in the control group or in the experimental group. Placement in the control or experimental group will be determined by a blind draw of identified participants from a hat using a coin toss before each draw. For example, “heads means the draw will be Experimental group and tails indicates that the participant will be placed in the Control group”. You will write the California Critical Thinking Skills test before you begin your preceptorship experience and again after you complete the preceptorship experience. The results on the CCTST will be reported by a code from The INSIGHT ASSESSMENT Company (the owners of the California Critical Thinking Skills Test). Your participation in this study is voluntary and you will not be penalized for non participation.

**WHAT WILL I BE ASKED TO DO:** You will be asked to participate in this study that will analysis the difference in results obtained on the CCTST between two groups of subjects. One group will receive an intervention, the experimental group; the other group will not receive the intervention, the control group.

If selected for the experimental group you will be given instructions on reflective journal writing that will explain how and when to make journal entries. The directions for journaling will give examples of types of events to consider for journal entry. Examples include: decisions on making assignments for the nursing personnel on the unit, action taken in a cardiac or respiratory arrest, PRN medication administration, which patient to provide care for first from a list of patients with various diagnosis or alterations and decisions on prioritizing nursing activities. Each clinical preceptorship day you will be asked to enter in the journal a summary of a decisional event. Additionally you will be asked to answer the following questions related to that event: What was I doing, How was I doing, How was I being, What do I need to do differently, How do I need to think differently and How do I need to be differently? The materials for journal writing will be provided for you. The materials are: Bic ink pens (10), one (1) white three ring binder and 100 sheets of lined notepaper. The journals will be collected at specified intervals and examined for compliance with instructions given in the lecture. If needed, a repeat of the lecture on Reflective Journaling will be given to individual subjects who have not entered in the journal according to instructions. After completion of the study, the journals will be kept by the investigator in a locked file for no longer than five (5) years. After this time, the journals will be destroyed by the investigator by shredding. The standards learned in the class you completed for your HIPPA certification here at the school will be applied to this study. All patient information will be kept in strictest confidence, no written journals or logs will contain patient identifying information.
If you are selected for the control group, you will keep a log of clinical goal attainment. Your clinical instructor will monitor your log as indicated in the course overview. The standards learned in the class you completed for your HIPPA certification will be applied to this study. All patient information will be kept in strictest confidence, no written journals or logs will contain patient identifying information.

**HIPPA REGULATIONS**

“No patient identifying information will be included in the journals or logs compiled by the subjects. All HIPPA rules and regulations apply to safeguarding patient identification. All journals and logs are to be kept secure by the subjects during the study”. Upon completion of the study, the investigator will secure the journals in a lock desk for five years and then destroy them by shredding.

**TIME INVOLVEMENT:** Your participation in this experiment will require a total of eight hours (8 hours) of your time. The first day of the NUR 204 class will require 30 minutes of time for introduction, explanations and recruitment of volunteers for the study. Directions for the Reflective Journaling will require 30 minutes; the California Critical Thinking Skills Test (pre and post-preceptorship) will require one (1) hour each to complete, debriefing time is 30 minutes and time spent in consultation with the investigator will be 30 minutes. A repeat of lecture for those who are non-compliant with instructions on journaling will require 30 minutes. Journaling for each clinical day will require a minimum of 30 minutes per day for a total of 3 hours and 30 minutes.

**WILL BEING IN THIS STUDY COST ME ANYTHING?** There will be no cost to you for participating in this study.

**WILL I BE COMPENSATED FOR BEING IN THIS STUDY?** You will not receive payment for your participation in this study.

**CAN THE INVESTIGATOR TAKE ME OUT OF THE STUDY?** The investigator can remove a subject from the study if the participant is non-compliant with journal writing instructions even after repeat instructions are given. If the subject withdraws from NUR 204 before completion of the course, then the subject will be withdrawn from the study. If the participant does not to write the pre or post preceptorship California Critical Thinking Skills Test then the subject will be taken out of the study.

