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Constructivist Learning Strategies in a Nurse Residency Program

Floyd M. Hammon III

California State University, Northern California Consortium Doctor of Nursing Practice

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ABSTRACT

CONSTRUCTIVIST LEARNING STRATEGIES IN A NURSE RESIDENCY PROGRAM

Nurses are knowledge workers in technologically advanced social environments providing care to patients with complex biopsychosocial health care needs. The Nurse Residency Program (NRP) is a transition to practice program designed to facilitate the professional socialization of the newly licensed registered nurse (NLRN) with the goal of developing competency in providing safe and quality patient-centered care. Constructivist learning strategies are an instructional framework that promotes social facilitated self-directed learning. The purpose of the project is to determine if using constructivist learning strategies are an effective learning method in a NRP as measured by the Casey-Fink Graduate Nurse Experience Survey.

Floyd M Hammon III
April 2016

CONSTRUCTIVIST LEARNING STRATEGIES IN A NURSE
RESIDENCY PROGRAM

by

Floyd M Hammon III

A project

submitted in partial

fulfillment of the requirements for the degree of

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For the California State University, Northern Consortium
Doctor of Nursing Practice:

We, the undersigned, certify that the project of the following student meets the required standards of scholarship, format, and style of the university and the student's graduate degree program for the awarding of the master's degree.

Floyd M Hammon III
Project Author

Sybil Hill EdA FNP-C
Chairperson's name (Chair) Nursing

Joseph Eden RN, MHA Director Clinical Transformation Saint Agnes
Committee member's name Professional affiliation 5/10/16

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Signature of project author: *Clayton M. Hammer III*

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INTRODUCTION

Newly licensed registered nurses (NLRNs) entering the nursing profession and transitioning from the academic environment into the practice environment are unprepared to begin their careers working in a complex adaptive system caring for multiple patients simultaneously (Kramer & et al., 2012). To better prepare the NLRN to enter into the practice environment, the Institute of Medicine recommends the adoption of the nurse residency model as a transition to practice program to facilitate the professional socialization of the NLRN (Institute of Medicine (IOM), 2011). This project represents the design and implementation of a Nurse Residency Program to facilitate the professional socialization of the NLRN using constructivist learning strategies.

The professional socialization of the NLRN is a complex, social learning process in which the skills, knowledge and ethics of being a nurse are developed (Dinmohammadi, Peyrovi, & Mehrdad, 2013). Research suggests that the factors that have the greatest impact on the professional socialization process are the values and behaviors that students bring into the profession, their role models, and the academic and practice environments in which the socialization process occurs (Hammer, 2000). During the transition from academia to practice is an opportunity to create an environment and provide role models that facilitate the professional socialization of the NLRN.

There is concern that neither the traditional academic nursing education nor the traditional hospital-based orientation program adequately prepares the NLRN to practice as a professional nurse in the acute care environment (Spector et al., 2015). Giddens and Brady's (2007) research suggests that traditional instructional methods in the academic environment result in content saturation, adversely affecting the knowledge acquisition. They suggest that contributing factors to content saturation are proliferation of information, the complexity of the health care system, the academic structure that maintains the traditional teacher centered pedagogy, the repetition of content in the nursing curriculum, and the expectations for success that produce the academic-practice gap (Giddens & Brady, 2007). Their research also suggests that teaching a concept-based curriculum may be an instructional design that results in improved learning outcomes.

More recently, a study by Talbot (2013) suggests that although nursing education reform has been in the literature since the 1980's, implementing a concept-based student centered curriculum requires assisting nursing faculty to adopt a new paradigm of learning, discontinue instructing discipline-specific content and adopt concept-based instruction on health and disease that span age groups and disciplines.

In addition to content saturation, there are issues with the clinical experience student nurses receive which may further negatively affect their transition into practice. Currently, nurses are assigned to a unit and rely upon the

randomness of the assignment that may not provide the focused educational experience the novice nurse requires in their development (Nielsen, Noone, Voss, & Mathews, 2013). Nielsen & et al., (2013) and colleagues designed an innovative clinical learning experience with specified competencies instead of total patient care assignments.

The clinical learning provided case based simulation, intervention skill based experiences, focused direct client care with defined outcomes, concept based learning activities, and integrative clinical experience. The advantage of this learning strategy is it provides a self-regulated pathway for developing the situated learning of knowledge through clinical reasoning and skills, and iterative learning that is necessary for developing competent, clinical judgment.

The literature suggests that not only are the NLRNs not prepared academically for transitioning into a complex adaptive system capable to care competently for patients with chronic multimorbidities, but also the NLRN are not being professionally socialized in the practice environment. Pellico, Brewer, and Kovner (2009) explored the difficulties the NLRNs have in the workplace and noted themes expressed by the NLRNs. The primary themes the NLRNs identified were the collision of the expectations of nursing with the reality of the work of nursing; the time pressure stress of performing tasks efficiently; the cognitive and physical demands of patient care; and the social hierarchical constructs that allow bullying of NLRNs from colleagues and physicians (Pellico, Brewer, & Kovner,

2009). Because of the inadequacies that may exist in nursing education, and the complex adaptive system in which nurses provide patient care, it is important acute care hospitals develop evidence-based nurse residency programs (NRP) that are designed to facilitate the transition of the NLRN from academia to practice.

