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Faculty's Perceptions of Students' Abilities to Utilize Self-Regulated Learning Strategies to Improve Critical and Reflective Thinking in Making Clinical Decisions: A Methodological Study

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FACULTY'S PERCEPTIONS OF STUDENTS' ABILITIES TO UTILIZE SELF-
REGULATED LEARNING STRATEGIES TO IMPROVE CRITICAL AND
REFLECTIVE THINKING IN MAKING CLINICAL DECISIONS: A
METHODOLOGICAL STUDY

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THE GRADUATE COLLEGE

We recommend the dissertation prepared under our supervision by

Amber Lynn Donnelly

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ABSTRACT

Faculty's Perceptions of Students' Abilities to Utilize Self-Regulated Learning Strategies to Improve Critical and Reflective Thinking in Making Clinical Decisions: A Methodological Study

by

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With the rapidly changing health care system, new nurses are expected to be able to collect pertinent data, access resources, prioritize information, solve problems, and ultimately make sound clinical decisions (Kuiper, 2005). Supporting evidence has shown that using self-regulated learning strategies (SRLS) increases the development of critical and reflective thinking within the clinical reasoning context (Kuiper & Pesut, 2004). Despite the fact that instruments have been developed to examine students' perception of the use of SRLS, there is no existing instrument to measure nursing faculty's perceptions of a student's ability to utilize self-regulated learning strategies in the clinical setting. This dissertation describes the development and psychometric testing of an instrument designed to measure faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions. The Faculty Perceptions Self-Regulated Learning Strategies (FPSRLS) instrument was developed in the following three phases: phase one involved a systematic literature review to identify the key characteristics needed to be considered in the instrument; phase two involved the identification and selection of items for inclusion in the instrument, and subsequently establishing content validity via expert review of the items; phase three

involved the field/pilot testing of the FPSRLS instrument with undergraduate nursing faculty to determine feasibility and reliability. This Phase was also essential in establishing the construct validity of the instrument using exploratory factor analysis.

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CHAPTER 1

FACULTY'S PERCEPTIONS OF STUDENTS' ABILITIES TO UTILIZE SELF-REGULATED LEARNING STRATEGIES TO IMPROVE CRITICAL AND REFLECTIVE THINKING IN MAKING CLINICAL DECISIONS: A METHODOLOGICAL STUDY

The question of how to ensure that new graduate nurses are adequately prepared for safe and effective practice in the dynamic world of professional nursing is a central concern for nursing faculty. This chapter describes the problem addressed in this study and provides a rationale for developing an instrument to measure nursing faculty perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions. This chapter will also address the role of nursing faculty and a number of issues that establish the need for the use and integration of self-regulated learning strategies (SRLS) in the clinical setting and thus, the significance of conducting research to explore nursing faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking. Finally, conceptual and operational definitions of terms related to the development of this research instrument are provided. The term "clinical nursing faculty" will be referred to hereafter as "nursing faculty" throughout the research study. A detailed definition of clinical nursing faculty is given in the definitions section of chapter one.

Problem and Purpose

According to Del Bueno, "only 35 percent of new registered nurse RN graduates, regardless of educational preparation and credentials, meet entry level expectations for

clinical judgment” (2005, p. 278). Available data suggests that newly graduated nurses may have a knowledge deficit in the development of critical and reflective thinking skills necessary for safe and effective clinical reasoning (Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2009). Using self-regulated learning strategies during pre-licensure education increases the development of critical and reflective thinking for clinical reasoning (Kuiper & Pesut, 2004).

Clinical education has been seen as the heart of professional nursing education (Morgan, 1991) and is still considered a major component of nursing education. Nursing faculty may be in a primary position to promote the development of critical and reflective thinking skills using SRLS during the pre-licensure clinical instruction period; however, it is not known what faculty’s knowledge, perceptions, and attitudes are toward SRLS in the clinical setting. Moreover, there are no reliable or valid nursing-related instruments to measure faculty’s perceptions of students’ abilities and attitudes related to SRLS in the clinical setting. Therefore, the purpose of this study is to develop and psychometrically test such an instrument. This instrument is intended to measure faculty’s perceptions of students’ abilities to utilize SRLS to improve critical and reflective thinking in making clinical decisions.

Background

Nursing faculty are considered the core of nursing education (Mancuso, 2009). While there are many roles related to teaching in a nursing program, one of the essential roles is that of teaching in the clinical setting. The role of the nursing faculty is to help students acquire intellectual knowledge, effective attitudes, and psychomotor skills necessary for the professional practice of nursing (Li-Ling, 2006). Nursing faculty are

required to prepare students to think, reason, and reflect critically in order to ensure safe and effective clinical practices. The nursing faculty have the responsibility to teach students not just what to learn but, more importantly, how to learn (Camahalan, 2006).

A change has occurred in the clinical experience of nursing students, from doing tasks to understanding through integration of theory and evidence-based research into clinical practice (Fawcett, 2007). Therefore, clinical nursing faculty can no longer just teach nursing the way that they may have been taught clinical education. In fact, the National League for Nursing (NLN) has produced literature that supports the idea that the education of nursing students can no longer follow the status quo, and that nursing faculty can no longer teach as they are likely to have been taught (Clark, 2010). A change in the technical atmosphere has created a need for nursing faculty to find teaching styles that will engage the nursing students to develop critical thinking skills to care for the current health care population and environment (Clark, 2010).

A study done by Li-Ling (2006) indicated that nursing faculty tended to be more task-oriented than learner-centered, focusing on treatment and pathology and rarely touching on nursing care questions. This type of clinical teaching by some nursing faculty may not offer the nursing students the opportunity to stimulate and develop their critical and reflective thinking skills (Li-Ling, 2006). This teacher-centered approach does not allow nursing students the time to develop clinical judgment skills, problem-solving abilities, or nursing care skills (Li-Ling, 2006). In these types of situations, it is the nursing faculty who give the direction and offer students the information that they are required to know. An important question posed by Li-Ling (2006) is how it is possible to establish high quality nursing education if nursing faculty do not change their clinical

teaching methods but rather treat their work as just routine training. Nursing educators need to gain understanding about how their beliefs affect educational teaching in the clinical setting between the nursing educator and the nursing student (Heimlich & Norland, 2002). Nursing students perceive that the clinical setting is the most influential context for acquiring knowledge and nursing skills (Chan, 2003).

Critical and Reflective thinking

Current nursing education trends emphasize the need for critical thinking skills (Clark, 2010). Nursing faculty were asked, through a mandate from the National League for Nursing in 2005, to create more research regarding teaching strategies that promote the development of critical thinking for nursing students (National League for Nursing, 2005). In order for new graduate nurses to manage complex situations, they must be able to think critically, and it is expected that, through nursing education, students will be allowed to develop critical and reflective attitudes and capacities (Wangensteen, Johansson, Bjorkstorm, & Norstrom, 2010). Current research indicates a link between positive patient outcomes and nurses who use critical thinking in nursing practice (Forneris & Peden-McAlpine, 2007). In addition, Forneris and Peden-McAlpine (2007) conclude that without the development of critical thinking skills, nursing care may be suboptimal at best and thus affect patient outcomes.

There is a continual struggle amongst nursing educators to improve critical and reflective thinking; this demonstrates the need for innovative educational interventions that will assist the new nurse graduate with the transition into the practical nursing environment (Forneris & Peden-McAlpine, 2007). Using critical and reflective thinking to understand problem solving and clinical reasoning in the clinical setting is not a new

concept. However, current research in nursing education evaluation of the development of critical and reflective thinking is growing in number, as critical and reflective thinking are commonly associated with curriculum outcomes, planning and evaluation, and desirable characteristics of professional nursing practice (Kuiper, 2005; Li-Ling, 2006; Forneris & Peden-McAlpine, 2007).

Self-Regulated Learning and Self-Regulated Learning Strategies

Self-regulated learning (SRL) and self-regulated learning strategies (SRLS) may be of value to nursing education and to nurse educators to better prepare students for critical and reflective reasoning in clinical practices. Students' ability to develop critical thinking is enhanced when they are allowed to interact with the environment in which they are expected to function after graduation (Horan, 2009).

Self-regulated learning is a cycle of cognitive activities, including analysis of tasks and monitoring outcomes (Gifford-Lemcool, 2007). The process of self-regulated learning came from a contemporary background of critical thinking and reflective practice (Kuiper & Pesut, 2004). Reflective clinical reasoning in nursing practice depends on the development of both cognitive and metacognitive skill acquisition, which is accomplished using teacher learning strategies and the use of self-regulated learning (Kuiper & Pesut, p. 381). Teaching learning strategies are described as a method that builds on both the cognitive and metacognitive skills guided by reflection using self-regulated learning strategies (SRLS) (Kuiper & Pesut, 2004). Metacognition involves the student's ability to understand and regulate his or her own cognitive processes in order to monitor, direct, and control them (Turan, Demirel, & Sayek, 2009). Students who are metacognitively involved in their learning have skills that include taking conscious

control of learning and planning; the ability to select strategies and monitor their progress in learning; and analyzing the effectiveness of learning strategies and changing learning strategies and behavior when necessary (Turan, Demirel, & Sayek, 2009). Research has indicated that effective clinical reasoning can be achieved as the cognitive and metacognitive aspects of critical and reflective thinking in nursing practice are developed (Kuiper & Pesur, 2004).

Research using the concept of self-regulated learning has shown that it should receive more attention and its theoretical and educational relevance should not be underestimated (Camahalan, 2006). Allowing students to learn self-regulatory processes gives them a sense of control and encourages them to pay attention to their learning (Zimmerman, Bonner & Kovach, 1996). Nursing faculty are in a prime position to teach students different SRLS and how to use and apply them (Chen, 2002).

Self-regulated learning strategies are approaches used by students to plan, execute, and monitor their progress on learning tasks (Gifford-Lemcool, 2007). In addition, SRLS refers to the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning processes (Nota, Soresi, & Zimmerman, 2004). Research has shown that students in higher education who utilize self-regulated learning strategies are more likely to be successful during the learning process (Pintrich & Zusho, 2002; Schunk & Zimmerman, 1998). Because not all students possess the ability to effectively utilize SRLS, higher education institutions are looking for ways to support students in this type of learning by creating learning environments where students are active participants in their own learning process (Paulsen & Feldman, 2005).

Significance of the Study

Currently, the dynamic health care system requires newly graduated nurses to collect pertinent data, access resources, prioritize information, solve problems, and ultimately make sound clinical decisions (Kuiper, 2005). According to Hayes and Scott (2007), 33% of all newly hired graduate nurses leave their place of employment within the first year. Beecroft, Santner, Kunzman, and Dorey (2006) cited that new nurse graduates resign from nursing positions because they could not assimilate themselves to the clinical setting within the first 12 months. This could be the result of the new nurse graduate not being able to adequately apply reflective and critical thinking in the clinical setting. According to Fero, Witsberger, Wesmiller, Zullo, and Hoffman (2009) the new nurse graduate is in the early stages of developing a skill set and applying critical thinking. Unfortunately, due to nurse shortages or budgetary issues, the orientation period that new graduates would normally get has in most cases been shortened (Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2009), decreasing the new graduate's ability to have adequate time to assimilate to nursing practice. The expectation of the practicing nurses is that the graduates have the ability to recognize changes in the patient's condition, perform independent nursing interventions, anticipate order changes, and prioritize, all of which require critical thinking ability (Buerhaus, Donelan, Ulrich, Norman, Williams, & Dittus, 2005).

Nursing faculty are in a prime position to help nursing students realize that it is possible for them to generate and direct their own learning experiences by using SRLS in order to improve their use and application of critical and reflective thinking in clinical practice. Nursing students would then realize that they are self-initiators who can

exercise personal choice and control of the methods needed to attain the learning goals they have set for themselves, which would likely increase their confidence in using and applying critical and reflective thinking (Camahalan, 2006). The ability to identify and measure the nursing faculty's perceptions of their students' abilities to utilize SRLS to improve critical and reflective thinking in the clinical setting might result in a change in curriculum planning of clinical education for nursing students. The quality of nursing education and the ability of nurses to adapt to clinical roles upon graduation can be influenced by the clinical experiences they encounter in their undergraduate nursing programs (Reid-Seari & Dwyer, 2005). Incorporating SRLS could be one of the influential ways to better prepare the new nurse graduate for nursing practice.

Definition and Terms

The following terms are defined as they will be used in this study and are based on current literature.

Clinical nursing faculty: practitioners who, having a rich, wide knowledge base, have reorganized their knowledge for teaching purposes within the clinical environment (Li-Ling, 2006). In addition, the clinical nursing faculty should be multidimensional in their range of knowledge, skills and personal attributes and equally important, they must know how and when to apply them in the clinical education setting (Li-Ling, 2006).

Critical thinking: is an interactive, reflective reasoning process of making a judgment about what to believe or do (Horan, 2009). Critical thinking is an active cognitive process that goes beyond informal thinking and acquisition of knowledge and requires a step-by-step procedure of analysis, synthesis, and evaluation with dedication,

effort, time, and practice (Alfaro-LeFevre, 2004; Riddell, 2007; Van Gelder, 2005; Walsh & Seldomridge, 2006; Clark, 2010).

Self-regulated learning: is a cycle of cognitive activities including analysis of tasks and monitoring outcomes (Gifford-Lemcool, 2007, p. 16). Self-regulated learning refers to the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning process (Nota et al., 2005).

Self-regulated learning strategies: are approaches used by students to plan, execute, and monitor their progress on learning tasks (Gifford-Lemcool, 2007, p. 16).

Self-efficacy: is a personal judgment about one's ability to perform requisite actions in order to achieve specific outcomes (Klomegah, 2007).

Metacognition: An awareness of what is and is not known and what knowledge is needed to reach goals (Byrnes, 2008).

Cognitive: Thoughts and actions that reveal reactions to the environment or a particular critical thinking skill or skills (James, 2002).

Goal Setting: the ability to set learning goals and develop appropriate strategies to meet those goals (Collins, 2009; Klomegah, 2007).

Planning/Strategies: the ability to allocate individual roles and responsibilities by targeting the set goal and deciding on ways of proceeding according to the strategy by seeking and collecting necessary resources (Chen, 2002).

Implementation: the ability to successfully apply the plan/strategy to guide oneself in the learning process and generate knowledge by identifying effective strategies and tasks for learning (Vacek, 2009).

Self-evaluation: the ability to self-examine and self-evaluate one's learning performance by monitoring the learning goals set during the learning process of SRLS (Zimmermon, 1998).

Chapter Summary

The purpose of this study is to develop and psychometrically test an instrument intended to measure faculty's perceptions of students' abilities to utilize SRLS to improve critical and reflective thinking in making clinical decisions. Chapter one provides the background and information to justify the need for the development of the Faculty Perceptions of Self-Regulated Learning Strategies instrument. The importance of preparing new nursing graduates for a rapidly changing health care system was discussed in an effort to show the significance and importance of creating new ways to explore and teach clinical education to nursing students, and the need to understand how nursing faculty perceive their student's abilities to utilize SRLS to practice safely and effectively in the clinical setting. Conceptual and operational definitions were also presented in this chapter.

CHAPTER 2

REVIEW OF THE LITERATURE

Available data indicate that there has been an increase in the impact of teachers' beliefs and innovations on learning and teaching (Errington, 2001, 2004; Hofer & Pintrich, 1997; McDiarmid, 1990; Richardson, 1996; Tatto, 1998). Teachers' beliefs and perceptions are seen as a blueprint for what is or is not possible, an open or closed door to promote, inhibit or resist change, and a collective climate that can foster or inhibit innovation (Errington, 2004). If change is indicated, teachers' beliefs and perceptions should be taken into consideration in order to make changes in teaching practices (Hart, 2002; Minor, Onwuegbuzie, Witcher, & James, 2002). A review of the literature, encompassing the last 10 years, indicates that the use of self-regulated learning strategies in higher education has increased in the past decade, yet only a limited number of studies have applied the concept of self-regulated learning to teaching professionals in higher education (Kreber, Castleden, Erfani, & Wright, 2005).

Clinical Nursing Faculty

One way for clinical nursing faculty to help students be more effective in their learning is to help them become aware of alternative ways to approach learning within the clinical environment (Chen, 2002). Faculty in higher education can instruct students on how to be self-regulated learners (Coppola, 1995; Chen, 2002). For faculty, this may mean creating a learning environment where a student would have the ability to set appropriate learning goals, monitor progress towards goals, and select appropriate cognitive and metacognitive strategies to assist him/her in meeting individualized learning goals using SRL (Collins, 2009; Gifford-Lemcool, 2008). More specifically,

clinical nursing faculty can teach students to develop SRLS, which has been shown to increase nursing students' clinical reasoning abilities in such a way that a patient is positively impacted through efficient and accurate problem solving (Kuiper, 2005).

Camahalan's (2006) research indicates that "teachers use self-regulated learning with their students and therefore change the traditional perceptions that some students just cannot learn at a higher level" (p. 204). Further recommendations include consideration of learning as a process, thus encouraging students to use self-regulated learning, helping students maintain focus and meaningful learning by supporting students, and independent learning efforts with the use of SRLS (Camahalan, 2006). Nursing faculty are teaching students who are no longer viewed as passively acquiring information and knowledge provided by teachers (Li-Ling, 2006); rather, they are actively involved in reorganizing and reconstructing their existing knowledge with the addition of new knowledge (Chen, 2002).