**WHAT ARE THE RISKS (DANGERS OR HARMs) TO ME IF I AM IN THIS STUDY?** There are no foreseen risks or discomfort associated with this study. Your decision whether or not to participate in this study will not affect your grades in school.

**WHAT ARE THE BENEFITS (GOOD THINGS) THAT MAY HAPPEN IF I AM IN THIS STUDY?** The potential benefit of participation in this study is the satisfaction of knowing that this study will add to the body of nursing knowledge, that future nursing students may have improved critical thinking skills and that patients may receive better nursing care. We cannot and do not guarantee or promise that you will receive any benefits from this study. Your decision whether or not to participate in this study will not affect your grades in school.
HOW WILL MY PRIVACY BE PROTECTED? Your personal information will not be shared with anyone. The investigator and her chair are the only individuals who will have access to the coding system used to record data. All data collected will be kept in a locked desk and only the investigator will have a key to that desk. All face-to-face contact with the researcher will take place at the college campus.

HOW WILL MY CONFIDENTIALITY BE PROTECTED? The journals will be maintained in a locked desk when they are given to the investigator. Your identity will be protected by a coding system that will be known only to the investigator and her Advisor/Committee chair. The information obtained from the study will not reveal your names or any personal information concerning you. Individual scores on the California Critical Thinking Skills Test will not be shared with your professor or the school’s administration.

Articles will be written on this study but participants will be identified only as “persons from a college in western Alabama”. No one will be able to recognize you.

WHAT ARE THE ALTERNATIVES TO BEING IN THIS STUDY? The only alternative is not to participate.

SUBJECT'S RIGHTS: If you have read this form and have decided to participate in this project, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. You have the right to refuse to answer particular questions. Your individual privacy will be maintained in all published and written data resulting from the study. Not participating or stopping participation will have no effect on your relationships with The University of Alabama.

The University of Alabama Institutional Review Board is a committee that looks out for the ethical treatment of people in research studies. They may review the study records if they wish. This is to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

WHO DO I CALL IF I HAVE QUESTIONS OR PROBLEMS? “If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish, Ms. Tanta Myles, the Research Compliance Officer of the University, at 205-348-8461 or toll free at 1-877-820-3066.

You may ask questions, make a suggestion, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html. After you participate, you are encouraged to complete the survey for research participant that is online there, or you may ask Mr. Shirley for a copy of it.

MY SIGNATURE INDICATES AGREEMENT WITH THE FOLLOWING:
I agree to write the California Critical Thinking Skills Test before starting the preceptorship experience and after completion of the preceptorship experience.

I agree to randomized placement in the either the control group or the experimental group.

I agree to participate in reflective journaling following the guidelines provided or logging of obtainment of clinical objective in a notebook as assigned.

I agree to abide by HIPPA regulations.

I have been given a copy of this consent form and I have had a chance to ask questions. You may also e-mail us at participantoutreach@bama.ua.edu.

I have read this consent form. I have had a chance to ask questions.

The extra copy of this consent form is for you to keep.

________________________________________ DATE ____________
Signature of Research Participant

________________________________________DATE____________
Signature of Investigator
### Appendix G

**Application for Doctoral Dissertation Research Pricing**

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<td>Very brief summary</td>
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<tr>
<td>or your research question(s)</td>
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**Estimated quantity of tests required**

**Estimated date(s) of testing**

**Assurance that you will comply with all the provisions and restrictions:**

I assure that I will make provisions to guarantee the security of the testing instruments I will purchase from Insight Assessment; that I will safeguard all testing materials; that the instruments will be administered correctly, as specified in their User Manuals; that the test data will be interpreted with integrity; and that the test data will be used in accordance with the appropriate standard on the ethical use of tests of individual difference and measures collected on human subjects (see your test manual for an example of a standard guideline).