There is substantial evidence that supports the need for NRPs (Institute of Medicine, 2011, Kramer, Maguire, Halfer, Brewer, & Schmalenberg, 2011; Spector & et al., 2015) and components of a NRP that facilitate the professional socialization of the NLRN (Bratt, 2009; Kramer & et al, 2012; Rush, Adamack, Gordon, Lilly, & Janke, 2013; Spector & et al., 2015). Clark and Springer's (2012) research examined the perspective of what it is like to be a nurse resident in a NRP and the NLRN's level of job satisfaction during their first year and the findings suggest that overall satisfaction from being in the program was "having supportive preceptors and nursing staff, feeling valued by the health care team, and being perceived as a vital member of the organization".

Instructional design used in a NRP is critical in the learning process. Theisen and Sandau (2013) suggest the skills new nurses need to be successful were communication, leadership, organization, critical thinking, and stress management. Research by Kramer and et al., (2012) identified seven management skills the NLRN requires to provide patient care competently. They include RN/physician communication; delegation; self-confidence; conflict resolution; autonomous decision-making; prioritization; and utilizing the nursing care

delivery system in the clinical setting (Kramer et al., 2012). As the curriculum is the structured content of management skills such as communication, leadership, and stress management, the instructional design is the process in which assimilation, accommodation, and equilibration of the new knowledge and skills occur. Evidence suggests that having a concept based, case study problem based learning strategy, combined with a supportive clinical experience facilitates the deep learning in which professional formation incorporates self-directed life long learning behaviors (Nielsen, Noone, Voss, & Mathews, 2013)

Significance of the study

Nurses are socialized into their new role. As advanced-beginner nurses, what they need to learn and how they learn differ from others with advanced levels of knowledge and skill (Benner, 2004). Research into concept analysis of professional socialization suggests it is a developmental, interactive process that is complex, involves life-long learning, and involves adaptation to a changing practice environment (Dinmohammadi, Peyrovi & Mehrdad, 2013). The NLRN who enters professional nursing practice in an acute care hospital must learn new knowledge and skills, while adapting to the new environment of a complexed system (Benner, 2004).

The competent nurse is able to prioritize, time-manage appropriately and perform patient care tasks competently. Being competent in patient care management skills is not enough. The NLRN must also have the professional

comportment to integrate caring for patients and collaborate with a multidisciplinary team (Clickner, & Shirey, 2013). In addition, the NLRN is responsible for not only providing competent care, but also a patient experience that the patient perceives as meeting or exceeding their expectations (Wolosin, Ayala, & Fulton, 2012). Evidence suggests that NLRN who participate in nurse residency programs (NRP) are better prepared to care for patients in the complex adaptive system of an acute care hospital better as compared to NLRN who have not attended NRPs (Kramer & et al., 2011).

Statement of the problem

Registered nurses are professional knowledge workers who need socialization into the profession in order to competently provide patient care and one of the most effective means of providing professional socialization for the NLRN is through a NRP (Kramer et al., 2011). Although NRP is a recommendation of the IOM report (IOM, 2011) as a means of providing a transition to practice for NLRN, many hospitals rely on an orientation process that orients the NLRN to the responsibility of occupational skills and not the nursing profession.

For instance, prior to implementing the pilot nurse residency program at the site hospital, the standard orientation for a NLRN consisted of a week of hospital orientation that included one day of lecture-based presentations on the Joint Commission's national patient safety guidelines, infection control, core measures,

informed consents, and medication administration safety. The next three days included one day of hands-on skills training on how to use an infusion pump, bedside glucose meter, procedure for intravenous (IV) access, central venous catheter (CVC) access and maintenance and packed-red blood cell transfusion administration.

Following the week of classroom education, the NLRN would be assigned to a preceptor(s) for on-the-job training for a time period based on the assigned unit's validation of task performance competencies. The traditional orientation process consisted of the NLRN shadowing the preceptor for one 12-hour shift, and then gradually increasing the type of patient care tasks and number of patient assignments based on task performance competency. This is the basic structure of the orientation process for the NLRN that is a standard orientation model for many health care organizations (HCO) and results in nurses being task-oriented, vocational workers instead of professional, knowledge workers capable of decision making in undetermined patient conditions.

Purpose of the Study

The purpose of the pilot project was to demonstrate that using constructivist-learning strategies of concept-based teaching and case study problem-based learning during weekly seminars, and collaborative precepting in clinical practice promotes facilitation of the NLRN's professional socialization.

Theoretical Framework of the Problem

The theoretical framework of the problem is NLRN undergo a developmental transformation especially during the first year of nursing practice. This requires an instructional design that facilitates the assimilation, accommodation and equilibration of knowledge gained through experience and reflection. This is fundamentally a time when the NLRN can accelerate the learning of new knowledge by applying techniques of metacognition that encourage professional development through life-long self-directed learning. The constructivist learning strategies included in the pilot project are an instructional method for facilitating professional formation.

Constructivist learning strategy is a theory of learning wherein the learner is actively engaged in constructing new knowledge through the process of assimilating, accommodating and equilibration (Brandon & All, 2010). Knowledge development is self-directed with the assistance of a facilitator that helps the learner (Kantar, 2014). Social constructivist assumptions are learning is a result of the individuals interaction with their environment and the social environment plays a critical role in the development of knowledge, and cognitive dissonance is a stimulus for learning (Thomas, Menon, Boruff, Rodriguez, & Ahmed, 2014). Constructivism signifies learner's involvement with knowledge construction, cooperative learning, self-regulation, and motivation (Kantar, 2014). To professionally develop, the NLRN needs to perform self-assessment of

learning gaps, self-evaluation, reflection, critical thinking, information management, and group skills (Rideout, 2001).