Clinical nursing faculty may have the opportunity to make students aware of effective learning strategies that could be used in various types of learning environments and to help students use learning strategies that will be appropriate in future situations (Chen, 2002).

Student Centered Learning Environments

There are different ways to create student-focused learning environments: One such way is with student-centered learning. Student-centered learning is an approach in education focusing on the needs of the students; this is in contrast to other learning approaches that focus on the educational process, such as teachers and administrators (Blumberg, 2009). One of the challenges with this approach is that it has many

implications for the design of curriculum, course content, and interactivity of courses (O'Neil & McMahon, 2005). Some of the main characteristics with student-centered learning approaches include understanding of the material, active learning on the student's part, increased responsibilities on the student's part, increased instructor responsibilities for creating an environment that facilitates the learning process, and an assessment process that is integrated with feedback (Lin, Myers, & Yanes, 2010). Active learning that engages the student in a learning activity, called student-centered learning, has demonstrated positive effects in the area of problem solving and critical thinking (Popkess & McDaniel, 2011). Using active learning strategies like SRLS that engage the students to be actively involved in thinking about what they do has been shown to improve student outcomes (Popkess & McDaniel, 2011).

Foundation of Self-Regulated Learning

Self-regulated learning was first introduced in the mid-1980s to address how students became masters of their own learning process (Zimmerman & Schunk, 2001). The research that issued on SRL looked at asocial forms of learning, discovery learning, self-education through reading, studying, programmed instruction, and computer-assisted learning (Zimmerman & Schunk, 2001). In addition, the aspects of social learning and the application of SRL were examined and included learning from modeling, guidance, and feedback from peers, coaches, and teachers (Zimmerman & Schunk, 2001). It was determined that it is not the form of SRL that is applied but rather the student's ability to self-initiate and create the adaptive skills in pursuing SRL (Zimmerman & Schunk, 2001). It is the proposed theory of Miller & Brickman (2004) that self-regulated learning

behaviors are positively impacted by the existence of long term goals that were attained through the exposure to formal schooling.

Self-Regulated Learning Strategies

There are data that support the idea that students can be taught self-regulated learning strategies (SRLS) (Chang, 2005; Cleary & Zimmerman, 2004; Kruiper & Pesut, 2004; Kruiper, 2005; Van de Bloom, Paas, Van Merriënboer, & Van Gog, 2004; Gifford-Lemcool, 2008). By including SRLS, clinical nursing faculty can help students become aware of alternative ways to approach learning situations. This would allow students to reflect on their performances and build on experiences more efficiently, thus promoting practice of cognitive and purposeful metacognitive techniques (Kuiper, 2005). By allowing students to learn and utilize SRLS, learning becomes reflective of the goal of life-long education, which teaches students the will as well as the skill in learning (Camahalan, 2006). In order for faculty to help students learn the application of SRLS, they must also understand the concept of self-regulated processes. These processes stress the importance of learner assessment, learning styles, and instructional strategies in helping students adopt self-regulating strategies (O'Shea, 2003; Mullen, 2007).

In order for SRL to be effective, the characteristics of self-regulated learners need to be examined. According to Zimmerman, self-regulated learners are individuals who are “metacognitively, motivationally, and behaviorally active participants in their own learning process” (Chen, 2002, p. 4). In addition to having these characteristics, students can learn self-regulation through experience and self-reflection (Pintrich, 1995; Chen 2002). Self-regulated learning is a way of approaching learning through experience and

understanding in which self-reflection is incorporated into any environment (Pintrich; Butler, 2002).

The concept of self-regulation is not a personality trait; students can control their behaviors and attitudes in order to improve their academic learning and performance (Chen, 2002). This is especially true for college students, as they have greater control over their time schedule and approaches to studying and learning (Pintrich, 1995; Chen, 2002). The concept of self-regulation and the key principles of its use are applicable to any performance-based situation supporting learning in any arena (Gifford-Lemcool, 2008). Ultimately, the goal of self-regulated learning is to acquire the habit of life-long education, which entails learning not just *what* to learn but, more importantly, *how* to learn (Camhalan, 2006).

Research has shown that students who use SRLS are generally higher achievers than those who do not (VanZile-Tamsen & Livingston, 1999; Kruijer, 2005; Chen, 2002). Furthermore, research has shown that high-achieving students already possess a variety of SRLS and know how and when to use them (Eilam & Aharon, 2003; Hwang & Vrongistinos, 2002), while average and below-average performing students do not use SRLS effectively (Gifford-Lemcool, 2008). The use of self-regulated learning strategies instruction by educators has been shown to engage students' involvement and interest and give them the opportunity to monitor and evaluate the progress of their work, organize and transform information to improve learning, set goals and plan for activities, and seek assistance, as well as select or arrange physical environments to improve learning (Camahalan, 2006).

It is important for nursing students in the clinical setting to recognize resources that are available to assist them in meeting their learning goals (Gifford-Lemcool, 2008). One effective way for a student to recognize these resources is by utilizing SRLS. These SRLS strategies are achieved by using external resources, which include students' ability to regulate their effort, time, and study environment in order for them to reach their goals, as well as acquiring strategies for seeking help and peer learning (Chen, 2002; Mullen, 2007).

Other aspects of SRLS include students' ability to regulate their own physical and social environment, and the ability to control the effort and attention put into incorporating their own SRLS (Pintrich, 1995; Chen, 2002). The nursing student must be given the opportunity to use and have the appropriate environment to practice the self-regulated learning strategies to qualify as a self-regulated learner.

Zimmerman (1989) identified 14 self-regulated learning strategies derived from social cognitive theory. The fourteen SRLS include self-evaluation, organizing and transforming; goal-setting and planning; seeking information; keeping records and monitoring; environmental structuring; self-consequences; rehearsing and memorizing; seeking peer assistance; seeking teacher assistance; seeking adult assistance; reviewing tests, reviewing notes and reviewing texts (Norta et al., 2004). There is no one specific strategy or set of strategies that must be used to achieve success with SRL. The purpose of each strategy is to improve students' self-regulation of their personal function, academic performance and learning environment (Camahalan, 2006). It has been shown that using a range of SRLS represents a repertoire of alternative methods that are adaptive to students and can assist them in overcoming difficulties in learning (Norta et al., 2004).

By applying SRLS, students create opportunities to evaluate the strategies used to determine if they were adequate or inadequate, and then self-evaluate their learning strategies in order to meet a desired goal (Chen, 2002).

Faculty Perceptions of Self-Regulated Learning Strategies

While much has been written about SRLS and students, little is known about faculty in general, and nursing faculty in particular, in terms of their perception of SRLS. The literature revealed no current research on faculty's perceptions of students' ability to utilize SRLS. In addition, no instruments were found in the literature to measure faculty perceptions of SRLS in higher education or in nursing education, and therefore this research was initiated to develop and validate such an instrument. The development of the Faculty Perceptions Self-Regulated Learning Strategies instrument for nursing is based on four strategies that are reflected in the self-regulated learning theory. The learning strategies are based on Zimmerman's (1990) self-regulated learning strategies, which encompass both the cognitive and metacognitive aspects of the learning process.

Components of Self-Regulated Learning Strategies

The components include *goal setting, planning, implementation* and *self-evaluation*. Essentially, goal setting and planning are the preliminary forethought of SRL and can be accomplished by setting a learning goal and deciding on strategies to accomplish it (Kuiper, 2005). Implementation is the performance of SRL by performing the goal-directed learning actions and monitoring one's performance, and self-evaluation is the student's ability to reflect on the goal progress and adjust strategies to ensure success (Kuiper, 2005). The cyclic pattern involving self-evaluation will influence

subsequent preliminary forethought and performance and hence, further reflection each time a student employs the SRLS (Kruiper, 2005).

Goal Setting

Research has demonstrated that students who set their own goals develop increased confidence and are more committed to achieving their goals (Collins, 2009). When a student is able to set goals for his/her own learning, it is believed to affect student performance directly because it is believed to motivate individuals who put the required skill into action (Klomegah, 2007). Students who set their own goals are influenced by their own motivation and behaviors (Klomegah, 2007).

The learning goals set by a student should be specific, realistic, and obtainable for his/her achievement in any particular academic or clinical setting (Gifford-Lemcool, 2008). These goals should also match a student's abilities and the challenge of the task (Gifford-Lemcool, 2008). Each time a student uses the SRLS, he/she becomes better prepared and able to set goals that are based upon feedback from his/her past performance (Gifford-Lemcool, 2008). Likewise, as students work toward the goals, adjustments are made to learning goals and approaches in response to performance feedback through self-evaluation and guidance from the nursing faculty (Gifford-Lemcool, 2008). Clinical nursing education can make a shift from a strictly performance-based goal orientation to one which allows students to acquire the learning goals orientation during the clinical component of a nursing program (Camahalan, 2006).

Planning and Implementation

Knowles (1990) described the adult learner as being motivated by internal desires and preferring to be involved with the planning of the educational experience. Planning

includes timelines and resources, tasks and activities and a schedule and plan for achieving the defined goals (Simmons, 2010). Strategies involve setting educational goals and outcomes as well as task analysis (Chen, 2002). Developing strategies helps to promote critical thinking and empowers students by stimulating and challenging thought, giving them the opportunity to strengthen confidence, and preparing them to adhere to high standards of clinical judgment (Vacek, 2009). Implementation is the carrying out, execution, or practice of a plan, a method, or any design for doing something (Van Achterberg, Schoonhoven, & Grol, 2008). As such, implementation is the action that must follow any preliminary thinking in order for something to happen (Van Achterberg, Schoonhoven, & Grol, 2008). Researchers have found that high achievers display more implementation of SRLS than other students (Chen, 2002).

Self-Evaluation

Self-evaluation is an essential component of SRLS and is one of the most important ways to enhance a student's learning process (Chen, 2002). Self-evaluation assists the student in focusing his/her attention on, and discriminating between, effective and ineffective performance, and reveals inadequate learning strategies (Chen, 2002; Gifford-Lemcool, 2008). The knowledge that the student gains through the self-evaluation process will be used to modify the approach to similar tasks in the future (Gifford-Lemcool, 2008).

Chapter Summary

New and improved ways to educate students using innovative ideas and approaches is a teaching priority among faculty. Current recommendations for nursing education are to find successful, innovative approaches to teaching theory, nursing skills

lab, and clinical components of a nursing program. In order to make the necessary changes, clinical nursing faculty may have to examine their beliefs and perceptions about their students' abilities. Ultimately, faculty may integrate new teaching strategies if they recognize the benefits of a change or they become open to alternative ways of teaching nursing students. The data included in this literature review suggest there is a need for research to look at the use of self-regulated learning strategies in clinical nursing education and to examine clinical nursing faculty's beliefs and perceptions about their students' abilities to utilize SRLS.

CHAPTER 3

THEORETICAL FRAMEWORK

This chapter describes and discusses the learning theory that guides this research. The theory presented is that of Self-Regulated Learning Theory, which focuses on reflective and clinical reasoning skills (Kuiper, 2002). A background on Self-Regulated Learning Theory begins this chapter.

According to Bandura's Social Cognitive Theory, a social cognitive perspective of self-regulated learning (SRL) stresses the dynamic, interactive, and reciprocal relationships between context, person, and behaviors (Mullen, 2007). Self-Regulated Learning Theory was based off Bandura's Social Cognitive Theory (James, 2002). Ultimately, it is the belief that the objective of SRL is to achieve a self-set goal that Bandura's social cognitive theory described as a natural human process of monitoring and adjusting behavior to meet standards (James, 2002). In addition, Bandura (1986) considers learning strategies as a reciprocal model, meaning that learning strategies affect each other in a positive reinforcing feedback loop relationship.

Bandura (2001) emphasized the role of the student learner in the development and enactment of academic goal-directed thoughts and actions that self-reactively and self-reflectively provide for a personal learning context (Mullen, 2007). Social cognitive theory views self-regulation as a mechanism that can be affected by both internal and external factors that the student has the ability to control (James, 2002).

Self-Regulated Learning Theory

Self-Regulated Learning Theory, used as a model in nursing, proposes a theoretical structure that explains how clinical reasoning skills can be acquired through

attention to critical and reflective thinking skill acquisition (Kuiper & Pesut, 2005). Evidence supports the notion that effective clinical reasoning in nursing practice depends on the skill acquisition of cognitive and metacognitive development (Kuiper & Puset, 2004). By using both cognitive and metacognitive skills congruently, critical and reflective clinical reasoning is achieved (Kuiper & Pesut, 2004). Self-Regulated Learning Theory states that when students are given opportunities to self-regulate and are taught self-regulated learning strategies, learning will have a more positive effect (James, 2002; Camahalan, 2006). The major attention to college study and learning strategies centers on the student's ability to self-regulate (Entwistle & McCune, 2004). From a social cognitive view, people are viewed as self-organizing, proactive, self-reflecting, and self-regulating (Bandura, 1986).

Metacognitive and Cognitive

Most work on SRL, including that based on social cognitive theory, has assumed a broadly constructivist position with an emphasis on cognitive and metacognitive strategies (Martin, 2004; Kuiper & Pesut, 2004). Critical thinking, also referred to as cognitive thinking, and reflective thinking, also referred to as metacognition, are considered part of the teaching-learning process. Evidence supports that by using self-regulated learning strategies, a student has the ability to utilize both critical and reflective thinking (Pintrich, 2004).

Self-regulated learning refers to independent, academically effective forms of learning that involve metacognition, intrinsic motivation, and strategic action (Zimmerman, 1989, 1990). Metacognition refers to how students process, monitor, and regulate their thinking during the learning process (Gifford-Lemcool, 2007; Muis, 2007).

Metacognitive strategies involve self-awareness about the self-regulated behaviors (e.g., planning, setting goals, organizing, implementing, and self-monitoring and self-evaluating learning (Gifford-Lemcool, 2008). Theorists from 1980-1990 were the first to see a connection between students' enhancement of their learning by becoming more aware of their own thinking and suggested that metacognition was the key to self-regulated learning processes (Muis, 2007).

The SRL model is a synthesis of academic research that supports the conceptual relationship between metacognitive and cognitive behavioral processes and environmental structuring for educational settings (Kuiper, 2005). Cognitive strategies deal with long-term retention through reflective and critical thinking and elaboration (Gifford-Lemcool, 2008), and include interpretation, analysis, inference, explanation, and evaluation (Kuiper, 2005). The cognitive components of SRL are setting goals, using prior knowledge, activating metacognitive knowledge, monitoring cognition and cognitive awareness, making cognitive judgments and selecting appropriate strategies (Pintrich, 2004). Cognitive thinking processes are regulated by the executive control processes of metacognition and include the skills of self-monitoring, self-evaluation, and self-reinforcement in pursuit of goals (Kuiper & Pesut, 2004). Nursing faculty could prompt a more prescriptive use of SRLS for cognitive and metacognitive development as students are prepared for clinical reasoning as new graduate nurses (Kuiper, 2005).

Working within this social cognitive framework, Zimmerman (1998, 2000) conceptualized a learning model for self-regulation and defined the processes and variables associated with acquiring self-regulated learning behaviors. Social learning psychologists view learning as an "open ended process that requires cyclic activity on the

part of the learner” (Zimmerman, 1998, p. 2; Muis, 2007). The concepts of setting a goal and deciding on strategies to accomplish it, employing goal-directed actions and monitoring performance, and evaluating goal progress and adjusting strategies to ensure success are the essential phases of self-regulated learning (Kuiper, 2005). Bandura claims that the interaction between these concepts is dynamic and not always equal, and uses the assumption of reflective thought to determine which process is necessary for any given situation (Kuiper, 2005). (Detailed definitions of the concepts used in the development of the Faculty’s Perceptions Self-Regulated Learning Strategies instrument are listed in chapter one under “definitions and terms”).

The behaviors associated with self-regulation work in a three phase cyclical process, thus supporting the cyclical activity of learners (Schunk & Zimmerman, 1998; Zimmerman, 2000). The behaviors associated with self-regulated learning strategies for the development of the Faculty Perceptions of Self-Regulated Learning Strategies (FPSRLS) instrument will follow this cyclic process, supporting the cyclic activity of the learner.

Goal Setting

Goals provide structure, help to direct effort, provide information on progress, and fulfill a motivational function (Elliott & Dweck, 2005). In order for goals to serve their functions, they must have three important features: specificity, proximity, and difficulty (Bandura, 1988). Strategies for goal setting are focused on optimizing personal regulation (Camahalan, 2006).

Planning and Implementation

Research involving planning and implementation posits that learners practice strategies that benefit their performance but discontinue strategy use when it is no longer required (Pressley et al., 1990). When students perceive they can complete a task, they are diligent in the strategies they choose, evaluate the effectiveness of those strategies, and react appropriately to achieve their goal (Bandura, 1988). Students who believe they are capable of performing academic tasks use more cognitive and metacognitive strategies (Simmons, 2010). Planning strategies such as goal setting are also focused on optimizing personal self-regulation (Camahalan, 2006).