Signature:

**Assurance of copyright**

These testing materials are protected by U.S. and international copyright laws and are the intellectual and scholarly property of the copyright holders. No copyright(s) will be violated. No copies will be made of the testing instruments, in whole or in part. Neither the tests, nor the data reports will be made available for sale to other parties. Permission may be obtained to reprint material from any User Manual with the appropriate citation.

Signature:
Appendix H

NUR 204 Course Description

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Course Description

Prerequisites: As required by program
Co-requisites: As required by program
NOTE: There is an approved plan-of-instruction for this course.

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided for preparing for the NCLEX-RN.
Appendix I

Control group Script

The title of the research study is "Reflection as a Tool to Enhance Critical Thinking during the Nursing Preceptorship Experience". The study is being done by Linda F. Rose, who is a graduate student at The University of Alabama. Ms. Rose is being supervised by Dr. Marietta Stanton who is a professor of Nursing and Department Chair at The University of Alabama.

The purpose of this study is to determine if the strategy of guide narrative reflective journaling during the nursing preceptorship experience will result in a significant difference in scores on a test of critical thinking skills.

For this study, you will take the Health Science Reasoning Test on critical thinking in the computer laboratory here on campus before you begin the clinical preceptorship experience. During your preceptorship experience, you will enter into your notebook every clinical day, a note that addresses which clinical objective you have met and how you have met that clinical objective for the day. This notebook will be given to your clinical instructor weekly. Within one week of completion of the preceptorship experience you will take the Health Science Reasoning Test in the computer laboratory here on campus.

Do you have questions?
Appendix J

Experimental Group Script

The title of the research study is "Reflection as a Tool to Enhance Critical Thinking during the Nursing Preceptorship Experience". The study is being done by Linda F. Rose, who is a graduate student at The University of Alabama. Ms. Rose is being supervised by Dr. Marietta Stanton who is a professor of Nursing and Department Chair at The University of Alabama.

The purpose of this study is to determine if the strategy of guide narrative reflective journaling during the nursing preceptorship experience will result in a significant difference in scores on a test of critical thinking skills.

For this study, you will take the Health Science Reasoning Test on critical thinking in the computer laboratory here on campus before you begin the clinical preceptorship experience. Follow the written instructions provided for journaling. Tanner’s Model has been provided as a handout to you and will serve as your guide for journaling.

The journals will be reviewed at 16 hours, at 24 hours and at 60 hours of the preceptorship experience for compliance with the guide. The researcher’s telephone number is provided if you have questions or you need further clarification on the journaling process.

Within one week of completion of the preceptorship experience you will take the Health Science Reasoning Test in the computer laboratory on campus and completed journaling notebooks will be returned to the investigator.

Do you have questions?
Attached:

1. Standard Associated Degree Nurse Curriculum

2. NUR 204, Role Transition for the Registered Nurse

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Course Description Updated 8/02/05

Prerequisites: As required by program
Co-requisites: As required by program

NOTE: There is an approved plan-of-instruction for this course.

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided for preparing for the NCLEX-RN.
Appendix K

October 19, 2011

Linda F. Rose, MSN, RN-BC
Graduate Student, Nurse Educator Program
Capstone College of Nursing
The University of Alabama

Re: IRB # 11-OR-121-ME: "Reflection as a Tool to Enhance Critical Thinking during the Nursing Preceptorship Experience"

Dear Ms. Rose:

The University of Alabama Medical Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval, according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on April 7, 2012. If your research will continue beyond this date, complete the relevant portions of Continuing Review and Closure Form. If you wish to modify the application, complete the Modification of an Approved Protocol Form. When the study closes, complete the appropriate portions of FORM: Continuing Review and Closure.

Please use reproductions of the IRB approved informed consent form to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

[Signature]

Carolyn T. Myler, MSM, CIRB
Director & Research Compliance Officer
Office for Research Compliance
The University of Alabama