Problem based learning (PBL) is a self-directed, student-centered process of applied learning that facilitates critical thinking in the NLRN (Yu, Zhang, Xu, Wu, & Wang, 2013). Problem based learning allows the learner to develop clinical judgment in progressively complex case studies and becoming autonomous learners (McMahon & Christopher, 2011). Barrows and Tamblyn (1980) identified an 8 step process to creating problem based learning: 1) identification of a learning objective, 2) prioritize a health problem, 3) select a case study, 4) use multiple knowledge resources, 5) use formative assessment, 6) pilot the problem, 7) revise and refine, 8) integrate the problem into the curriculum. One of the key features of using PBL is that the modeling process for problem solving is being used in the NRP so that it becomes part of the process of inquiry the NLRN will need to continue learning throughout their career (Yu, Zhang, Xu, Wu, & Wang, 2013).

Concept based teaching is a pedagogy that facilitates deep learning through the use of principles and concepts (Getha-Eby, Beery, Xu, & O'Brien, 2014). Teaching concepts allows the learner to form conceptual links between topics and achieve deeper learning that contributes to critical thinking (Gidden, Wright, & Gray, 2012).

The goal of cognitive task analysis (CTA) and guided experiential learning (GEL) is to understand the decisions and behavioral activities of the NLRN when

performing tasks in the patient care environment or during reflection with a preceptor using CTA, and to provide individual instruction using GEL. During CTA, the preceptor is the observer and subject matter expert (SME) who also provides GEL with the NLRN. The NLRN uses think aloud protocol to describe the cognitive process, decisions, and activities prior to or during performance of tasks. CTA determines the observable activities and their cognitive precursors (Tofel-Grehl, & Feldon, 2013).

Knowledge mapping is a process to organize knowledge sources through solving a knowledge question. A concept map is a learning tool made by the student to objectify relationships between concepts and topics using a constructivist perspective (Conceicao, & Taylor, 2007). A knowledge map is a form of a concept map that is a schema of where knowledge can be ascertained and is foundational to creating a constructivist learning strategy.

Collaborative precepting is an important constructivist learning strategy in training the learner how to learn the necessary content in the context of the environment in which they are employed, and to continue life long learning and adapting to the ever-changing healthcare environment. In collaborative precepting, the preceptor is side-by-side with the NLRN to facilitate the learning experience through noticing and interpreting the learning experiences (Figueroa, Bulos, Forges, & Judkins-Cohn, 2013). The framework of collaborative precepting is

based on social constructivism and uses the Socratic learning technique of sharing knowledge through dialogue (Paul & Elder, 1977).

The Research Question

Newly licensed registered nurses are not academically prepared (Giddens & Brady, 2007) to transition into the practice environment and care for multiple patients simultaneously, and therefore must participate in the self-transformative process of professional socialization (Kramer et al., 2011). The professional socialization process is complex (Dinmohammadi, Peyrovi, & Mehrdad, 2013) and research suggests (IOM, 2011), that NRPs with specific components and strategies may provided the elements necessary to successfully transition and integrate the NLRN into their role as a professional nurse (Kramer, 2012).

Designing and implementing a pilot NRP required the training of preceptors and clinical nurse educators in the use of constructivist learning strategies. Preceptors attended a preceptor class to learn the techniques of collaborative precepting and CTA/GEL, and the clinical nurse educators attended sessions to further their knowledge in case study problem based learning and concept based teaching. Included in both the preceptors and clinical nurse educator classes, was training in knowledge mapping as a process to use informatics as a knowledge management system. The research question is, are constructivist-learning strategies an effective method for professional socialization of newly licensed registered nurses participating in a facility-based NRP?

Operational Definition

Constructivist learning strategies is a theory of learning in which the learner is able to construct new knowledge by assimilating or accommodating new knowledge into the existing schema through social facilitated self-directed learning in the context of the learner's experience (Kantar, 2014).

Problem based learning is a facilitated learning process in which the learner is presented with an open-ended question pertaining to a case study, and the objective is to have the learner actively involved in discovering a solution to the problem (Barrows & Tamblyn, 1980).

Concept based teaching is a pedagogy that uses concepts to inform the learner about the context and ideas about a subject, and assists the learner in connecting the concepts with other topics (Getha-Eby, Beery, Xu, & O'Brien, 2014).

Cognitive task analysis (CTA) and guided experiential learning (GEL) is a method where the preceptor is the observer and subject matter expert (SME) who is able to provide GEL during the procedure by having the nurse resident think aloud to describe cognitive process, decisions, and activities prior to or during performance of tasks (Tofel-Grehl, & Feldon, 2013).

Knowledge mapping uses concept mapping as a process of identifying, categorizing, and potentially creating new knowledge. The nurse resident is able to

access and utilize organizational and cyber sources of knowledge to facilitate decision-making (Conceicao, & Taylor, 2007).

Collaborative precepting is a method of precepting where the preceptor is side-by-side with the nurse resident to facilitate the learning experience (Figueroa, Bulos, Forges, & Judkins-Cohn, 2013).

Professional socialization is a complex process where the NLRN learns the roles, expectations, social values, knowledge and skills relevant to the practice of nursing (Dinmohammadi, Peyrovi, & Mehrdad 2013). It is a process of developing good occupational skills and being integrated into the hierarchical organization (Bisholt, 2012). The professional socialization process consists of separation from academia, transitioning into practice, and integration into the professional role (Kramer et al., 2011).