Self-Evaluation

Bandura (1986) claims that a dynamic interaction occurs between the thinking self and environment and behavioral regulation, which presupposes that reflective thought determines which process is necessary in a given situation. Self-evaluation refers to reflective thinking about experiences and situations to determine if knowledge is adequate, what goals are to be set, and if there is the self-efficacy required to reach them (Schunk, 1990). Self-evaluation is a key component of reflection, which in turn influences critical thinking and the development of clinical reasoning skills (Kuiper & Pesut, 2005). Self-regulated learning strategies, such as self-evaluation, are designed to enhance behavioral functioning (Camahalan, 2006). With the use of self-regulated learning strategies, nursing students must monitor their performance (Butler and Winne, 1995; Camahalen, 2006). It is through monitoring their performance that the students are able to understand feedback information for confirming or re-examining and modifying strategies (Camahalen, 2006).

Ultimately, when students are guided by nursing faculty to reflect using all these aspects of self-regulated learning and self-regulated learning strategies, a multidimensional consideration of every aspect of a situation occurs that is similar to the clinical reasoning activities nurses practice on a daily basis (Kuiper, 2005). This includes but is not limited to monitoring thinking, reactions, and the environment; making judgments; and revising plans and approaches (Kuiper, 2005). By making the student more efficient at and better prepared for problem solving, the nursing educator will have influenced the nursing student's ability to improve his or her clinical reasoning abilities.

Instrument Framework

The following figure depicts the concept of a modified/integrated framework for the instrument design based on self-regulated learning theory. The outside arrows indicate that the process of self-regulated learning and self-regulated learning strategies are the bases of the instrument for the investigation of nursing faculty perceptions. The outer rim of the framework, labeled "nursing faculty create structured learning environments for self-regulated learning strategies", illustrates that it is through faculty beliefs and perceptions that the concepts and components will be examined by the instrument. The first inner layer of the framework, labeled "cognitive, critical thinking, metacognitive, and reflective thinking", shows how the framework of Bandura's social cognitive theory and Self-Regulated Learning Theory are interrelated concepts that were used in the development of this instrument. Lastly, there are three inner circles, listed as "goal setting", "planning/strategies", and "self-evaluation", which overlap and are the main components for the development of the FPSRLS instrument. The overlapping

demonstrates how the faculty testing the instrument will view the cyclic process of self-regulated learning strategies.

SELF-REGULATED LEARNING THEORY

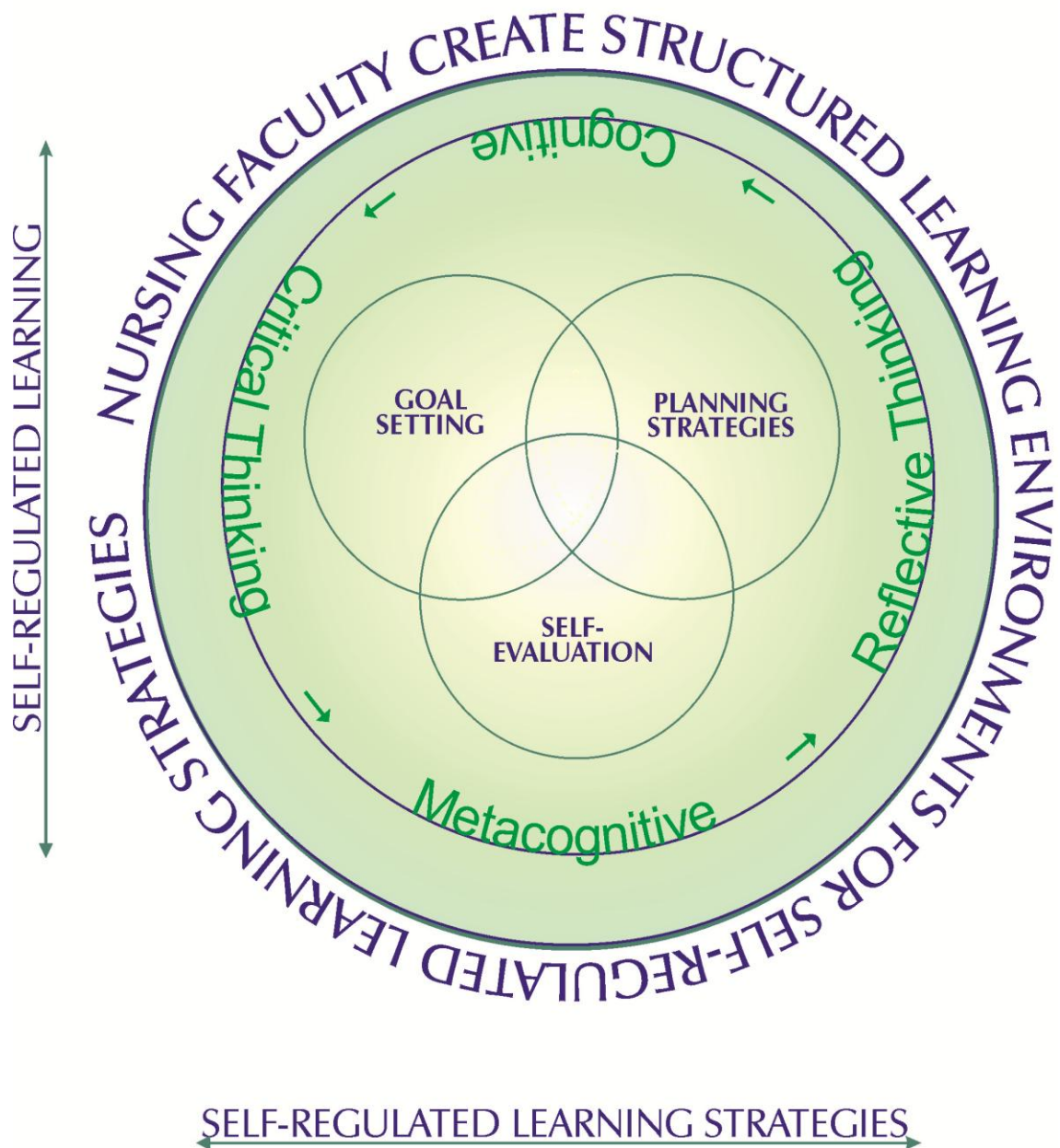


Figure 1. Self-Regulated Learning Strategies Faculty Framework. From Donnelly, A. (2011). Las Vegas: University of Nevada, Las Vegas.

Chapter Summary

The components of Self-regulated Learning Theory provide a useful framework for the development of the FPSRLS instrument. The connection between the cyclic process of Self-Regulated Learning Theory and the behaviors associated with self-regulated work supports the cyclical activity of learners (Schunk & Zimmerman, 1998; Zimmerman, 2000). The development of the FPSRLS instrument has incorporated the components of goal setting, planning/strategies, and evaluation to support the process of open-ended learning that will be seen throughout the development of the FPSRLS instrument.

CHAPTER 4

METHODOLOGY

This chapter describes the ethical considerations, human subject approval, study design, instrument development, validity, reliability, and the setting, sample, and procedures for psychometric testing used in this study. A complete description of data analysis for this study is also presented.

Ethical Considerations

Ethical considerations include informed consent obtained from all participants in the pilot/field testing of the Faculty Perceptions Self-Regulated Learning Strategies (FPSRLS) instrument, as well as confidentiality. Participants were notified that they had the right to refuse without penalty and that the submission of the survey indicated their consent to participate in the study. Participants' personal identification information was not required on the survey instrument. The participants were informed of the benefits and risks of the study. This study is beneficial for nursing faculty, as it could result in a curriculum change in the way nursing faculty conduct clinical education. This study has minimal risk. All of the information provided through the survey was maintained in a secure manner.

Human Subject Approval

Approval to conduct this study was obtained from the Institutional Review Board (IRB) of the University of Nevada, Las Vegas, prior to the recruitment of participants for this study, which ensured that the research study complied with ethical principles to protect the rights, safety, and welfare of participants. The informed consent and approval application is included in Appendix A.

Study Design

This study utilized a non-experimental, correlational design (Burns & Grove, 2005). Exploratory factor analysis (EFA) is a non-experimental analytic technique, its primary objective being construct validation, or more specifically, testing the dimensionality of a newly developed or modified instrument. To this end, instrument development and pilot testing were performed to evaluate the psychometric properties of the FPSRLS instrument.

Instrument Development

The FPSRLS instrument was developed and tested through three phases. Phase one involved a systematic literature review to identify the key characteristics that need to be considered in the instrument (see Chapter Two). Phase two involved the identification and selection of items for inclusion in the instrument, and subsequently establishing content validity via expert review of the items (i.e., judging the relevancy, clarity, and appropriateness of the items). Phase three involved a pilot/field testing of the FPSRLS instrument to determine feasibility and reliability. This phase was also essential in establishing the construct validity of the instrument utilizing EFA.

Validity

The FPSRLS instrument was psychometrically tested to establish content validity and construct validity (DeVellis, 2003; Netemeyer et al., 2003). The first step in establishing content validity of an instrument is to determine the content representativeness or content relevance of items in an instrument. It answers the question as to whether the content of the measurement is representative of the content, or the population from which the content is taken, of the property being measured (DeVellis,

2003; Kerlinger & Lee, 2000), or whether a sample of all possible items can measure the particular construct of interest (Suen, 1990).

Content validity requires the establishment of both item validity (how well the scale items measure the intended content area) and sampling validity (how well the scale samples the total content area) (DeVellis, 2003; Guerra-López, 2008). DeVellis (2003) suggested redundancy in the item pool development. An attempt was made to include more items than would be necessary for the final instrument. Redundancy will capture the phenomenon of interest in different ways: “By using multiple and seemingly redundant items, the content that is common to the items will summate across items while their irrelevant idiosyncrasies will cancel out” (DeVellis, 2003, p. 65). The large pool of items generated tapped the content domain related to contextual factors in the nursing faculty’s perceptions of student ability to utilize SRLS. These factors of the FPSRLS include goal setting, planning, implementation, and self-evaluation.

Content validity for the FPSRLS was established using expert review. A range of three to ten content experts is recommended in the literature for content expert review needed in the content validation process (Grant & Davis, 1997; Lynn, 1986; Rubio, Berg-Weger, Tebb, Lee, & Rauch, 2003). According to Lynn (1986), a minimum of five experts would provide a sufficient level of control for chance agreement. According to Davis (1992), instruments that evolve from a specific theoretical or conceptual framework should be reviewed by experts who are knowledgeable about the study concepts, theory, or problem that governs the topic content of the instrument. Such reviews can serve the purpose of assessing the content validity of the instrument, that is,

whether the instrument possesses sufficient numbers and types of items to represent the desired domain of content (Nunnally, 1978).

Construct validity of the FPSRLS instrument establishes the extent to which the instrument measures the construct of self-regulated learning and its four dimensions of goal setting, planning/strategies, implementation, and self-evaluation—as perceived by clinical nursing faculty (Anastasi, 1982). Construct validation of the FPSRLS instrument was achieved by means of an exploratory factor analysis (EFA) of item loadings on the hypothesized factor structure. Ideally, the EFA solution should yield a four-factor interpretable solution (with the four factors representing one of the four aforementioned hypothesized dimensions of SRLS), and the items of the newly developed instrument should load on their respective hypothesized factor. As alluded to earlier, EFA is a method for organizing instrument items into groups or factors (Munro, 2001), or assessing dimensionality of a set of items through factor loadings (correlations of each item with the factor) (Kline, 1994, 2000). This is achieved by comparing the observed item correlation matrix (\mathbf{R}) to the reproduced item correlation matrix ($*\mathbf{R}$), which determines which items load onto which factor. Small residuals (i.e., differences) between \mathbf{R} and $*\mathbf{R}$, provide a more interpretable solution with greater explained variance, which is highly desirable.

Reliability

An instrument's reliability is the consistency with which it measures the target attributes and is a major criterion in assessing its quality and adequacy (Polit & Beck, 2008). The most common procedures used to assess reliability can be grouped into three types: test-retest reliability, alternative-form reliability, and internal consistency

reliability (Netemeyer, Bearden, & Sharma, 2003). Due to the cost and availability of subjects at multiple occasions, testing the internal consistency reliability was the main concern in establishing the reliability of the FPSRLS instrument.

Internal consistency as a means of measuring reliability requires only a single administration of an instrument to respondents (Netemeyer et al., 2003). Internal consistency reliability refers to the degree of the inter-item correlations (i.e., the degree to which items correlate with one another) (American Thoracic Society, 2007; Furr & Bacharach, 2008). If the items are all theoretically measuring the same construct, measurement error should be low because participants would respond consistently to items, thereby increasing reliability. Cronbach's coefficient alpha was used for internal consistency reliability to measure reliability in the scale development process.

Coefficient alpha, the most widely used method for establishing reliability, was performed to assess internal consistency coefficients. Cronbach's alpha is a way of looking at the extent to which scale items go together and, at the same time, identifying weak items that may be omitted in subsequent analyses (Munro, 2001). It is used to test internal consistency of scale items that measure the same underlying construct (Kanashiro, McAleer, & Roff, 2006), or to reveal the degree of interrelatedness among the set of items created to measure the underlying factors of the FPSRLS instrument.

Sample and Setting

The target population for reliability testing of the FPSRLS instrument consists of undergraduate nursing faculty. To be included in the sample for the study, participants had to be nursing faculty who teach or have taught in a clinical setting with undergraduate nursing students in the last two years. They had to be nursing faculty

teaching in undergraduate nursing programs who are accredited by the National League for Nursing Accrediting Commission (NLNAC), and they had to be willing to give informed consent. The exclusion criteria were nursing faculty who have not taught in a clinical setting in the past two years, and/or nursing faculty working at non-accredited NLNAC nursing programs, and/or not willing to give informed consent.

The accessible population for this study was derived from an email list of nursing program deans and directors created from the NLNAC website listed under accredited programs. The email list contained the names of program deans and directors for 1,191 NLNAC-accredited nursing programs. An email asking the program deans and directors to forward the email that contained the information to participate in the testing of the instrument on Survey Monkey was forwarded to an estimated 34,000. This number is based on the National League for Nursing websites showing 34,000-plus nursing faculty members (National League for Nursing, 2011).

The sample size was calculated using Creative Research Systems' online sample calculator. It is estimated that the response rate will be 20% to 50%. Alternate methods for calculating sample size include that of Tinsley and Tinsley (1987), who suggest a ratio of five to ten participants per item up to 300, and when the sample is as large as 300, the ratio can be relaxed. Additional guidelines by "Comrey classify a sample of 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1,000 as excellent" (cited in DeVellis, 2003, p.137).

Privacy and Confidentiality

Protection of Privacy

All participants were numbered for data collection purposes. The data was stored on a personal Dell XPS M1530 laptop computer with Windows XP, Microsoft Office 2007, Novel email, Internet Explorer 8.0, and Statistical Package for the Social Sciences (SPSS) 19.0 software. The Dell laptop computer and Novel email are password protected at all times. The computer is networked to a Hewitt Packard LaserJet printer and its drives can only be accessed via a logon with user name and password. A locked file cabinet was available in the office to store all research-related documents.

On-line Survey Security

Participants were provided information with the researcher's credentials, purpose of the survey, benefits of the survey, how privacy and confidentiality would be maintained, and IRB approval. This allowed participants to make a personal and professional decision to participate in the study. Those faculty who worked in the NLNAC accredited nursing program and completed the study gave their informed consent indicating consent to participate in the research study.

Response Error

There is a possibility of participant error using self-report surveys. Response errors are the result of participants not responding, not completing a portion of the survey, or not truthfully completing the survey or survey items (James, 2009).

Procedures that dealt with response errors are addressed in the Data Analysis section.

Allowing participants to complete the survey in their own time allowed for time and privacy to complete the survey, but this measure creates an opportunity for non-response

errors. Participants also had the right to opt out of participating in the survey at any time, which created the potential for response error.

Procedures for Recruitment and Data Collection

Content Validation

For the expert review process, five experts were invited to participate in the review process for content validation of the potential items. The experts were contacted through personal phone calls or e-mails. Those who agreed to serve on the panel were sent a content validation package that contained the items recommended for expert reviewers (Davis, 1992; Guerra, 2001). These items included a recruitment letter for expert reviewers, an inventory of items, working conceptual definitions of dimensions included in the inventory, and detailed instructions on how to participate in the review process for the inventory. This package is included in Appendix B, listed as content validation package.

In the review process, experts were asked to read and judge how relevant the individual items are to the content domain according to a 4-point scale (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant). Experts were asked to indicate the level of clarity for each item on a four-point scale (1 = not clear, 2 = needs major revisions to be clear, 3 = needs minor revisions to be clear, 4 = clear), as suggested by Rubio et al.'s (2003) instructions for rating items in an instrument. The experts were encouraged to provide comments for each item, to recommend items that should be modified or dropped, and to suggest item content that had perhaps been overlooked. As part of the process, the experts were asked to suggest revisions for items that are not consistent with conceptual definitions of dimensions (Lynn, 1986). A copy of the expert

review of the FPSRLS instrument is located in Appendix C. A copy of the expert reviewers comments is located in Appendix D.

Field/Pilot Testing

The FPSRLS instrument was self-administrated using an online survey program called Survey Monkey. An invitation to participate was forwarded by the deans and directors of the 1,191 NLNAC accredited nursing programs to an estimated 34,000 nursing faculty working in NLNAC accredited nursing programs. The invitation indicated that only the nursing faculty that met the inclusion criteria should respond, and included a link to access the instrument at a website not associated with NLNAC. A copy of the email is located in Appendix E.

No follow-up reminder was sent out two weeks after the initial email to participate, because the researcher had exceeded the needed population for the study with the first invitation to participate. The researcher did not want to exhaust the population by sending out further emails for participation, potentially discouraging participants from taking part in future studies due to over-accessing the population unnecessarily. Informed consent letters advised each nursing faculty that the return of the survey instrument indicated consent to participate in the research study. A copy of the FPSRLS instrument is located in Appendix F.

Data Analysis

Data was analyzed using SPSS (Statistical Package for the Social Science Personal Computer, v.19), and a statistical consultant was consulted to confirm the soundness of all analysis procedures. Descriptive statistics were used to describe the sample's characteristics, as well as means and standard deviations of the instrument's

items. A combination of quantitative techniques was employed for the data analysis to establish reliability and validity of the FPSRLS instrument.

Missing Data

Scoring errors due to missing data are likely the result of participants inadvertently not answering an item, or from a participant refusing to answer an item (James, 2009). For all instrument items, a missing values analysis revealed that the number of cases with missing values ranged from 160 to 190, which accounted for approximately 12% to 14% of the total 1,336 cases, a relatively small number of missing data. In order to verify that the missing data pattern was missing completely at random (MCAR) (James, 2009), Little's MCAR χ^2 statistics (Little & Rubin, 1989) were requested from the missing values analysis. Unlike other missing value analysis statistics, Little's MCAR χ^2 test is more sophisticated because it is multivariate, and thus takes into account all variables simultaneously. A significant χ^2 (i.e., $p < .05$) would suggest that the pattern of missing data is not MCAR (i.e., missing not at random [MNAR]), which poses a problem for interpretation of results because they may be biased due to systematic differences in non-responses. However, the result of this test for the present data was non-significant; Little's MCAR χ^2 (3739) = 3818.73, $p = .17$, suggesting that the missingness pattern in the data was MCAR.

Validity

It has been noted by Polit and Beck (2006) that there is a lack of evidence in nursing research regarding scale development about the methods of computing content validity index (CVI). According to Polit and Beck (2006), "when information about computing the CVI is absent the readers of such studies do not have a good

understanding of the content validity of the new scale” (p. 493). Based on this information, the author has given a detailed explanation for calculating all aspects of the CVI for the validation of the FPSRLS instrument.

For the expert review, each item on the inventory was reviewed and evaluated according to the criteria of relevancy and clarity of items. A CVI was derived and applied to quantify the item evaluation process (Davis, 1992; Lynn, 1986; Meurer, Rubio, Counte, & Burroughs, 2002). That is, a CVI with a value ranging from 0 to 1 was derived from the ratings of the content relevance of the items on an instrument using a 4-point ordinal rating scale, where 1 connotes an irrelevant item and 4 indicates a highly relevant item. For the purpose of clarity, the item-CVI will be referred to as I-CVI. To calculate an I-CVI for each item, the number of experts who rated the item as either 3 or 4 is counted and divided by the total number of experts (Rubio et al., 2003). Davis (1992) recommends a CVI of at least .80 for new measures. Revision and item selection are made on the basis of I-CVIs of items along with qualitative information comments, suggestions, and recommendations from the experts.

For the scale level, CVI for clarity purposes will be referred to as S-CVI. The S-CVI is defined as “the proportions of items given a rating of quite/very relevant by all experts involved” (Waltz & Bausell, 1981, p. 155) or “the proportions of items given a rating of 3 or 4 by all experts involved” (Waltz & Bausell, 1981, p. 71). There are three ways to calculate the S-CVI, the first of which is to average the proportion of items rated relevant across the experts (Polit & Beck, 2006). Another way is to average the I-CVIs by summing them and dividing by the number of items (Polit & Beck, 2006). The final one is to count the total number of Xs in the table, which represents the number of items

rated relevant by all experts combined. Each of these methods will always yield the same results (Polit & Beck, 2006). For this study the researcher choose to do S-CVI/Average as the average I-CVI value, because this puts the focus on average item quality rather than on average performance by the experts. The guidelines for the S-CVI/Average should be .90, not .80, as is the standard criterion for acceptability of the S-CVI (Polit & Beck, 2005). The reason for the higher demand in standard for the S-SCI/Average is that .80 is much more liberal in its definition of congruence (Polit & Beck, 2006).

Construct Validity

Exploratory Factor analysis (EFA) is most often used as part of the instrument development process and is “an important statistical tool for providing validity evidence concerning the structure of instruments” (Dixon, 2001, p. 307). DeVellis (2003) suggests that it be used as part of the scale development process at the stage of evaluating scale item performance. The results of factor analysis can also provide information for the scale developer to decide how scale items should be grouped into subscales and which items should be dropped from the scale entirely (Munro, 2001).

Feasibility

The researcher analyzed data from the pilot/field study in the following way. First, comments were examined to see if they point to consistent problems with the format of the FPSRLS instrument. Second, comments regarding specific items were reviewed in order to determine if certain items were ambiguous or difficult for respondents to comprehend. Finally, participants’ responses to the items were analyzed using frequency counts and histograms, as well as measures of central tendency and dispersion. The purpose of this procedure was to determine whether or not any items

behaved in unusual ways, such as eliciting highly skewed data or suspiciously uniform responses (see data analysis section below).

Reliability

The researcher scored the returned FPSRLS instrument and calculated Cronbach's alpha and item-total correlations in order to examine reliability and, by changing or removing items, increase the reliability of the instrument. The researcher modified the instrument in an effort to enhance the clarity of items that appeared to give respondents difficulty as well as to change or remove items that seemed to be functioning in unproductive ways (e.g., eliciting responses that were overly uniform).

The values of coefficient alpha range from 0 to 1. Investigators and researchers express different opinions about the acceptable levels of alpha in scale development. DeVellis (2003) comments on different alpha levels in scale development:

My personal comfort ranges for research scales are as follows: below .60, unacceptable; between .60 and .65, undesirable; between .65 and .70, minimally acceptable; between .70 and .80, respectable; between .80 and .90, very good; much above .90, one should consider shortening the scale.... The suggested guidelines are suitable for *research instruments* that will be used with *group data*. A scale with an alpha of .85 is probably perfectly adequate for use in a study comparing groups with respect to the construct being measured (pp. 95-96).

All data were screened for univariate and multivariate outliers according to the procedures outlined by Tabachnick and Fidell (2007). No extreme outliers that would otherwise undermine the trustworthiness of the data were detected. Prior to data analysis, additional testing procedures detected several cases with missing data for the sample, as

discussed previously. In order to include all possible available data, maximum likelihood (ML) estimation using expectation maximization (EM) was utilized to impute the missing data because the results of Little's MCAR test suggested that the missing data pattern was MCAR. ML EM procedures use an iterative process of multiple linear regression to yield the most likely value of each missing datum based on available information provided by all non-missing values. This is the reason why it is crucial to first establish an MCAR pattern for the missing data prior to conducting ML EM procedures. The ML EM imputation of missing data results yielded 1,336 available cases for analysis.

Furthermore, data were tested for univariate and multivariate assumptions, including multivariate normality (skewness and kurtosis), multicollinearity, singularity, and factorability of the correlation matrix via residual analysis, in order to proceed with the EFA. Regarding multivariate normality, the individual items demonstrated a normal distribution, as evidenced by the fact that all items exhibited skewness and kurtosis values within acceptable range (i.e., $< |3|$). All other EFA assumptions were met.

Several EFAs using common factor extraction (CFE) were conducted utilizing the IBM Statistical Package for the Social Sciences (SPSS) Statistics 19 software to examine the factor structure of the present data for the hypothesized four-factor solution. First, nurse faculty ratings on all 46 items of the FPSRLS were entered for the covariance matrix computation. Both ML and principal axis factoring (PAF) were performed separately as CFE methods. The ML approach estimates factor loadings that have the highest likelihood to yield the observed correlation matrix, whereas PAF estimates communalities so as to eliminate error variance from factors and maximize variance extracted by the factors. Orthogonal rotations (e.g., varimax, quartimax, and equamax)

assume that the factors are uncorrelated (i.e., mutually exclusive) and they produce solutions in which communalities and reproduced correlations are invariant and the sum of the eigenvalues is the same.

In essence, orthogonal rotations minimize the complexity of the factor structure and maximize the variance of loadings on each factor. Conversely, oblique rotations (e.g., direct oblimin) assume that the factors are correlated, which may be closer to reality than an uncorrelated factor structure. In addition, the regression-like weights are used to estimate the unique contribution of each factor to the variance of each variable. An oblique rotation—direct oblimin with $\Delta = 0$ —was selected instead of an orthogonal rotation because the theoretical framework that underlies item development specified a correlated factor structure. The overall explained variance of the specified factors, the factor loadings (i.e., pattern matrix), and between-factor correlations were analyzed for this purpose for both ML and PAF with oblique rotation solutions. Eigenvalues greater than one was used as the main criterion for each extraction-rotation combination (i.e., ML, PAF with oblique rotation).

Chapter Summary

This chapter describes the methods the researcher used for developing the FPSRLS. This study was conducted in three phases that include: 1) systematic literature review to identify the key characteristics that need to be considered in the instrument, 2) identification and selection of items for inclusion in the instrument, and then establishing content validity via expert review of the items using I-CVI and S-CVI, and 3) pilot/field testing of the FPSRLS instrument to determine construct validity utilizing exploratory factor analysis, feasibility and reliability utilizing Cronbach's alpha and item-total

correlations. Details of how data analysis will be completed using I-CVI and S-CVI, exploratory factor analysis, and Cronbach's alpha for item total correlation where also included within this chapter.

CHAPTER 5

FINDINGS OF THE STUDY

The purpose of this study was to develop and evaluate the psychometric properties of the Faculty Perceptions Self-Regulated Learning Strategies (FPSRLS) instrument. This chapter presents analysis of the data and results of the current study. Results include expert review, content validity index (CVI), pilot testing data, a demographic description of the sample, and statistical analysis of the composite score of the FPSRLS instrument.

Demographic Description of the Sample

A total of 1,336 undergraduate nursing faculty across the US participated in the survey. However, not all of the participants reported demographic information. Of those who did, 1,276 (95.6%) were female and 60 (4.4%) were male. Participants' age ranged from 25 to 74 ($M = 51.44$, $SD = 9.17$), with over 88% (1,178) working as full-time undergraduate nursing faculty, and 11% (150) reporting that they work only part-time. The ethnic breakdown of the participants who reported this information was as follows: 22 Hispanic; 1,225 Caucasian; 47 African-American; 8 Asian-American/Pacific Islander; and 10 Other/Mixed. In terms of highest educational degree completed, 122 participants reported having a PhD (70 in nursing and 52 in a related field) whereas 28 reported having other types of doctoral degrees (e.g., DNSc, DNP); moreover, 968 reported having master's degrees (930 in nursing and 38 in a related field) and 156 had received other degrees (e.g., NP and BSN).

Participants also reported other demographic information. Participants' years of nursing experience ranged from 0 to 58 years ($M = 27.22$, $SD = 10.52$) while there years

of experience as nurse educators ranged from 0 to 50 ($M = 12.58$, $SD = 9.77$). Finally, nursing faculty's experience working with students in a clinical setting ranged from 0 to 48 ($M = 12.10$, $SD = 9.43$).

The Expert Panel

The researcher identified and consulted an expert panel in an effort to gain evidence relating to the content validity of the instrument. Five experts with a background and expertise in self-regulated learning were asked to review the FPSRLS instrument. The expert review process was intended to improve the instrument through the trimming, selection, substitution, or revision of the FPSRLS instrument items. The experts were given the definitions of self-regulated learning and self-regulated learning strategies as well as the instrument's three domains: definitions of goal setting, planning/implementing, and self-evaluation. They also reviewed the format of the instrument.

The Comments and Recommendations of the Expert Panel

Overall, members of the expert panel determined that both the content and format of the instrument were valuable for assessment purposes. The comments from the five experts are included in Appendix C. The feedback from the experts targeted the following issues: the wording of items, the relevance of each item to the construct that it represented, and response format. Detailed recommendations provided by the experts can be summarized as follows:

- On some of the items repetitiveness was noted by two of the five panelists. One expert commented that they marked items that seemed repetitive as somewhat relevant. The study is using a split-half reliability known as using odd-even

reliability with a subset of odd number items compared to even number items (DeVellis, 2003). This information was not included in the expert review information and could have clarified the experts' understanding of items that may have seemed to be repetitive.

- One expert recommended adding something about the ability to understand and appropriately document the learning process for nursing program accreditation purposes. In addition, the expert suggested the possibility that maybe the student had developed a rubric or tool for a clinical learning process. The expert stated that this should be assessed and would provide great documentation of the learning process.

The experts also provided alternative wording for the ambiguous or unclear items. Modifications were made to items according to some of the suggestions from the panel review. The experts also made suggestions regarding various individual items, and the student researcher revised each statement accordingly. The final revisions were approved by the chair of the dissertation committee. The revision to each item and those relating to each domain are summarized below:

Revisions Relating to Goal Setting

Statement number 7, "Ability to commit to their learning goals set by the individual student", modified to "Commit to their clinical goals set by the individual student."

Revisions Relating to Planning/Implementation

Statement number 11, “Engaging in creating strategies will encourage a student to continue to set more goals for learning”, modified to “Engages in creative strategies to encourage themselves and other students to set additional goals for learning”.

Revisions Relating to Self-Evaluation

Statement number 10, “Can successfully analyze their performance toward the goals they have set for learning”: removed the word “Can.” Statement number 11, “Have the ability to measure strengths and weaknesses in their learning strategies”: removed “Have the ability to.” Statement number 12, “Are able to measure their learning outcomes”: removed “Are able to.”

Content Validity Index of the FPSRLS Instrument

The instrument contained 46 items designed by the student researcher, with nine items in the goal setting section, 11 items in the planning/strategies section, 14 items in the implementation section, and 12 items in the self-evaluation section. During the quantification of the Faculty’s Perceptions Self-Regulated Learning Strategies (FPSRLS) instrument development, using the five experts, a content validity index (CVI) for each item and the instrument as a whole was completed. To estimate the content validity index for each item (I-CVI), the five experts who rated the item as either three or four were counted and divided by the total number of experts. To calculate the content validity index for the scale (S-CVI), the average was calculated across all the items.

Goal Setting

For the Goal Setting Relevancy, the I-CVI for the items ranged from .60 to 1.00. One item had an I-CVI of 0.60, two items had an I-CVI of .80, and six items had an I-

CVI of 1.00. The average for Goal Setting Relevancy was .91, which is the S-CVI and is above the .90 criteria. The item with the low I-CVI was subsequently revised. For the Goal Setting Clarity, the I-CVI for the items ranged from .80 to 1.00. Two items had an I-CVI of .80 and seven items had an I-CVI of 1.00. The average Goal Setting Clarity was .95, for the S-CVI was clearly above the .90 criteria.

Table 1

Goal Setting Relevancy as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Goal Setting Relevancy	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Set learning goals to increase knowledge	4	4	4	4	4	5/5=1	0.91
2. Pick appropriate outcome measures for learning.	4	3	4	4	3	5/5=1	
3. Think independently by using what they have learned in theory and clinical.	4	4	4	4	3	5/5=1	
4. Form new knowledge and skills by developing their own learning goals.	4	3	2	4	2	3/5=.6	
5. Develop clinical goals that stimulate independent thinking.	4	4	4	4	2	4/5=.8	
6. Increase individual skills to obtain goals.	4	3	4	4	4	5/5=1	
7. Commit to their clinical goals set by the individual student.	4	3	4	4	4	5/5=1	
8. Identify appropriate goals for the leaning process.	4	3	2	4	3	4/5=.8	
9. Attain the clinical goals they set for their learning.	4	3	4	4	3	5/5=1	

Table 2

Goal Setting Clarity as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Goal Setting Clarity	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Set learning goals to increase knowledge	4	4	4	4	4	5/5=1	0.95

Table 2 (continued)

2. Pick appropriate outcome measures for learning.	4	3	4	4	3	5/5=1
3. Think independently by using what they have learned in theory and clinical.	4	4	4	4	4	5/5=1
4. Form new knowledge and skills by developing their own learning goals.	4	4	3	4	3	5/5=1
5. Develop clinical goals that stimulate independent thinking.	4	3	2	4	3	4/5=.8
6. Increase individual skills to obtain goals.	4	4	4	4	4	5/5=1
7. Commit to their clinical goals set by the individual student.	4	3	2	4	3	4/5=.8
8. Identify appropriate goals for the leaning process.	4	4	3	4	3	5/5=1
9. Attain the clinical goals they set for their learning.	4	4	4	4	4	5/5=1

Planning/Strategies

For the Planning/Strategies Relevancy, the I-CVI for the items ranged from .80 to 1.00. Two items had an I-CVI of .80 and nine items had an I-CVI of 1.00. The average Planning/Strategies Relevancy for the S-CVI was .96, above the .90 criteria. For the Planning/Strategies Clarity, the I-CVI ranged from .60 to 1.00. One item had an I-CVI of .60, one item had an I-CVI of .80, and nine items had an I-CVI of 1.00. The item with the I-CVI of .60 was subsequently revised. The average Planning/Strategies Clarity for the S-CVI was .94, above the .90 criteria.