Clinical judgment is a conclusion about a patient's biopsychosocial condition and the decision to intervene (or not) using actions deemed appropriate based on the patient's response (Tanner, 2006, p. 204).

In summary, NLRN are not prepared to enter into the complex adaptive system of acute care hospitals and care for multiple patients simultaneously (Kramer et al., 2012). As with other professional, knowledge workers, the NLRN requires professional socialization by peers, preceptors and mentors in order to achieve professional competency. Nurse Residency Programs provide an evidence-based process for professional socialization and are recommended by the

IOM (IOM, 2011) and the NCSBN (Spector et al., 2015) to facilitate the transition to practice of NLRNs. In the NRP, the NLRN is socialized in patient management skills such as prioritization, medication administration, and use of technology; how to think like a nurse using clinical reasoning; and build relationships with nurses and physicians on the unit. In addition, in the NRP the NLRN is educated in the professional nursing role, ethical decision-making, evidence-based practice, and nursing leadership.

Nationally-based and perhaps some facility based NRPs have standardized curriculums that provide educational material that meet the evidence-based standards outlined in recent studies (Kramer et al., 2012; Spector et al., 2015). What is unknown is, what is the most effective instructional method to facilitate the learning of new knowledge for the nurse resident in the professional socialization process. What this study seeks to answer, are constructivist-learning strategies an effective instructional method in the professional process of the NLRN in a NRP.

CHAPTER TWO: LITERATURE REVIEW

Traditional orientation programs are not sufficient to professionally prepare NLRN for the professional nurse role and there is a need to create a standardized nurse residency program similar to the medical model for physician residency that is mandated and funded (Joint Commission on Accreditation of Healthcare Organizations, 2002). Anderson, Hair and Todero (2012) researched databases on NRP from 1980 to 2010 and one of the discoveries in their research was a wide variation in content, teaching, and learning methods between NRPs. In developing a standard for NRPs, content saturation issues as noted in undergraduate nursing programs should be avoided (Giddens & Brady, 2007). From research on content saturation, new models have emerged using learning strategies of case-based studies, concept-based teaching/learning, intervention skill-based learning, focused direct clinical care practicums and integrative experiences (Nielsen, Noone, Voss, & Mathews, 2013). These represent models of constructivist learning strategies.

Nurse Residency Programs

In 2011, the Institute of Medicine (IOM) published its recommendation on NRP and stated “ state boards of nursing, accrediting bodies, the federal government, and health care organizations should take actions to support nurses completion of a transition-to-practice program (nurse residency) after they have completed a prelicensure or advanced practice degree program or when they are

transitioning into new clinical practice areas” (Institute of Medicine, 2011). The IOM (2011) report recommends that health care organizations, the Health Resources and Services Administration and Centers for Medicare and Medicaid Services, and philanthropic organizations should fund residency programs in all practice settings. The IOM report (2011) is an influential study that has increased the momentum for the formation of NRPs across the United States. The IOM publication also recommended that NRPs should collect data that measure the effectiveness of the NRP in nurse retention, competencies, and patient outcomes (IOM, 2011). The influence of the IOM report to establish NRP as a requisition to enter into nursing practice cannot be underestimated.

Nurse residency programs (NRP) vary in content and length, and there is no encompassing theoretical framework for NRPs (Anderson, Hair, & Toder, 2012). Anderson & et al (2012) suggests there are two different models of NRPs: limited programs that are 3 to 4 months in duration, and comprehensive programs that are 12 to 24 months in length. Anderson & et al. (2012) also found that the models vary by whether the NLRN is assigned a consistent preceptor, the quality of learning activities, opportunities to experience marker events, and the use of simulation as an educational tool.

Nurse residency programs also differ by either being a facility-based program, or affiliated with a national program with such as Versant or University Healthsystem Consortium (UHC). Both the Versant and the UHC programs were

identified in the IOM report (2011) and the National Council of State Board of Nursing (NCSBN) publication (Barnett, Minnick, & Norman, 2013).

In 2015 the National Council of State Boards of Nursing (NCSBN) published their study on transition to practice (TTP) programs and their research demonstrated that there are certain components that are necessary to promote learning outcomes (Spector et al., 2015). Spector's and et al., (2015) study states that two essential elements of a TTP are having an institution-based orientation program that includes policies and procedures, philosophies, and role expectations as part of the NRP, and trained preceptors that are trained in adult learning theory through an online training program.

The recommendation is that the nurse resident would be with an assigned preceptor for six months to guide the NLRN through the progression in skill acquisition, clinical judgment, reflective expertise, and the integration of new knowledge attained from seminar-based modules. In the NCSBN study, the authors determined that for a TTP to be successful in providing better support for the NLRN it must contain at least six additional modules that include topics on patient centered care, communication and teamwork, quality improvement, evidence-based practice, informatics, safety, specialty knowledge in an area of practice, clinical reasoning, feedback, reflection (Spector et al., 2015).

Spector and et al., (2015) recommends the following five modules are provided during the first six months of a TTP. The focus of module one is patient-

centered care, which contains subcategories such as prioritization, ethics and just culture, and caring for patient's biopsychosocial needs. Module two contains categories that include communication and teamwork, delegation, and conflict resolution. Module three is informatics and its use in patient management skills and safe patient care. These three modules are related to patient care management and behavioral expectations when working with others on the unit. The other two modules focus on evidence based practice and quality improvement knowledge and skills. Newly licensed registered nurses who participated in established programs using the curriculum described above reported lower levels of stress, higher job satisfaction, and higher competency levels (Spector et al., 2015).