Table 3

Planning/Strategies Relevancy as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Planning/Strategies Relevancy	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Formulate strategies for learning.	4	3	4	4	4	5/5=1	0.96

Table 3 (continued)

2. Formulate strategies for their learning process.	4	3	4	4	3	5/5=1
3. Choose an appropriate patient during the final semester.	4	4	4	4	4	5/5=1
4. Clarify clinical task demands of patient to meet learning goals.	4	2	4	4	3	4/5=.8
5. Develop a strategy to meet their clinical goals.	4	4	4	4	4	5/5=1
6. Develop learning strategies to stimulate independent thinking in clinical.	4	4	4	4	3	5/5=1
7. Exhibit behaviors that support learning from past clinical experiences to reach clinical goals.	4	3	4	4	4	5/5=1
8. Improve their ability to develop strategies for new learning.	4	3	4	4	3	5/5=1
9. Use previous knowledge learned in clinical to generate strategies for learning.	4	3	4	4	3	5/5=1
10. Use knowledge gained in clinical previously to formulate a strategy to reach new learning goals.	4	3	4	4	3	5/5=1
11. Engaging in creating strategies will encourage a student to continue to set more goals for learning.	4	2	4	4	3	4/5=.8

Table 4

Planning/Strategies Clarity as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Planning/Strategies Clarity	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Formulate strategies for learning.	4	3	4	4	4	5/5=1	0.94
2. Formulate strategies for their learning process.	4	3	4	4	3	5/5=1	
3. Choose an appropriate patient during the final semester.	4	4	4	4	4	5/5=1	
4. Clarify clinical task demands of patient to meet learning goals.	3	1	4	4	4	4/5=.8	
5. Develop a strategy to meet their clinical goals.	4	4	4	4	4	5/5=1	

Table 4 (continued)

6. Develop learning strategies to stimulate	4	4	4	4	4	5/5=1
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	independent thinking in clinical.						
7.	Exhibit behaviors that support learning from past clinical experiences to reach clinical goals.	3	3	4	4	4	5/5=1
8.	Improve their ability to develop strategies for new learning.	4	4	4	4	4	5/5=1
9.	Use previous knowledge learned in clinical to generate strategies for learning.	4	3	4	4	4	5/5=1
10.	Use knowledge gained in clinical previously to formulate a strategy to reach new learning goals.	4	3	3	3	4	5/5=1
11.	Engaging in creating strategies will encourage a student to continue to set more goals for learning.	4	1	1	4	3	3/5=.6

Implementation

For the Implementation Relevancy, the I-CVI for the items ranged from .80 to 1.00. Two items had an I-CVI of .80 and twelve items had an I-CVI of 1.00. The average Implementation Relevancy for the S-CVI was .97, clearly above the .90 criteria. For the Implementation Clarity, the I-CVI ranged from .80 to 1.00. Two items had an I-CVI of .80 and twelve items had an I-CVI of 1.00. The average of the Implementation Clarity was .97, above the .90 criteria.

Table 5

Implementation Relevancy as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Implementation Relevancy	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Successfully implement learning/clinical strategies they have developed.	4	4	4	4	4	5/5=1	0.97
2. Successfully apply a plan/strategies to guide them in the learning process.	4	4	4	4	4	5/5=1	

Table 5 (continued)

3. Execute a plan that will enhance their learning/clinical experience.	4	4	4	4	4	5/5=1	
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4. Implementing the students' learning process will generate new knowledge.	4	2	4	4	3	4/5=.8
5. Implement the learning process to enhance previous knowledge.	4	4	4	4	3	5/5=1
6. Monitor the effectiveness of the implemented strategy.	4	3	4	4	4	5/5=1
7. Engage in activities that develop new knowledge.	4	4	4	4	3	5/5=1
8. Monitor the effectiveness of a strategy to enhance previous knowledge.	4	3	4	4	3	5/5=1
9. Monitor the effectiveness of a strategy implemented to develop new knowledge.	4	3	4	4	3	5/5=1
10. Guided by faculty, are able to successfully implement learning strategies they developed.	4	4	4	4	4	5/5=1
11. Identify resources in clinical to help implement strategies to reach learning goals.	4	4	4	4	4	5/5=1
12. Utilize resources in clinical to reach learning goals they have set.	4	4	4	4	4	5/5=1
13. Actively engage with appropriate staff to supplement learning in order to implement learning goals.	4	3	4	4	3	5/5=1
14. Execute a strategy in clinical despite difficulty in accessing resources available.	4	2	4	4	4	5/5=1

Table 6

Implementation Clarity as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Implementation Clarity	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Successfully implement learning/clinical strategies they have developed.	4	4	4	4	4	5/5=1	0.97
2. Successfully apply a plan/strategies to guide them in the learning process.	4	4	4	4	4	5/5=1	

Table 6 (continued)

3. Execute a plan that will enhance their learning/clinical experience.	4	4	4	4	4	5/5=1
4. Implementing the students' learning process will generate new knowledge.	4	3	1	4	3	4/5=.8
5. Implement the learning process to enhance previous knowledge.	4	4	4	4	4	5/5=1
6. Monitor the effectiveness of the implemented strategy.	4	4	4	4	4	5/5=1
7. Engage in activities that develop new knowledge.	4	4	4	4	4	5/5=1
8. Monitor the effectiveness of a strategy to enhance previous knowledge.	4	4	4	4	4	5/5=1
9. Monitor the effectiveness of a strategy implemented to develop new knowledge.	4	4	4	4	4	5/5=1
10. Guided by faculty, are able to successfully implement learning strategies they developed.	4	4	1	4	4	4/5=.8
11. Identify resources in clinical to help implement strategies to reach learning goals.	4	4	4	4	4	5/5=1
12. Utilize resources in clinical to reach learning goals they have set.	4	4	4	4	4	5/5=1
13. Actively engage with appropriate staff to supplement learning in order to implement learning goals.	4	4	4	4	4	5/5=1
14. Execute a strategy in clinical despite difficulty in accessing resources available.	3	4	4	4	4	5/5=1

Self-Evaluation

For the Self-Evaluation Relevancy, the I-CVI for the items ranged from .80 to 1.00. Two items had an I-CVI of .80 and ten items had an I-CVI of 1.00. The average Self-Evaluation for the S-CVI was .96, above the .90 criteria. For the Self-Evaluation Clarity, the I-CVI for the items ranged from .80 to 1.00. Three of the items had an I-CVI

of .80 and nine items had an I-CVI of 1.00. The average Self-Evaluation for the S-CVI was .96, above the .90 criteria.

Table 7

Self-Evaluation Relevancy as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Self-Evaluation Relevancy	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Self-evaluate their learning performance.	4	4	4	4	4	5/5=1	0.96
2. Self-evaluate their learning goals.	4	4	4	4	4	5/5=1	
3. Adjust learning strategies after evaluating their role in the learning process.	4	3	4	4	3	5/5=1	
4. Identify a need for modification in their own learning strategies.	4	2	4	4	3	4/5=.8	
5. Review their own learning to identify areas of weakness.	4	4	4	4	4	5/5=1	
6. Self-evaluate where they are in the learning process by evaluating outcome measures they set for themselves.	4	2	4	4	4	4/5=.8	
7. Rate performance of implemented learning tasks.	4	3	4	4	4	5/5=1	
8. Engage in self-monitoring and examine the effectiveness of the learning strategy.	4	3	4	4	4	5/5=1	
9. Can successfully analyze their performance toward the goals they have set for learning.	4	3	4	4	4	5/5=1	
10. Have the ability to measure strengths and weaknesses in their learning strategies.	4	3	4	4	3	5/5=1	
11. Are able to measure their learning outcomes.	4	4	4	4	4	5/5=1	
12. Adjust learning behaviors to increase their learning performance.	4	4	4	4	3	5/5=1	

Table 8

Self-Evaluation Clarity as Rated by Experts for Item Content Validity Index and Scale Content Validity Index

Self-Evaluation Clarity	Experts					I-CVI	S-CVI
	1	2	3	4	5		
1. Self-evaluate their learning performance.	4	4	4	4	4	5/5=1	0.96
2. Self-evaluate their learning goals.	4	4	4	4	4	5/5=1	
3. Adjust learning strategies after evaluating their role in the learning process.	4	3	4	4	4	5/5=1	
4. Identify a need for modification in their own learning strategies.	4	3	4	4	5	5/5=1	
5. Review their own learning to identify areas of weakness.	4	4	4	4	4	5/5=1	
6. Self-evaluate where they are in the learning process by evaluating outcome measures they set for themselves.	3	4	3	4	4	5/5=1	
7. Rate performance of implemented learning tasks.	4	4	4	4	4	5/5=1	
8. Engage in self-monitoring and examine the effectiveness of the learning strategy.	3	4	4	4	4	5/5=1	
9. Can successfully analyze their performance toward the goals they have set for learning.	4	3	4	4	4	5/5=1	
10. Have the ability to measure strengths and weaknesses in their learning strategies.	4	1	4	4	3	4/5=.8	
11. Are able to measure their learning outcomes.	4	1	4	4	4	4/5=.8	
12. Adjust learning behaviors to increase their learning performance.	4	1	4	4	4	4/5=.8	

Exploratory Factor Analyses

Descriptive statistics were computed for each item of the FPSRLS, as well as its four hypothesized dimensions—goal setting, implementation, planning/strategies, and self-evaluation. Table 9 contains the means, standard deviations, and internal consistency reliability coefficients for the four dimensions and Table 10 contains the correlation

matrix of these four dimensions. Interestingly, the solutions on the entire 46 items were not as interpretable as those of the 45-item-solutions (with the PlanStrat3 item excluded) for both the ML and PAF solutions, which differs from the hypothesized structure expected based on the theoretical framework of the FPSRLS, which uses all 46 items. The PlanStrat3 item exhibited a low communality value with the four factors (.20), and hence, it did not load onto any factor after the oblique rotation, which is why it was excluded from all subsequent analyses. The descriptive statistics of the ML 45-item oblique rotation solution are presented in Table 11.

Table 9

Descriptive Statistics and Reliability Coefficients for the Four Dimensions of the FPSRLS

Variables	<i>M</i>	<i>SD</i>	α
Goal-Setting	3.12	0.76	0.95
Planning/Strategies	3.25	0.77	0.94
Implementation	3.37	0.76	0.97
Self-Evaluation	3.15	0.79	0.97

N = 1,336

Table 10

Zero-Order Correlations Between Goal-Setting, Planning/Strategies, Implementation, and Self-Evaluation

Variable	1	2	3	4
1. Goal Setting	--	.81**	.77**	.72**
2. Planning/Strategies	--	--	.86**	.77**
3. Implementation	--	--	--	.82**
4. Self-Evaluation	--	--	--	--

** $p < .01$ (Two-Tailed)

N = 1,336

Table 11

Descriptive Statistics for the 45-Item Maximum Likelihood Oblique Rotation Solution

Item	<i>M</i>	<i>SD</i>
Goals1	3.12	0.89
Goals2	2.88	0.89
Goals3	3.18	0.88
Goals4	2.93	0.91
Goals5	2.88	0.94
Goals6	3.36	0.92
Goals7	3.30	0.93
Goals8	3.11	0.91
Goals9	3.36	0.92
PlanStrat1	2.95	0.87
PlanStrat2	2.95	0.89
PlanStrat4	3.39	0.92
PlanStrat5	3.28	0.91
PlanStrat6	3.00	0.92
PlanStrat7	3.47	0.92
PlanStrat8	3.28	0.88

Table 11 (continued)

PlanStrat9	3.48	0.92
PlanStrat10	3.40	0.92
PlanStrat11	3.24	0.98
Implement1	3.29	0.86
Implement2	3.23	0.83
Implement3	3.28	0.87
Implement4	3.31	0.92
Implement5	3.41	0.87
Implement6	3.17	0.92
Implement7	3.52	0.92
Implement8	3.19	0.89
Implement9	3.16	0.88
Implement10	3.89	0.89
Implement11	3.49	0.91
Implement12	3.51	0.92
SelfEval1	3.61	0.91
SelfEval2	3.06	0.95
SelfEval3	3.23	0.92
SelfEval4	3.15	0.90
SelfEval5	3.09	0.89
SelfEval6	3.07	0.91
SelfEval7	3.20	0.93
SelfEval8	3.01	0.92
SelfEval9	3.21	0.90
SelfEval10	3.03	0.91
SelfEval11	3.07	0.93
SelfEval12	3.17	0.94
SelfEval13	3.08	0.93
SelfEval14	3.14	0.93

N = 1,336

Comparisons among the PAF and ML with oblique rotation solutions on the ratings of nursing faculty demonstrated that the solutions were strikingly similar, with minor differences reflected in the explained variance and the loadings of several items between the solutions. The solutions indicated that the four factors were correlated, with the sizes of all four coefficients ranging from .61 to .79 ($\Delta = 0$). Nevertheless, the four-factor ML solution yielded more interpretable factors than the PAF rotated solution. Therefore, the four-factor ML solution with oblique rotation that extracted four factors

with corresponding items closer to the hypothesized factor structure presented by the author for the FPSRLS instrument is reported rather than the PAF solution. The four-factor ML 45-item solution accounted for 70 percent of the variance among the FPSRLS items. Table 12 presents the pattern matrix for the ML 45-item solution. The names of the four empirical factors in the solution correspond to the four domains in the FPSRLS instrument.

Table 12

Pattern Matrix of the Maximum Likelihood Oblique 4-Factor Solution for the FPSRLS Using Ratings of Undergraduate Nursing Faculty (N=1,336) Sorted by Size of Factor

<i>Loadings</i>				
Item	F1	F2	F3	F4
Implement8	.97			
Implement9	.96			
Implement6	.92			
Implement5	.81			
Implement4	.78			
Implement11	.78			
Implement7	.76			
Implement1	.75			
Implement3	.74			
Implement2	.72			
Implement12	.72			
Implement10	.69			
SelfEval1	[.69]			
SelfEval2	[.65]			
SelfEval12		.92		
SelfEval10		.91		
SelfEval7		.91		
SelfEval11		.89		
SelfEval9		.88		
Table 12 (continued)				
SelfEval3		.88		
SelfEval8		.86		
SelfEval13		.85		

SelfEval4	.85			
SelfEval6	.81			
SelfEval14	.78			
SelfEval5	.74			
Goals5			.86	
Goals1			.84	
Goals4			.82	
Goals2			.82	
Goals8			.73	
Goals6			.69	
Goals7			.66	
Goals9			.64	
Goals3			.61	
PlanStrat1			[.52]	
PlanStrat2			[.50]	
PlanStrat9				.76
PlanStrat10				.74
Table 12 (<i>continued</i>)				
PlanStrat7				.66
PlanStrat8				.52
PlanStrat6			[.37]	.41
PlanStrat5				.39
PlanStrat4				.35
PlanStrat11				.35

Label ^a	Implementation	Self-Evaluation	Goal-Setting	Planning/ Strategies
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Note. Eigenvalues of the four factors prior to rotation were 27.70, 2.63, 1.82, and 1.03. This matrix presents the loadings without item PlanStrat3, which did not load on any factor. Loadings greater than .30 are reported. Loadings in brackets are added to supplement the explanation provided in the body of the paper.

^aLabel indicates the suggested factor (i.e., extracted factor) name.

Except for a small number of items, the four extracted factors corresponded to the four domains established in the FPSRLS instrument. All original items of the Implementation domain loaded on the Implementation factor (F1). However, two items (SelfEval1 and SelfEval2) that were hypothesized to belong to the Self-Evaluation domain loaded onto the Implementation factor, not the Self-Evaluation factor (F2). SelfEval1 addressed actively engaging with appropriate staff to supplement learning in

order to implement learning goals, and SelfEval2 dealt with executing a strategy in clinical despite difficulty in accessing resources available.

All original items of the Self-Evaluation domain loaded on the Self-Evaluation factor, except SelfEval1 and SelfEval2, which loaded onto the Implementation factor, as discussed previously. All original items of the Goal-Setting domain loaded onto the Goal-Setting factor (F3), with two items (PlanStrat1 and PlanStrat2) from the Planning/Strategies domain loading on this factor rather than the Planning/Strategies factor (F4). These two items pertained to formulating strategies for learning (PlanStrat1) and formulating a strategy for their learning process (PlanStrat2). Finally, all original items of the Planning/Strategies domain loaded on the Planning/Strategies factor, except the two discussed above. Furthermore, one item (PlanStrat6) cross-loaded on this factor and the Goal-Setting factor ($F3 = .37$; $F4 = .41$); however, because it exhibited a higher factor loading to the Planning/Strategies factor, and because the theory specified that it load on this factor, it was retained in the Planning/Strategies factor. This item was related to developing learning strategies to stimulate independent thinking.

In summary, the factor structure was well-defined, with most of the items of extracted factors loading on the hypothesized four dimensions of the original FPSRLS questionnaire.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the study and interpretation of the findings, followed by the limitations of the study and implications of practice. Proposals for future development and utilization of the Faculty Perceptions Self-Regulated Learning Strategies (FPSRLS) instrument concluded in this chapter.

Summary of the Study

The purpose of this study was to develop and psychometrically test an instrument intended to measure faculty's perceptions of students' abilities to utilize SRLS to improve critical and reflective thinking in making clinical decisions. The Self-regulated Learning Theory was used as a model in the development of the FPSRLS instrument built on a theoretical structure that explains how clinical reasoning skills can be acquired through attention to critical and reflective thinking skill acquisition (Kuiper & Pesut, 2005). The SRL model, a synthesis of academic research, supports the conceptual relationship between metacognitive and cognitive behavioral processes and environmental structuring for educational settings (Kuiper, 2005).

The four key content domains are based on setting a goal and deciding on strategies to accomplish it, employing goal-directed actions and monitoring performance, evaluating goal progress and adjusting strategies to ensure success (Kuiper, 2005). The behaviors associated with self-regulation work in a three phase cyclical process, thus supporting the cyclical activity of learners (Schunk & Zimmerman, 1998; Zimmerman, 2000). The design of the instrument, using a Survey Monkey format, was based on the process of goal setting, planning/strategies, and evaluation to support the process of open-

ended learning identified by Schunk & Zimmerman (1998) and Zimmerman (2000) to reflect the conceptual framework and defining concepts of self-regulated learning strategies.

The theoretical definition of self-regulated learning strategies was defined as approaches used by students to plan, execute, and monitor their progress on learning tasks (Gifford-Lemcool, 2007). The use of SRLS includes the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning processes. In addition to having these characteristics, students can learn self-regulation through experience and self-reflection, as well as ways of approaching learning through experience and understanding, in which self-reflection is incorporated into any environment.

By including SRLS, clinical nursing faculty can help students become aware of alternative ways to approach learning situations, allowing students to reflect on their performances and build on experiences more efficiently, thus promoting practice and purposeful metacognitive techniques. Utilizing SRLS learning becomes reflective of the life-long goal of education, which teaches students the will as well as the skill in learning (Camahalan, 2006). The four defining content domains of self-regulated learning strategies addressed in the instrument included goal setting, planning/strategies, implementation, and self-evaluation.

Five subject matter experts were used to review the FPSRLS instrument for content validation of the potential items. The measure of the concepts was then analyzed as part of the instrument development: Each item on the inventory was reviewed and

evaluated according to the criteria of relevancy and clarity of items, using expert responses as criteria in this present study.

The psychometric quality of the instrument with regard to validity and reliability was secured using several different methods. Content validity of this present study was supported by content experts, content validity index (CVI), and scale content validity index (SCVI). Construct validation of the FPSRLS instrument was achieved by means of an exploratory factor analysis (EFA) of item loadings on the hypothesized factor structure. Reliability was achieved by interval consistency reliability; due to the cost and availability of subjects on multiple occasions, testing the internal consistency reliability was the main concern in establishing the reliability of the FPSRLS instrument.

Cronbach's coefficient alpha was used for internal consistency reliability to measure reliability in the scale development process. The returned pilot/field testing of the FPSRLS instrument was scored and calculated with Cronbach's alpha and item-total correlations in order to examine reliability and, by changing or removing items, increase the reliability of the instrument.

The pilot/field study was conducted using a convenience sample of an estimated 34,000 nursing faculty working in NLNAC accredited nursing programs. The target population for reliability testing of the FPSRLS instrument consists of undergraduate nursing faculty. Participants had to be nursing faculty who teach or have taught in a clinical setting with undergraduate nursing students in the last two years. Data collection began the month of April 2011 and was completed the end of April 2011. The data was analyzed using SPSS Statistics 19 for Windows. Descriptive statistics were used to describe the sample's characteristics as well as means and standard deviations of the

instrument's items. A combination of quantitative techniques was employed for the data analysis to establish the reliability and validity of the FPSRLS instrument.

Discussion of the Findings

This section presents the interpretation and discussion of the results found in the current study. With the use of the newly developed FPSRLS instrument, an interpretation and discussion of the content validity by means of content validity index (CVI) and scale content validity index (SCVI) will lead this section, followed by the discussion of the construct validity of the pilot/field testing results. A discussion of the reliability of the instrument calculated by Cronbach's alpha and item-total correlations will follow. A discussion of the descriptions of participants for the pilot/field testing will conclude this section.

Content Validity Index

The instrument was designed on the basis of what faculty perceptions were of student abilities to utilize self-regulated learning strategies (SRLS). After identifying the four key content domains that would represent the SRLS within the FPSRLS instrument through a critical review of the literature, the instrument answered the question as to whether the content of the measurement was a representative of the content in order to secure the validity of the instrument.

Five experts were invited to participate on a panel to review the original draft of the FPSRLS instrument, and their responses were used as criteria for the measure.

Overall, members of the expert panel determined that both the content and format of the instrument were valuable for assessment purposes. The study found that the majority of the panel did have a unanimous consensus of the content domains that were represented

within the FPSRLS instrument. The findings show that the expert panel in fact supported the framework for this study and the content domains. The researcher was not able to find any additional studies looking at nursing faculty perceptions of students' abilities to utilize SRLS, so this study will serve as a baseline for future research. The researcher felt it was important to show that the framework was appropriate, as well as the adequate fit of the four content domains that were established.

The components of Self-regulated Learning Theory provide a useful framework for the development of the FPSRLS instrument. The connection between the cyclic process of Self-regulated Learning Theory and the behaviors associated with self-regulated work was supported by the panelists, showing a support for the cyclical activity of learners demonstrated within the FPSRLS instrument. The researcher attempted to show that the incorporated content domains of goal setting, planning/strategies, and evaluation did support the process of open-ended learning that were evident in the development of the FPSRLS instrument.

The feedback from the experts targeted the wording of items, the relevance of each item to the construct that it represented, and response format. A common trend noted by the panel was the repetitiveness of items within the instrument. The repetitiveness of items was done in an attempt to capture the phenomenon of interest in different ways. The researcher did this based on Devellis (2003) in an attempt to use multiple and seemingly redundant items: The content that is common to the items will summate across items, while their irrelevant idiosyncrasies will cancel out. This was apparent during the review process by the panel and was an appropriate and adequate research method for the development of the instrument.

Validity of the FPSRLS instrument was established by looking at both content validity index (I-CVI) and scale content validity index (S-CVI). This research study attempted to show detailed evidence regarding scale development about the methods for computing the CVI. By doing this, readers of this study will have a good understanding of content validity of the new FPSRLS instrument. The CVI, with a value ranging from 0 to 1, was derived from the ratings of the content relevance of the items on an instrument using a 4-point ordinal rating scale. The I-CVI for each item contained the number of experts who rated the item as either 3 or 4 counted and divided by the total number of experts. The researcher used the recommended I-CVI of at least .80 for new measures. For item relevancy, only one item out of 46 had an I-CVI of less than .80. For item clarity, only one item out of 46 had an I-CVI of less than .80. Revision and item selection were made on the basis of I-CVIs of items along with qualitative information comments, suggestions, and recommendations from the experts of these items.

For this study the researcher choose to do S-CVI/Average as the average I-CVI value because this puts the focus on average item quality rather than on average performance by the experts. The guidelines for the S-CVI/Average should be .90, not .80, as is the standard criterion for acceptability of the S-CVI (Polit & Beck, 2005). The reason for the higher demand in standard for the S-SCI/Average is that .80 is much more liberal in its definition of congruence (Polit & Beck, 2006). The S-CVI ranged from .91 to .97 on the relevancy and clarity of the average of the I-CVI value, all clearly above the .90 criteria. This I-CVI and the S-CVI for this study indicate that the FPSRLS instrument can be judged as having excellent content validity.

Pilot/Field Testing Results

Factor analysis is most often used as part of the instrument development process and is “an important statistical tool for providing validity evidence concerning the structure of instruments” (Dixon, 2001, p. 307). The purpose of using exploratory factor analysis in this study was to understand if the hypothesized four factor solution did explain the interrelationships among the items of each scale. No extensive or similar research has been done to provide strong empirical evidence that allows the investigator to specify an exact factor model in advance.

Regarding multivariate normality, the individual items demonstrated a normal distribution, as evidenced by the fact that all items exhibited skewness and kurtosis values within acceptable range (i.e., $< |3|$). All other EFA assumptions were met. Descriptive statistics were computed for each item of the FPSRLS as well as its four hypothesized dimensions—goal setting, implementation, planning/strategies, and self-evaluation. The solutions on the entire 46 items were not as interpretable as those of the 45-item-solutions (with the PlanStrat3 item excluded) for both the ML and PAF solutions, which differs from the hypothesized structure expected, based on the theoretical framework of the FPSRLS, which uses all 46 items. The PlanStrat3 item exhibited a low communality value with the four factors (.20), and hence, it did not load onto any factor after the oblique rotation, which is why it was excluded from all subsequent analyses.

Comparisons between the PAF and ML with oblique rotation solutions on the ratings of nursing faculty demonstrated that the solutions were strikingly similar, with minor differences reflected in the explained variance and the loadings of several items

between the solutions. The solutions indicated that the four factors were correlated, with the sizes of all four coefficients ranging from .61 to .79 ($\Delta = 0$). Nevertheless, the four-factor ML solution yielded more interpretable factors than the PAF rotated solution. Therefore, the four-factor ML solution with oblique rotation that extracted four factors with corresponding items closer to the hypothesized factor structure presented by the author for the FPSRLS instrument is reported rather than the PAF solution. The four-factor ML 45-item solution accounted for 70 percent of the variance among the FPSRLS items

Except for a small number of items, the four extracted factors corresponded to the four domains established in the FPSRLS instrument. All original items of the Implementation domain loaded on the Implementation factor (F1). However, two items (SelfEval1 and SelfEval2) that were hypothesized to belong to the Self-Evaluation domain loaded onto the Implementation factor, not the Self-Evaluation factor (F2). SelfEval1 addressed actively engaging with appropriate staff to supplement learning in order to implement learning goals, and SelfEval2 dealt with executing a strategy in clinical despite difficulty in accessing resources available. After completing the exploratory factor analysis, it is clear that these two items include words like “engage” and “execute,” which connote implementation rather than evaluation. Both of these items should be moved to the implementation factor and removed from self-evaluation.

Similarly, the items of the Goal-Setting domain loaded onto the Goal-Setting factor (F3), with two items (PlanStrat1 and PlanStrat2) from the Planning/Strategies domain loading on this factor rather than the Planning/Strategies factor (F4). These two items pertained to formulating strategies for learning (PlanStrat1) and formulating a

strategy for their learning process (PlanStrat2). The exploratory factor analysis has clearly shown that even though these items were hypothesized to belong in Planning/Strategies factor, they included words like “formulate,” which connotes goal-setting rather than planning. With this particular situation, the researcher felt that formulate could be considered in planning/strategies originally; however, the exploratory factor analysis has noted them as outliers and in doing so has changed the researcher’s original thought on placement of the two items.

Finally, all original items of the Planning/Strategies domain loaded on the Planning/Strategies factor, except the two discussed above. Furthermore, one item (PlanStrat6) cross-loaded on this factor and the Goal-Setting factor ($F3 = .37$; $F4 = .41$); however, because it exhibited a higher factor loading to the Planning/Strategies factor, and because the theory specified that it load on this factor, it was retained in the Planning/Strategies factor. This item was related to developing learning strategies to stimulate independent thinking.

In summary, the factor structure was well-defined, with most of the items of extracted factors loading on the hypothesized four dimensions of the original FPSRLS questionnaire.

Limitations of the Study

The purpose of this study was to develop an instrument and to begin to test its reliability and validity. The development of a non-tested instrument adds potential limitations to the study. This study investigated the psychometric properties of a newly-developed instrument using a Self-Regulated Learning Theory framework to measure faculty’s perceptions of students’ abilities to utilize self-regulated learning strategies,

utilizing a newly-designed instrument. Specific limitations exist in the literature review. The lack of research concerning nursing faculty perceptions of clinical practices regarding self-regulated learning meant that the research had to rely on previous research regarding students' perceptions of their abilities to utilize self-regulated learning strategies. This may account for some of the comments the researcher received from nursing faculty by email requesting the use of self-regulated learning application in the clinical setting. This limitation is perhaps the most likely cause of missing data from the instrument pilot/field testing.

The pilot/field testing used in the investigation of the new instrument's reliability and validity did not involve large representative data sets collected from random samples of the target population; rather, the data from the pilot/field test was derived from an email list of 1,191 nursing program deans and directors created from the NLNAC website listed under accredited program. An email asking the program deans and directors to forward the email that contained the information to participate in the testing of the instrument on Survey Monkey was forwarded to an estimated 34,000 based on the National League for Nursing websites showing 34,000 plus nursing faculty members (National League for Nursing, 2011).

The use of a convenience sample is typical in the early stages of instrument development but introduces significant limitations (Park, 2010). Using the NLNAC database as a convenience sample will not be representative of the universe of faculty at non-member institutions (Gall, Gall, & Borg, 2003). These limitations related to potential restrictions in range and respondents have varied interpretations of items on the

instrument. Future research that includes larger samples across the general nursing faculty and improved measurement may further the findings of this study.

The final limitation is the self-report instrument used to collect the data. A limitation exists with self-reporting because participants might not be knowledgeable on the subject. Participants may choose not to answer questions because of not understanding a question or for other reasons (Gall et al., 2003).

Implications for Practice

This study focused on faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in clinical practice. Despite the limitations discussed in the previous section, this study served as an important first step toward a better understanding of nursing faculty's perceptions of students' abilities to utilize SRLS. The study exposed a nursing faculty population to the idea of utilizing SRLS as a teaching method in the clinical setting by encouraging them to think about what their perceptions of students' abilities are in the clinical setting. A more focused use of the FPSRLS instrument, such as choosing a specific type of student set (fourth semester nursing students), would likely produce results that would be increasingly more significant for graduate nurses, as well as nursing faculty.

The continued struggle that nursing faculty experience to improve methods of teaching critical and reflective thinking in the clinical setting has demonstrated the need for innovative educational interventions. These interventions will likely improve the new nurse graduates' ability to develop the skills of critical and reflective thinking as they enter into practice. With the literature supporting that patient outcomes are improved by nurses' critical thinking, it becomes important that educational curriculum in the area of

clinical practice address ways to improve the students ability to develop these skills. In order to apply new practices in the clinical setting, looking at faculty's perceptions about their students' abilities is a first step in that direction.

The fact that SRLS is one way to achieve the goal of helping students improve in the development and of critical and reflective thinking in the clinical setting has been established through the literature review of this study. Nursing faculty need an awareness of their understanding of SRL and SRLS. Nursing faculty may need more support through faculty development in order to assist them in creating open learning environments where students have the ability to implement and evaluate SRLS in the clinical setting. Creating such clinical learning environments will likely help the facilitation of SRLS and transference of SRLS into nursing practice.

This instrument provides a prototype, or template, for nurse educators to use in an attempt to examine nursing faculty's perceptions about nursing students' abilities in the clinical setting. It is plausible that nursing faculty could construct and analyze a variety of different scenarios using the newly developed FPSRLS instrument. The implementation of use of the FPSRLS instrument in a more focused study, as mentioned earlier, may help nursing faculty look at specific student abilities for each semester of a nursing program in an attempt to show or identify progression of students' abilities each semester. The results from analyzing faculty perceptions to the four identifies factors of SRLS will likely have implications for curriculum modification and result in the increased development of critical and reflective thinking in clinical practice.

With today's ever-changing health care environment, this presents challenges for the new nurse graduate. The advancement of a new technology health care delivery

system requires that nursing students need to be prepared to enter these environments with confidence to manage patient care problems and be able to implement strategies that will continue to improve their critical and reflective thinking processes. Nursing faculty are in a prime position to implement the use of SRLS in the clinical setting to help new nurse graduates make a successful transition into nursing practice.

Recommendations for Further Study's

As previously discussed under the limitations of the study, not focusing on one specific semester of nursing students for nursing faculty to give their perceptions of students' abilities to utilize SRLS may have created some confusion on what the nursing faculty may have felt a student in different semesters was capable of. Creating the survey for general application of nursing faculty's perceptions of students' abilities to utilize SRLS focusing on one semester group of nursing students would likely have yielded different results. It is recommended that the FPSRLS instrument be administered to a more focused group of nursing students.

For the future use of the FPSRLS instrument, it is recommended that, as previously discussed in the discussion section, (SelfEval1 and SelfEval2) that were hypothesized to belong to the Self-Evaluation domain but loaded onto the Implementation and should be moved to that section of the instrument. In addition, (PlanStrat1 and PlanStrat2) from the Planning/Strategies domain load in the Goal-Setting domain and should likewise be moved to that section of the instrument.