Kramer's et al. research consisted of seven studies over five years, and was "designed to assess the impact of HWE (healthy workplace environments) and the NLRNs transition and integration into professional practice" (Kramer et al., 2011; Kramer et al, 2012). Kramer et al. (2012) identified seven patient management skills that the NLRN requires ongoing training during their first year to become competent in the management skills. The seven management skills are delegation, collaborative nurse-physician relationships, feedback to promote self-confidence, autonomous decision-making, prioritization, conflict resolution, and using the nursing care delivery system to get work done (Kramer et al., 2012). The qualitative study included site visits to the 20 hospitals where interviews and

observations were made on units that were very healthy workplace environments (VHWE) and employed NLRN.

As a result of the interviews, the strategies the researchers recommended for learning the seven management skills are evidence-based management practice projects (EBMP), precepted experience, reflective seminars, skill acquisition, reflective practice sessions, and clinical coaching-mentoring sessions (Kramer & et al, 2011). The EBMP projects are self-directed, problem-based learning projects where the NLRN interviews and observes experienced staff members, collects information from knowledge sources pertinent to the subject, and presents and discusses findings during monthly sessions (Kramer & et al, 2011). Each of six components of professional socialization can be acquired by the nurse resident using constructivist learning strategies as the instructional method.

Marlene Kramer et al., (2011) examined the role of the NRP in professional socialization. Kramer et al. explains nursing is a profession based on the criteria of having a body of knowledge, functions autonomously in the practice of that knowledge and is legally and ethically accountable for their practice (Kramer et al., 2011). The process of professional socialization in the NRP consists of two stages: the 3-month transition stage where the nurse resident is learning the skills and knowledge of the profession through guided practice experience, and the 1-year integration stage where the nurse resident is working independently, but continues to further develop their knowledge and skills, while starting to self

identify with the nursing culture and participates within and/or outside of their unit.

The two most frequently mentioned strategies in the NRP that facilitated the learning was a process for preceptor development such as a preceptor council, and evidence-based management practice (EBMP) projects (Kramer et al., 2012). The preceptor council is a forum for preceptors to share and improve the practice of precepting while improving knowledge transfer to the NLRN. The EBMP project is a method of self-directed learning of a subject by interviewing subject matter experts, literature review, and presenting the new knowledge to other stakeholders. The recommendation by Kramer et al. to implement the use of preceptor councils and EBMP projects as effective strategies to educate NLRN in NRP is significant to this pilot program.

An example of a comprehensive and exemplary NRP is the Wisconsin Nurse Residency Program (WNRP) (Bratt, 2009). WNRP is a statewide academia – practice partnership between Marquette University and numerous rural and urban acute care hospitals that began in 2004 to prepare and sustain the nursing workforce in Wisconsin. The program is approximately 15 months in length with a 12-month long curriculum-based program. The curriculum topics focused on building capacity in self, team, practitioner and the nursing profession, and for example, included content on stress management, critical thinking, professional development, time management, and priority setting pathophysiology by systems.

Bratt suggests there are four critical elements for the success of the program (Bratt, 2009). The first critical element is organizational support for the allocation of financial and human resources necessary to develop and support the program's structure. Another key element is the data support that measures the success of the program. This helps to bolster organizational support of key stakeholders. The other two critical elements listed by Bratt are learning support and social support (Bratt, 2009).

Bratt describes learning support as the curriculum and teaching method. In the WNRP, the curriculum was presented once a month during an all-day session for 12 months. As stated earlier, the curriculum had 5 different themes: building capacity in self, building capacity of team, building capacity as a practitioner, building capacity within the organization, and building capacity within the profession (Bratt, 2009). Important to the purpose of the pilot NRP is Bratt's statement about deciding what content would be placed into the curriculum. She stated "it became apparent that it was not what was taught, but rather how the information was presented that was critical" and "success was not the result of learning discrete content, but occurred as a result of understanding the big picture and learning how to think critically about the situations that pose difficulty in practice" Bratt (2009). This supports the argument that the instructional design is perhaps the most critical element of all when discussing the success of a NRP.

In the WNRP the educational method is learner-directed and uses frameworks from experiential learning and action-reflection cycle which is learning content in the context of the learner's experience. According to Bratt (2009) the action-reflection cycle process promotes the learner to reflect upon their learning activity, which promotes life-long learning. Action-reflection cycle process resembles a constructivist framework for facilitating learning. The WNRP has a formalized preceptor-training program that emphasizes the acquisition of knowledge and understanding by the residents, and not just the checking off of the skills competency checklist (Bratt, 2009).

Constructivist Learning Strategies

Constructivism as a theory of knowledge development is attributed to Jean Piaget (1896-1980) through his research he termed genetic epistemology (Piaget, 1972/1970). The concept of constructivism means that knowledge is constructed through the process of assimilation of new knowledge and the accommodation of the new knowledge with preexisting knowledge to resolve into a state of equilibration (Vuyk, 1981).

As new knowledge is introduced through the physical and/or social environment, disequilibrium exists and the process of assimilation of new knowledge, and accommodation with prior knowledge eventually recreates the state of equilibration. The underlying assumption is learners cognitively construct their own knowledge through interacting in their environment and from the

learner's knowledge, new knowledge is formed. Piaget believed that individuals sought new knowledge because the person's awareness of their environment requires the assimilation and accommodation of the new knowledge to come into equilibration or control of the new situation in the environment (Vuyk, 1981).