Continued use of the FPSRLS instrument will expose nursing faculty to the creation of student-centered clinical environments where students are active participants in their clinical education. However, the researcher does understand that creating such a

learning environment takes time and preparation for nursing faculty to help students with their developed SRLS and implementation of them to maximize the learning experience of nursing students. Additional questions that could have been added to the instrument to obtain more information about faculty's perceptions in general include knowledge of SRL and SRLS, faculty perceptions of time and preparation for creating a student-centered learning environment utilizing SRLS, and identification of any faculty development on different methods of improving critical and reflective thinking in the clinical setting.

Support for the hypothesized factors was determined through the exploratory factor analysis. It is useful to generate subscale scores (or factor scores) for a group of particular respondents. Those scores could be used in future studies, for example, examining the relationship between factor scores and demographic characteristics of the sample (age, type of degree listed, years teaching nursing students, and years teaching in the clinical area). Future studies could focus on these findings and establish additional construct validity of the instrument.

The existing literature revealed no studies on faculty's perceptions of students' abilities to utilize SRLS to improve critical and reflective thinking in the clinical setting. More studies in this area could reveal how clinical practice for nursing students using SRLS in the clinical setting can improve critical and reflective thinking, creating positive outcomes for new nurse graduates to successfully manage the health problems of patients they care for in their nursing practice.

Conclusion

This study sought to develop and psychometrically test an instrument intended to measure faculty's perceptions of students' abilities to utilize SRLS to improve critical and reflective thinking in making clinical decisions. To support the goal of this study, the FPSRLS instrument was developed and then implemented. Those responses collected in the data were then used to determine if the hypothesized factors of the FPSRLS instrument (goal setting, planning/strategies, implementation, and evaluation) were in fact valid and reliable. The approach to the development of the FPSRLS instrument was based on content domain derived from the literature review and the instrument framework. The psychometric testing of this instrument showed that it is valid and reliable. This is a first step in creating a method to measure faculty's perception about students' abilities to utilize SRLS and potentially showing faculty a new method for conducting clinical education practices increasing the nursing students' ability to develop and improve critical and reflective thinking with SRLS.

In conclusion, the FPSRLS instrument has the potential to provide valuable insights into faculty's perceptions toward the introduction of SRLS in the clinical setting. Findings from the use of the FPSRLS instrument might stimulate discussions with nursing faculty about the importance, usefulness and practicability of an orientation toward SRLS in the clinical setting so their nursing students can potentially improve critical and reflective thinking. The FPSRLS instrument can also serve as a way for faculty to have reflection, and the instrument may offer nursing faculty some ideas for changing clinical practices.

There are different reasons nursing faculty perceptions are for or against an educational innovation like implementing SRLS in the clinical setting. The nursing faculty's degree of openness to new or different ideas is likely to influence what nursing faculty consider as possible within previously-held perceptions about clinical practices. Although further research is required, the FPSRLS instrument appears to be valid and reliable, resulting in a workable instrument for contributing to the conceptualization of self-related learning strategies in the clinical setting.

APPENDIX A

IRB APPROVAL FORMS

Below is the information presented on page one of the online survey; this page will serve as informed consent for this study. If participant wish to proceed after reading, they simply click NEXT at the bottom of the page. If you wish to see a demonstration, please go to <http://www.surveymonkey.com/s/DN5XX6N> (this information is also available on page 1 and 2 of Appendix B (it appears on 2 pages here and in the pdf file, but it is on only one page on the Internet).

My name is Amber Donnelly I am a doctoral candidate at the University of Nevada Las Vegas. I need your assistance as a participant in my dissertation research, that is, I need your assistance to help validate an instrument that I have developed called the Faculty Perceptions Self-regulated Learning Strategies (FPSRLS).

TITLE OF STUDY: Faculty's Perceptions of Students' Abilities to Utilize Self-Regulated Learning Strategies to Improve Critical and Reflective Thinking in Making Clinical Decisions: A Methodological Study

INVESTIGATOR(S): Amber Donnelly and Mary Bondmass

CONTACT PHONE NUMBER: 702-895-3418

Purpose of the Study:

You are invited to participate in a research study. The purpose of this study is to validate an instrument designed to measure nursing faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions.

Participants:

You are being asked to participate in the study if you meet the inclusion criteria below:

To be included in the sample for the research study, you must be nursing faculty who teach or have taught in a clinical setting with undergraduate nursing students in the last two years. You must be nursing faculty teaching in undergraduate nursing programs who are accredited by the National League for Nursing (NLN), and you must be willing to give informed consent.

Procedures:

If you volunteer to participate in this study, you will be asked to do complete the FPSRLS and a few demographic questions

*Deemed exempt by the ORI-HS and/or the UNLV IRB. Protocol 1102-3723M Exempt
Date: 03-14-11*

Benefits of Participation:

There may be no direct benefits to you as a participant in this study. However, we hope to determine the psychometric properties of the FPSRLS and if this instrument is validated, it will be submitted for publication and therefore dissemination for other nursing educators' use.

Risks of Participation:

There are risks involved in all research studies, but this study may include only minimal risks in that you may feel uncomfortable or stressed in answering some of the questions.

Cost /Compensation:

The study will take approximately 15 minutes of your time. There is no financial cost to you to participate in this study. You will not be compensated for your time.

Contact Information:

If you have any questions or concerns about the study, you may contact Mary Bondmass at mary.bondmass@unlv.edu or 702-895-3418 PI and Faculty Dissertation Chair). For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office of Research Integrity – Human Subjects at 702-895-2794 or toll free at 877-895-2794 or via email at IRB@unlv.edu.

Voluntary Participation:

Your participation in this study is voluntary. You may refuse to participate in this study at all or you have the ability to skip answers on the survey and/or submit the survey without requiring an answer on each item. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality:

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. The Internet Protocol address used to contact you will not be collected. All records will be stored in a locked facility at UNLV for 3 years after completion of the study. After the storage time the information gathered will be destroyed.

This study has been approved by our University's Institutional Review Board.

Participant Consent:

If you have read the above information and you meet the inclusion criteria and you wish to participate in this study, please proceed by clicking the Next icon at the bottom center of the screen

*Deemed exempt by the ORI-HS and/or the UNLV IRB. Protocol 1102-3723M Exempt
Date: 03-14-11*



Biomedical IRB – Exempt Review Deemed Exempt

DATE: March 14, 2011

TO: Dr. Mary Bondmass, Physiological Nursing

FROM: Office of Research Integrity – Human Subjects

RE: Notification of review by / Ciindy Lee-Tataseo/Ms. Cindy Lee-Tataseo, BS, CIP, CIM
Protocol Title: Faculty’s Perceptions of Students’ Abilities to Utilize Self-Regulated Learning Strategies to Improve Critical and Reflective Thinking in Making Clinical Decisions. A Methodological Study

Protocol # 1102-3723M

This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46 and deemed exempt under 45 CFR 46.101(b)2..

PLEASE NOTE:

Upon Approval, the research team is responsible for conducting the research as stated in the exempt application reviewed by the ORI – HS and/or the IRB which shall include using the most recently submitted Informed Consent/Assent Forms (Information Sheet) and recruitment materials. The official versions of these forms are indicated by footer which contains the date exempted.

Any changes to the application may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a **Modification Form**. When the above-referenced project has been completed, please submit a **Continuing Review/Progress Completion report** to notify ORI – HS of its closure.

If you have questions or require any assistance, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 895-2794.

APPENDIX B

CONTENT VALIDATION PACKET FOR EXPERT PANELISTS

Recruitment Letter for Panel

Dear (name of expert):

I am conducting a research project for my dissertation. The purpose of the project is to develop and validate an instrument, the Faculty Perceptions Self-Regulated Learning Strategies (FPSRLS) instrument, to measure nursing faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions. The development of the FPSRLS instrument may lead to the ability to identify and measure nursing faculty perceptions of their students' ability to utilize self-regulated learning strategies SRLS to improve critical and reflective thinking in the clinical setting, and could result in a change in curriculum planning of clinical education for nursing students.

You are being invited to serve on a panel of experts because of your knowledge and your involvement with self-regulated learning. Your participation in the review process is valuable as a preliminary step to validating the instrument and subsequent phases of the instrument development.

The large pool of items generated to tap the content domain related to contextual factors in the nursing faculty's perceptions of student ability to utilize SRLS. These factors included goal setting, planning, implementation, and self-evaluation. When the instrument is administered to members of the National League for Nursing who will be recruited for the study participation, they will be asked to rate each item on a 5-point response scale from "strongly agree" to "strongly disagree".

Thank you for your contribution to the research study. Should you have any questions concerning this study or would like a final version of the FPSRLS instrument please feel free to contact me at 775-934-1345 or adonnelli27@hotmail.com.

Sincerely,

Amber Donnelly, RN, MSN, CNE, PhD Candidate
University of Nevada, Las Vegas

Instructions for Expert Panelists

As part of the content validation process of the FPSRLS instrument, you are asked to evaluate the extent to which you think each item is relevant to the dimensions that represent the content domain of the FPSRLS instrument. You are also asked to indicate how concise and clear you think each item is.

Items in the enclosed instrument inventory have been generated as candidates for eventual inclusion in the FPSRLS instrument. The expert review process is intended to improve the instrument through the trimming, selection, substitution, or revision of these instrument items. Your input is vital and will be used as constructive feedback for the scale development, so please be as completely candid and detailed as possible.

- As you read through each item, please rate it as follows:
 1. Rate the level of relevance on a scale of 1-4 (1= not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant). Space is provided for you to comment on individual items as you see fit.
 2. Indicate the level of clarity for each item, also on a four-point scale (1 = not clear, 2 = needs major revisions to be clear, 3 = needs minor revisions to be clear, 4 = clear). Space is provided for you to comment on individual items as you see fit.
- Feel free to recommend any items that should be included or deleted under the “Comment” column.
- After completing the instrument inventory, please answer the final questions at the end of the inventory.
- Please return this completed packet to my email address, adonelli27@hotmail.com, by saving the attached document with your comments as Expert (your name packet) by January 1, 2011.

Definitions of Self-regulated Learning Strategies and Composite Domains

Self-regulated learning: is a cycle of cognitive activities including analysis of tasks and monitoring outcomes (Gifford-Lemcool, 2007, p. 16). Self-regulated learning refers to the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning process (Nota et al., 2005).

Self-regulated learning strategies: are “approaches used by students to plan, execute, and monitor their progress on learning tasks” (Gifford-Lemcool, 2007, p. 16).

Self-efficacy: is a personal judgment about one's ability to perform requisite actions in order to achieve specific outcomes (Klomegah, 2007).

Proposed Composite Domains

Goal setting: includes faculty's confidence that the average student has the ability to set learning goals and set appropriate strategies to meet those goals.

Planning/Implementation: includes faculty's confidence in the average student's ability to allocate individual roles and responsibilities by targeting the set goal and deciding on ways of proceeding with the strategy by seeking and collecting necessary resources. Implementation includes faculty's confidence in the average students' ability to successfully apply the plan/strategy to guide them in the learning process and generate knowledge by identifying effective strategies and tasks for learning.

Self-evaluation: includes the faculty's confidence in the average students' ability to self-examine and self-evaluate their learning performance by monitoring the learning goals set by students during the learning process of SRLS.

Thank you very much for your time! Should you have any questions concerning this study please contact Amber Donnelly at 775-934-1345 or adonnelly27@hotmail.com.

Once again, thank you very much for your contribution to this study!

APPENDIX C

EXPERT REVIEW OF THE FPSRLS INSTRUMENT

Expert Review

1. Faculty Perceptions Self-regulated Learning Strategies Instrument

My name is Amber Donnell. I am a PhD student at the University of Nevada, Las Vegas. I am conducting a research project for my dissertation. The purpose of the project is to develop and validate an instrument, the Faculty Perceptions Self-regulated Learning Strategies (FPSRLS) instrument, to measure nursing faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions. The development of the FPSRLS instrument may have the ability to identify and measure nursing faculty perceptions of their student's ability to utilize self-regulated learning strategies SRLS to improve critical and reflective thinking in the clinical setting, and could result in a change in curriculum planning of clinical education for nursing students.

You are being invited to serve on a panel of experts because of your knowledge and your involvement with self-regulated learning. Your participation in the review process is valuable as a preliminary step to validating the instrument and subsequent phases of the instrument development.

The large pool of items generated to tap the content domain related to contextual factors in the nursing faculty's perceptions of student ability to utilize SRLS. These factors included goal setting, planning, implementation, and self-evaluation. When the instrument is administered to members of the National League for Nursing who will be recruited for the study participation, they will be asked to rate each item on a 5-point response scale from "strongly agree" to "strongly disagree".

Thank you for your contribution to the research study. Should you have any questions concerning this study or would like a final version of the FPSRLS instrument please feel free to contact me at 775-934-1345 or adonnelli27@hotmail.com.

Sincerely,
Amber Donnell, RN, MSN, CNE, PhD Candidate
University of Nevada, Las Vegas

Expert Review

2. Instructions for Expert Panelists

As part of the content validation process of the FPSRLS instrument, you are asked to evaluate the extent to which you think each item is relevant to the dimensions that represent the content domain of the FPSRLS instrument. You are also asked to indicate how concise and clear you think each item is.

Items in the enclosed instrument inventory have been generated as candidates for eventual inclusion in the FPSRLS instrument. The expert review process is intended to improve the instrument through the trimming, selection, substitution, or revision of these instrument items. Your input is vital and will be used as constructive feedback for the scale development, so please be as completely candid and detailed as possible.

- As you read through each item, please rate it as follows:

1. Rate the level of relevance on a scale of 1-4 (1= not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant). Space is provided for you to comment on individual items as you see fit.

2. Indicate the level of clarity for each item, also on a four-point scale (1 = not clear, 2 = needs major revisions to be clear, 3 = needs minor revisions to be clear, 4 = clear). Space is provided for you to comment on individual items as you see fit.

- Feel free to recommend any items that should be included or deleted under the "Comment" column.

- After completing the instrument inventory, please answer the final questions at the end of the inventory.

Expert Review

3. Definitions of Self-regulated Learning Strategies and Composite Domains

Self-regulated learning: is a cycle of cognitive activities including analysis of tasks, and monitoring outcomes. Self-regulated learning refers to the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning process.

Self-regulated learning strategies: are "approaches used by students to plan, execute, and monitor their progress on learning tasks".

Self-efficacy: is a personal judgment about one's ability to perform requisite actions in order to achieve specific outcomes.

Goal setting: includes faculty's confidence that the average student has the ability to set learning goals and set appropriate strategies to meet those goals.

Planning/Implementation: includes faculty's confidence in the average student's ability to allocate individual roles and responsibilities by targeting the set goal and deciding on ways of proceeding with the strategy by seeking and collecting necessary resources. Implementation includes faculty's confidence in the average students' ability to successfully apply the plan/strategy to guide them in the learning process and generate knowledge by identifying effective strategies and tasks for learning.

Self-evaluation: includes the faculty's confidence in the average students' ability to self-examine and self-evaluate their learning performance by monitoring the learning goals set by students during the learning process of SRLS.

Thank you very much for your time! Should you have any questions concerning this study please contact Amber Donnell at 775-934-1345 or adonnelli27@hotmail.com.

Once again, thank you very much for your contribution to this study!

Expert Review

4. Faculty Perceptions Self-regulated Learning Strategies Instrument

1. GOAL SETTING:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Relevancy of Question

	1 not relevant	2 somewhat relevant	3 quite relevant	4 highly relevant
Set learning goals to increase knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pick appropriate outcome measures for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think independently by using what they have learned in theory and clinical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Form new knowledge and skills by developing their own learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop clinical goals that stimulate independent thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase individual skill to obtain goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commit to their clinical goals set by the individual student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify appropriate goals for their learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attain the clinical goals they set for their learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Expert Review

2. GOAL SETTING:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Clarity of Question

	1 not clear	2 needs major revision	3 needs minor revision	4 clear
Set learning goals to increase knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pick appropriate outcome measures for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think independently by using what they have learned in theory and clinical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Form new knowledge and skills by developing their own learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop clinical goals that stimulate independent thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase individual skill to obtain goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commit to their clinical goals set by the individual student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify appropriate goals for their learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attain the clinical goals they set for their learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Expert Review

3. PLANNING/STRATEGIES:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Relevancy of Questions

	1 not relevant	2 somewhat relevant	3 quite relevant	4 highly relevant
Formulate strategies for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formulate a strategy for their learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chose an appropriate patient during the final semester.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarify clinical task demands of patient to meet learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop a strategy to meet their clinical goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop learning strategies to stimulate independent thinking in clinical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exhibit behaviors that support learning, from past clinical experiences to reach clinical goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve their ability to develop strategies for new learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use previous knowledge learned in clinical to generate strategies for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use knowledge gained in clinical previously to formulate a strategy to reach new learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engaging in creating strategies will encourage a student to continue to set more goals for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Expert Review

4. PLANNING/STRATEGIES:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Clarity of Questions

	1 not clear	2 needs major revision	3 needs minor revision	4 clear
Formulate strategies for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formulate a strategy for their learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choose an appropriate patient during the final semester.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarify clinical task demands of patient to meet learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop a strategy to meet their clinical goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop learning strategies to stimulate independent thinking in clinical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exhibit behaviors that support learning, from past clinical experiences to reach clinical goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve their ability to develop strategies for new learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use previous knowledge learned in clinical to generate strategies for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use knowledge gained in clinical previously to formulate a strategy to reach new learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engaging in creating strategies will encourage a student to continue to set more goals for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Expert Review

5. IMPLEMENTATION:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Relevancy of Questions

	1 not relevant	2 somewhat relevant	3 quite relevant	4 highly relevant
Successfully implement learning/clinical strategies they have developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successfully apply a plan/strategy to guide them in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Execute a plan that will enhance their learning/clinical experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing the students' learning process will generate new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement the learning process to enhance previous knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of the implemented strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in activities that develop new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of a strategy to enhance previous knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of a strategy implemented to develop new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guided by faculty are able to successfully implement learning strategies they developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify resources in clinical to help implement strategies to reach learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilize resources in clinical to reach learning goals they have set.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actively engage with appropriate staff to supplement learning in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Expert Review

order to implement
learning goals.