Another school of thought associated with constructivism is social constructivism. Social constructivism was developed by Lev Semyonovich Vygotsky, and he states that learning is a social process where *the zone of proximal development . . . is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers*" (Vygotsky, 1978). The social constructivist framework underlies the importance the role of the preceptor and clinical nurse educator are in facilitating the assimilation or accommodation of new knowledge in the NLRN. The term "scaffolding" is associated with social constructivism and denotes the process of peer-facilitated problem based learning to developmentally cross the zone of proximal development from actual to potential development.

Another constructivist framework is activity theory (Jonassen, & Rohrer-Murphy, 1999). Activity theory states that conscious learning occurs through intentional performance of an activity and that the environment where learning takes place has a socio-cultural and social-historical lens that influences the

learning process (Jonassen, & Rohrer-Murphy, 1999). For example, the learning takes place in the community of the unit and hospital and is influenced by the relationship between the preceptor and nurse resident, in the context of the nursing unit/staff culture, and physician/nurse relationships. Jonassen and Rohrer-Murphy (1999) describe a framework for applying activity theory that consists of a six-step process that includes: 1) identifying a outcome to achieve; 2) the activity to be accomplished; 3) the learners ability to perform activities of the component parts; 4) the learners ability to use tools; 5) the context of learning; 6) evaluation of outcome.

An instructional method used in the weekly seminar class was the constructivist learning strategy known as problem based learning (PBL). Problem based learning is a naturalistic method of learning that uses open-ended questions to frame a question from which the student uses clinical reasoning to problem solve (Barrows & Tamblyn, 1980). In a meta-analysis of the effectiveness of PBL, research suggests that in a nursing program, critical thinking scores are higher using PBL (Kong, Qin, Zhou, Mou, & Gao, 2013). Problem-based learning has been used in nursing education and is highly effective as a methodology when applied with case studies (McMahon, & Christopher, 2011), but may be perceived by nursing students as time-consuming and requires more effort (Al-Kloub, Salameh, & Froelicher, 2013). Kantar's (2014) research suggests that there are four underlying assumptions of constructivist learning and that they also apply to

PBL. Those assumptions are learner engagement, self-regulation, cooperative learning, and motivation (Kantar, 2013).

Problem-based learning is a constructivist learning strategy that facilitates the learning of declarative knowledge that is necessary for analysis and synthesis of information for clinical reasoning to problem solve (Barrows, & Tamblyn, 1980). Clinical nurse educators were instructed in the PBL method of asking open-ended questions using an “if-then” case-based scenario that creates the problem – question – reflection – learning – action applicable to the case based learning experience of the nurse resident (Savery, & Duffy, 2001). When collaborating in PBL, the clinical nurse educator stimulated reflective reasoning in the nurse resident which facilitates knowledge development through self regulation and self directed learning (Barrows, & Tamblyn, 1980).

Role of the Preceptor

The role of the preceptor was an integral component of the pilot NRP. The four major roles of the preceptor include direct instruction, modeling, coaching, and facilitating (Weitzel, Walters, & Taylor, 2012). To perform this role effectively requires more than just being an expert clinical nurse. The effectiveness of fulfilling the role of the preceptor relies upon the individual characteristics of the preceptor such as personality, ability to form meaningful interpersonal relationships, teaching strategies, evaluation of learning needs, and their nursing competence (Ortaliz, 2014). To prepare the preceptors to participate

in the pilot NRP, a preceptor program was developed.

Research by Margaret Covelli (2012) suggests that a well-organized preceptor program has a positive effect on the outcome of nurse residents in a NRP, and having a preceptor-training program is critical to improving the retention of nurse residents (Sandau, Cheng, Pan, Gaillard, & Hammer, 2011). The model of precepting implemented in the NRP was collaborative precepting in which the preceptor and nurse resident are side-by-side throughout most, if not all, of the clinical experiences (Figueroa, Bulos, Forges, & Judkins-Cohn, 2013). In addition to introducing the concept of collaborative precepting, the preceptors were introduced to the concepts of using CTA and GEL during the clinical experience, and debriefing at the end of the shift. Nurse residents that were supported in transition to practice programs from mentors and preceptors trained in debriefing sessions had less stress in their transition into independent nursing practice (Van Patten, 2014).

The instructional method introduced during the preceptor program for training of procedural knowledge is cognitive task analysis (CTA) and guided experiential learning (GEL). Formal cognitive task analysis (CTA) involves researchers observing subject matter experts (SME) whose goal is to understand processes and how cognitive decisions were made while the SME performs complex tasks (Clark, Feldon, van Merrienboer, Yates, & Early, 2008). In the pilot NRP, the intention was for the preceptor to use CTA to understand the knowledge deficits of

the nurse resident, and to use that information to instruct the nurse resident through guided experiential learning (GEL) (Clark, 2005).

In summary, the IOM (2011) recommends the implementation of NRPs to transition the NLRN into the professional practice role. Traditionally, the structure and content have varied in NRPs (Anderson, Hair, & Toderro, 2012), but more recent research suggests inclusion of specific content, strategies and components be included in a NRP to support the professional socialization of the NLRN (Spector et al., 2015; Kramer et al., 2012). For instance, recommended NRP content includes patient centered care, quality improvement, informatics, communication and teamwork, and evidence-based practice (Spector et al., 2015).