Execute a strategy in
clinical despite difficulty in
accessing resources
available.



Comments

Expert Review

6. IMPLEMENTATION:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

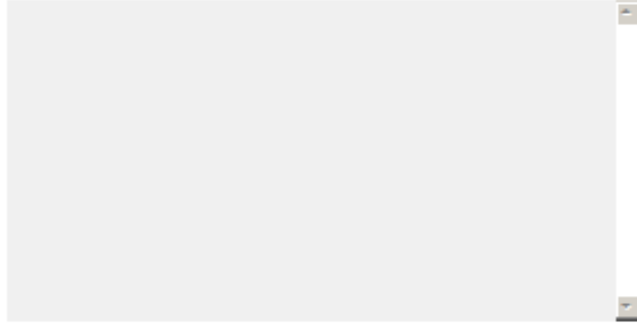
Clarity of Questions

	1 not clear	2 needs major revision	3 needs minor revision	4 clear
Successfully implement learning/clinical strategies they have developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successfully apply a plan/strategy to guide them in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Execute a plan that will enhance their learning/clinical experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing the student's learning process will generate new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement the learning process to enhance previous knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of the implemented strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in activities that develop new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of a strategy to enhance previous knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of a strategy implemented to develop new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guided by faculty are able to successfully implement learning strategies they developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify resources in clinical to help implement strategies to reach learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilize resources in clinical to reach learning goals they have set.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actively engage with appropriate staff to supplement learning in order to implement learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Execute a strategy in clinical despite difficulty in accessing resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Expert Review

available.

Comments



Expert Review

7. SELF EVALUATION:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Relevancy of Questions

	1 not relevant	2 somewhat relevant	3 quite relevant	4 highly relevant
Self-evaluate their learning performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-evaluate their learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust learning strategies after evaluating their role in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a need for modification in their own learning strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review their own learning to identify areas of weakness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-evaluate where they are in the learning process by evaluating outcome measures they set for themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rate performance of implemented learning tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in self-monitoring and examine the effectiveness of the learning strategy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can successfully analyze their performance toward the goals they have set for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have the ability to measure strengths and weaknesses in their learning strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are able to measure their learning outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust learning behaviors to increase their learning performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Expert Review

8. SELF EVALUATION:

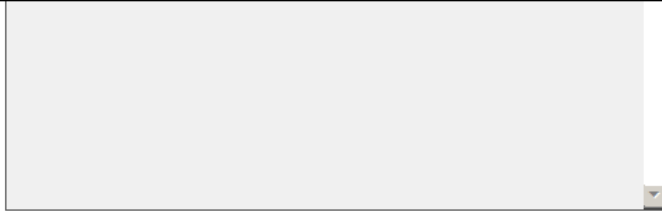
Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

Clarity of Questions

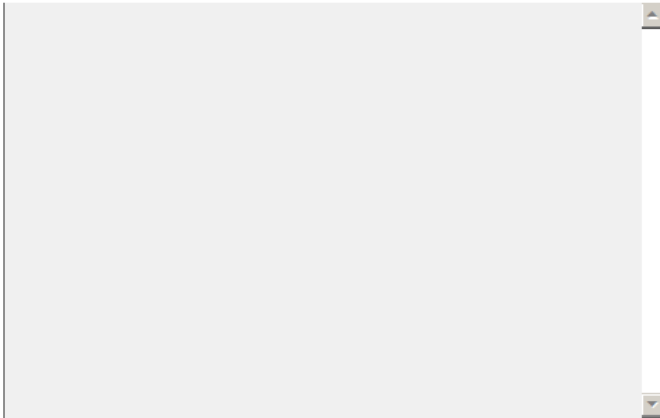
	1 not clear	2 needs major revision	3 needs minor revision	4 clear
Self-evaluate their learning performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-evaluate their learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust learning strategies after evaluating their role in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a need for modification in their own learning strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review their own learning to identify areas of weakness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-evaluate were they are in the learning process by evaluating outcome measures they set for themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rate performance of implemented learning tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in self-monitoring and examine the effectiveness of the learning strategy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can successfully analyze their performance toward the goals they have set for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have the ability to measure strengths and weaknesses in their learning strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are able to measure their learning outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust learning behaviors to increase their learning performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

Expert Review

An empty rectangular text box with a light gray background and a thin black border. It is positioned at the top of the page, below the header.

9. Please include any final thoughts or comments about the instrument that you have.

A larger empty rectangular text box with a light gray background and a thin black border. It is positioned below the question text, providing space for the respondent's final thoughts or comments.

APPENDIX D

EXPERT REVIEW COMMENTS

First, I like this tool and it shows a lot of thought and work has gone into this process. Some comments I have for possible areas of improvement are: 1. The ones I marked somewhat relevant, I feel are repetitive. As a faculty member when I am filling out a survey, I want it to be direct and to the point. I think if you chose the most important things you want to know and make them very clear it would help. An example would be: Set individual learning goals to increase knowledge or Form new knowledge and skill sets by developing their own individual learning goals. I would use one or the other, because they seem to be asking the same thing. In addition, I think the Identify appropriate goals for their learning process is repetitive in the same area so it could be eliminated or revised to "Identified appropriate goals for their learning process." It could be a follow up to access their ability to recognize what their outcome should be.

1. You might change statement #7 to "Commit to their individually set goals" or "Commit to the goals they set for themselves"
2. The first and second question appears very similar in what you are asking.
3. I think restructuring the sentences will help, ie, Use previously gained clinical knowledge to formulate strategies to reach new learning goals. The last statement is not clear. Possible example: Engages in creative strategies to encourage themselves and other students to set additional goals for learning. I am not clear on what you are wanting to assess., the ability to self motivate, develop new learning goals for increased knowledge, or motivating others as a possible leader and mentor.

3/18/11 5:48AM [View Responses](#)

1 and #2 seem repetitive #4 is unclear, I am not sure what "task demands of the patient" refers to #7, #9 & #10 seem somewhat repetitive #11 is a statement that doesn't flow with the rest of the statements...the participant is being asked to rate their level of confidence about their students' abilities and #11 does not appear to be something that the participant could rate their confidence about

3/18/11 9:06AM [View Responses](#)

Again, the first 2 questions may confuse a faculty member on what exactly you are seeking. Clarifying task demands question is confusing. I believe I know what you are asking but if unable to clarify, I would do what I THINK the question is asking. I think rewording of exhibiting behaviors would better clarify this question.

3/22/11 6:03AM [View Responses](#)

4. No comments

5. No comments

6. You may want to add something about the ability to understand and appropriately document their learning process. I only suggest this for accreditation purposes. Maybe the student has developed a rubric or tool for a clinical learning process. This should be assessed and would provide great documentation of the learning process.
3/18/11 5:48AM [View Responses](#)

7. Under the -Self-evaluate were(should be where) they are in the learning process.
3/18/11 5:48AM [View Responses](#)

8. Consider switching the order of #3 and #4 #10 consider removing the word "Can" #11 consider removing "Have the ability to" #12 consider removing "Are able to"
3/18/11 9:06AM [View Responses](#)

9. Spelling errors in a couple of the questions, which make the question more difficult to read.
3/22/11 6:03AM [View Responses](#)

10. After careful review of this assessment tool, I feel this would be valuable for assessment purposes with some minor changes. I think the scale set up is good and easy to understand. I would not change it.
3/18/11 5:48AM [View Responses](#)

11. Overall great job. It does seem that some questions in each area are very similar and if you could combine them into one question for this type of tool to make very user friendly.
3/22/11 6:03AM [View Responses](#)

APPENDIX E

DEANS AND DIRECTORS EMAIL

My name is Amber Donnelly I am a doctoral candidate at the University of Nevada Las Vegas. I need your assistance to help me increase the participation in my dissertation research, that is, I need your nursing faculty's assistance to help validate an instrument that I have developed called the Faculty Perceptions Self-regulated Learning Strategies (FPSRLS) instrument.

As you may well know, getting participant to help with research is a challenge. That is why I am seeking you as a program director to forward this email to your nursing faculty to help encourage them to help a fellow nursing faculty colleague to complete her dissertation research.

The purpose of this study is to validate an instrument designed to measure-nursing faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions.

The study will take approximately 10 minutes of your time. Your faculty needs only to follow this survey link to complete the study.

<http://www.surveymonkey.com/s/DN5XX6N>

Contact Information: If you have any questions or concerns about the study, you may contact Mary Bondmass at mary.bondmass@unlv.edu or 702-895-3418 PI and Faculty Dissertation Chair). For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office of Research Integrity - Human Subjects at 702-895-2794 or toll free at 877-895-2794 or via email at IRB@unlv.edu.

Voluntary Participation: Your participation in this study is voluntary. You may refuse to participate in this study at all or you have the ability to skip answers on the survey and/or submit the survey without requiring an answer on each item. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality: All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. The Internet Protocol address used to contact you will not be collected. All records will be stored in a locked facility at UNLV for 3 years after completion of the study. After the storage, time the information gathered will be destroyed.

This study has been approved by our University's Institutional Review Board.

I really appreciate your support if you have any questions please contact me.

Sincerely Amber Donnelly

Amber Donnelly, RN, PhDc, CNE
Great Basin College
Nursing Faculty
Elko, NV
775-753-2007
amberd@gwmail.gbcnv.edu

APPENDIX F

FPSRLS PILOT/FIELD TEST INSTRUMENT

1. Faculty Perceptions Self-regulated Learning Strategies Instrument

My name is Amber Donnelly I am a doctoral candidate at the University of Nevada Las Vegas. I need your assistance as a participant in my dissertation research, that is, I need your assistance to help validate an instrument that I have developed called the Faculty Perceptions Self-regulated Learning Strategies (FPSRLS).

TITLE OF STUDY: Faculty's Perceptions of Students' Abilities to Utilize Self-Regulated Learning Strategies to Improve Critical and Reflective Thinking in Making Clinical Decisions: A Methodological Study

INVESTIGATOR(S): Amber Donnelly and Mary Bondmass

CONTACT PHONE NUMBER: 702-895-3418

Purpose of the Study:

You are invited to participate in a research study. The purpose of this study is to validate an instrument designed to measure nursing faculty's perceptions of students' abilities to utilize self-regulated learning strategies to improve critical and reflective thinking in making clinical decisions.

Participants:

You are being asked to participate in the study if you meet the inclusion criteria below:

To be included in the sample for the research study, you must be nursing faculty who teach or have taught in a clinical setting with undergraduate nursing students in the last two years. You must be nursing faculty teaching in undergraduate nursing programs who are accredited by the National League for Nursing (NLN), and you must be willing to give informed consent.

Procedures:

If you volunteer to participate in this study, you will be asked to do complete the FPSRLS and a few demographic questions

Benefits of Participation:

There may be no direct benefits to you as a participant in this study. However, we hope to determine the psychometric properties of the FPSRLS and if this instrument is validated, it will be submitted for publication and therefore dissemination for other nursing educators' use.

Risks of Participation:

There are risks involved in all research studies, but this study may include only minimal risks in that you may feel uncomfortable or stressed in answering some of the questions.

Cost /Compensation:

The study will take approximately 15 minutes of your time. There is no financial cost to you to participate in this study. You will not be compensated for your time.

Contact Information:

If you have any questions or concerns about the study, you may contact Mary Bondmass at mary.bondmass@unlv.edu or 702-895-3418 PI and Faculty Dissertation Chair). For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office of Research Integrity – Human Subjects at 702-895-2794 or toll free at 877-895-2794 or via email at IRB@unlv.edu.

Voluntary Participation:

Your participation in this study is voluntary. You may refuse to participate in this study at all or you have the ability to skip answers on the survey and/or submit the survey without requiring an answer on each item. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality:

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. The Internet Protocol address used to contact you will not be collected. All records will be stored in a locked facility at UNLV for 3 years after completion of the study. After the storage time the information gathered will be destroyed.

This study has been approved by our University's Institutional Review Board.

Participant Consent:

If you have read the above information and you meet the inclusion criteria and you wish to participate in this study, please proceed by clicking the Next icon at the bottom center of the screen

2. Demographics

This section seeks to obtain information about you, the participant.

Although I am sure you know how important it is to have complete data, please feel free to skip any demographic information that you are not comfortable in providing.

1. Highest Educational Level Attained:

- PhD in Nursing
- PhD in related health field
- DNP
- DNS
- NP
- Master of Science in Nursing
- Master's in related field
- BSN

Other (please specify)

2. Please enter your gender

- Female
- Male

3. Please enter the cultural group you primarily identify yourself with

- American Indian
- Asian (including Pacific Islander)
- Black (non-Hispanic)
- Caucasian
- Hispanic

Other (please specify)

4. Are you a full-time or part-time nursing faculty?

- Full-time
- Part-time

5. What is your age?

(please enter the number of years in the box provided such as 5, 10, 12.5, etc)

6. How many years have you been a registered nurse?

(please enter the number of years in the box provided such as 5, 10, 12.5, etc)

7. How many years of experience you have in nursing education?

(please enter the number of years in the box provided such as 5, 10, 12.5, etc)

8. How many years have you worked with nursing students in the clinical setting?

(please enter the number of years in the box provided such as 5, 10, 12.5, etc)

3. Faculty Perceptions Self-regulated Learning Strategies Instrument

1. GOAL SETTING:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

	Very low confidence	Some confidence	Reasonable confidence	Sufficient confidence	Very high confidence	N/A
Set learning goals to increase knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pick appropriate outcome measures for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think independently by using what they have learned in theory and clinical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Form new knowledge and skills by developing their own learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop clinical goals that stimulate independent thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase individual skill to obtain goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commit to their clinical goals set by the individual student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify appropriate goals for their learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attain the clinical goals they set for their learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. PLANNING/STRATEGIES:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

	Very low confidence	Some confidence	Reasonable confidence	Sufficient confidence	Very high confidence	N/A
Formulate strategies for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formulate a strategy for their learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chose an appropriate patient during the final semester.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarify clinical task demands of patient to meet learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop a strategy to meet their clinical goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop learning strategies to stimulate independent thinking in clinical.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exhibit behaviors that support learning, from past clinical experiences to reach clinical goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve their ability to develop strategies for new learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use previous knowledge learned in clinical to generate strategies for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use knowledge gained in clinical previously to formulate a strategy to reach new learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engaging in creating strategies will encourage a student to continue to set more goals for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. IMPLEMENTATION:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

	Very low confidence	Some confidence	Reasonable confidence	Sufficient confidence	Very high confidence	N/A
Successfully implement learning/clinical strategies they have developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successfully apply a plan/strategy to guide them in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Execute a plan that will enhance their learning/clinical experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing the students' learning process will generate new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement the learning process to enhance previous knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of the implemented strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in activities that develop new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of a strategy to enhance previous knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor the effectiveness of a strategy implemented to develop new knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guided by faculty are able to successfully implement learning strategies they developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify resources in clinical to help implement strategies to reach learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilize resources in clinical to reach learning goals they have set.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actively engage with appropriate staff to supplement learning in order to implement learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Execute a strategy in clinical despite difficulty in accessing resources available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. SELF EVALUATION:

Please rate your level of confidence in your student's abilities to perform these activities in the clinical setting.

	Very low confidence	Some confidence	Reasonable confidence	Sufficient confidence	Very high confidence	N/A
Self-evaluate their learning performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-evaluate their learning goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust learning strategies after evaluating their role in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a need for modification in their own learning strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review their own learning to identify areas of weakness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-evaluate were they are in the learning process by evaluating outcome measures they set for themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rate performance of implemented learning tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engage in self-monitoring and examine the effectiveness of the learning strategy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can successfully analyze their performance toward the goals they have set for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have the ability to measure strengths and weaknesses in their learning strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are able to measure their learning outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adjust learning behaviors to increase their learning performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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