Kramer et al., (2011; Kramer et al., 2012) identified instrumental components of a NRP and skills necessary for the NLRN to acquire in a NRP in order to provide safe, quality patient care, and Bratt (2009) describes the NRP curriculum as themes for building capacities. But as Bratt (2009) states “it became apparent that it was not what was taught, but rather how the information was presented that was critical”.

Each of the programs above uses a technique or element of constructivist learning strategies in the NRP. In the NCSBN TTP program, Spector et al., (2015) recommends the inclusion of experiential learning to facilitate learning and knowledge transference. One of Kramer’s et al., (2012) recommended strategies for professional socialization of the NLRN is the evidence-based management

project, and Bratt (2009) uses the learner directed technique of action-reflection cycle as a learning strategy. As evidenced in this literature review, constructivist learning strategies may vary by name or specific technique, but the instructional methodology will always include student centered teaching and social facilitated self-directed learning.

CHAPTER THREE: METHODOLOGY

In this chapter is presented the components and strategies of the NRP, and the method used to measure the experience of the nurse residents. Included is the structure of the program and the process utilized to educate preceptors in the use of collaborative precepting, cognitive task analysis, and guided experiential learning to facilitate the clinical learning experience of the nurse resident, and how constructivist-learning strategies were implemented in the seminar class. Also included is an explanation of how the Casey-Fink Graduate Nurse Experience Survey was administered to the subjects and the method for collecting data. The value of this project is to determine if applying constructivist learning strategies in a NRP will facilitate the professional socialization of NLRN.

The acute care hospital in which the study occurred is part of a national, not-for-profit Catholic health system, that is a non-union, non-Magnet® designated facility with a registered nurse (RN) workforce of approximately 700 RNs and seven full-time employee (FTE) clinical nurse educators (CNE). Nursing services adopted a shared governance model consisting of unit based committees (UBC) and three nursing councils: professional growth & exemplary practice; education and research; and clinical practice.

One of the initiatives that the chief nursing officer proposed was the implementation of a nurse residency program. Needing to provide a method of professional socialization, and not having access to a national evidenced-based

NRP curriculum, a program using constructivist-learning strategies was developed. The strategies included weekly seminars using debriefings and reflective narratives, concept-based teaching, case study problem-based learning, and precepted clinical learning experiences using collaborative precepting.

Preceptor Training

A total of 24 preceptors were selected to participate in the NRP by their respective CNE and unit manager, and had expressed a willingness to participate in further training. Most of the units had preceptors with prior precepting experience, but one telemetry/observation unit had two preceptors with limited experience and no formal classes on precepting.

Prior to the start of the NRP, each of the selected preceptors completed the online “Preceptor Challenge” preceptor class through the American Association of Critical Care Nurses (AACN) and a 2-hour preceptor class on collaborative precepting method designed and taught by the author. Each of the preceptors was trained in the concept of collaborative precepting, knowledge mapping, cognitive task analysis, and problem-based learning as a method of knowledge sharing.

The preceptor training in knowledge mapping consisted of demonstrating the process of using informatics to problem solve (problem based learning), where to access knowledge resources on the organization’s intranet, and how to link knowledge resources together when facilitating learning in the clinical setting. During the preceptor class, each preceptor downloaded the UpToDate mobile

application to their smartphone, which is a peer reviewed, evidenced-based clinical decision support point of care medical resource (www.uptodate.com) that contains a plethora of medical information. The preceptors were also shown where to access additional intranet knowledge resources such as the hospitals medical library, Lippincott Advisor and Procedure, and the hospital policy and procedure manual.

As an example, the author demonstrated knowledge mapping by linking the topic of heart failure with specific heart failure content that included an article in UpToDate on the pathophysiology and treatment of acute decompensated heart failure, an article available in PubMed on chronotropic incompetence retrieved from the medical library, and the heart failure core measures available in Lippincott Advisor. In addition, the location of where to sign up for the next heart failure class being provided at the facility by the coordinator of the heart failure program was identified.

It became clear to the author during the preceptor class, and reviewing the class evaluations that the preceptors were unaware of the cyber knowledge resources the organization had available, and how to conceptually link topics and content into an extemporaneous curriculum designed for a specific learner's knowledge or skill deficit. Following the success of this preceptor program, the same preceptor course consisting of a 3-hour online preceptor class (Wolters Kluwer) followed by the 2-hour facility based seminar was given to over 100

experienced preceptors over a 3-month period. Their reaction during the class and subsequent review of the class evaluations were similar to the initial presentation and suggests the need to provide informatics classes that include knowledge mapping to all nurses within the organization.

Following the presentation and discussion on knowledge mapping, the preceptors were introduced to the concept of collaborative precepting through juxtaposition of traditional preceptor method and collaborative precepting. The traditional preceptor method is the nurse preceptee job shadows the preceptor and participates in nursing care, as they are capable of performing tasks. As the preceptee continues to demonstrate capability in performing occupational tasks, the nurse preceptee is given responsibility for one patient, and then gradually increases the number of patients the nurse preceptee is responsible in caring for.

During this period of orientation to the unit, the preceptor intentionally gradually separates themselves from the preceptee to allow the preceptee to develop autonomously in decision-making and task performance. Although this is an oversimplification of the traditional preceptor – preceptee relationship, there was agreement among participants in the preceptor class that this was an accurate conceptual description of a traditional preceptor method.

The preceptors were introduced to collaborative precepting through the concept of knowledge sharing and professional socialization. The preceptor class begins with each participant introducing him or her and sharing why they have

chosen to be preceptors. Consistently the response of “sharing my knowledge and experience”, and “I enjoy seeing them develop in becoming a nurse” were frequently cited as the primary reason for being a preceptor.

This author would then show the participants the slide on leadership, and thank the group for taking a leadership role in developing the culture of their unit and hospital. Surprisingly, many participants had not considered being a preceptor as a leadership role on their unit and hospital.

Collaborative precepting was defined as a relationship between an inexperienced nurse and an experienced nurse who shares knowledge (social learning theory) through relationship based caring (caring theory). The process of collaborative precepting is for the preceptor and preceptee to be side-by-side engaged in caring for their assigned patients during the entire shift, and every shift during the preceptee’s 8-12 week transition stage.

As they are caring for the patient, the nurse preceptor and preceptee “think aloud” as a process of knowledge sharing in which the preceptor can create scaffolding to bridge knowledge gaps the preceptee experiences. As the preceptee progresses in knowledge and skill capability, the preceptor is able to stimulate deeper learning through problem based learning during the clinical experience by introducing “if – then” case study scenarios from the preceptors experiences of caring for similar patients. This facilitates additional stresses that stimulate

motivation for learning and understanding of related concepts, but the preceptor must be cognizant of potential cognitive overload in the preceptee.

The preceptors were introduced to the concept of cognitive task analysis and problem-based learning as a means of discovering the knowledge that the nurse resident possessed in the context of situational patient care and to facilitate learning in the clinical environment. The preceptor as the subject matter expert (SME) is able to facilitate guided experiential learning that allows the nurse resident to acquire procedural knowledge. This process consists of thinking aloud by both the nurse resident and preceptor, which allows the preceptor the opportunity to scaffold knowledge and skills the nurse resident is lacking by demonstrating and coaching.

In summary, preceptor training consisted of a three-hour on-line class on precepting the adult learner, and a two-hour presentation by the author on collaborative precepting, which included knowledge mapping, cognitive task analysis/guided experiential learning, and problem-based learning. One of the questions that arose at each presentation was, “do we have to stay with the preceptee all the time throughout their orientation?”. The guise of this question is: once the preceptee can competently perform the tasks, do I still need to be in the room with the preceptee.

This question is indicative of the culture of occupational skill development and not professional formation. It is important to be competent in skills, but it also

important to develop skills in clinical reasoning, interpersonal communication, leadership, and empathic behaviors. The majority of the nurses employed at the facility are associate prepared nurses and therefore do not have the educational experience of professional development that is provided in a baccalaureate nursing program.

Nurse Residency Program Structure

The NRP was structured as a 1 year program consisting of a 12-week transition stage that includes a 2-day a week 12-hour clinical precepted experience and a 1-day a week, 12-hour seminar experience, and a 9-month integration stage consisting of a once a month 4-hour seminar and an evidence-based management practice project. The nurse residents were selected from applicants of NLRN applying for positions in the acute care hospital and were hired into different units based on NLRN preference and availability of the position. The NLRN were hired as a cohort and attended the classroom seminar together. Prior to the start of the NRP, each nurse resident was assigned a preceptor for the duration of the 12-week clinical immersion.

At the start of the program the nurse residents were introduced to the foundational concepts of the NRP which are self directed learning, collaborative precepting, knowledge mapping, and the use of case study problem based learning as a learning strategy for professional socialization. During the first two weeks of the NRP, the nurse residents received orientation in the classroom consisting of

instruction and knowledge mapping in topics such as infection prevention, national patient safety goals, core measures, and becoming literate in accessing informatics knowledge resources that included UpToDate, Lippincott Advisor and Procedures, policy and procedures, and accessing online learning sources such as YouTube, and orienting to their respective units.

The instruction in the skills lab combined guided experiential learning (GEL) and problem-based learning (PBL) instructional designs. The GEL was facilitated by the NRP coordinator (author) and/or CNE to facilitate learning of procedural skills such as use of the bedside glucose meters, intravenous infusion systems, and other medical equipment devices. In this environment, instruction consisted of demonstration while thinking aloud, use of skills checklists as instructional job aids, and coaching during return demonstrations.

The learning was evaluated by return demonstration and thinking aloud by the nurse resident. During the last two days of the two-week orientation, the nurse residents worked with nursing assistants to learn the role of the nursing assistant and to begin to apply their patient care skills.

Following the two-week orientation process, the nurse residents worked 12-hour shifts with their assigned preceptor for two days per week, and attended a classroom seminar for one 12-hour session per week. During their clinical experience with their preceptors, the nurse residents worked side-by side providing patient care with their preceptors and on days when the nurse resident

attended the seminars the nurse resident would first report to their assigned unit and observe patient care report of the group of patients the nurse last cared for prior to reporting to the classroom.

The Seminar Experience

On the days the nurse residents attended the classroom seminar, the schedule consisted of first attending shift report to observe hand-off of care. Communication during hand-off of care is an important safety issue for the NLRN and reporting back to the unit and observing hand-off of care of a group of patients they previously cared for provided an opportunity for the nurse resident to further their understanding of the plan of care for the patients. This process also allowed the nurse resident to gather information on the care they delivered to the patient, reflect on that information, and to seek further knowledge related to the information they thought was most pertinent to the quality of patient care they provided.

Arriving to the classroom to begin the seminar, the nurse resident would retrieve a hospital issued laptop computer available to each nurse resident. Since our program did not consist of a lecture-based content saturated curriculum, it was imperative that the nurse resident has the ability to perform self-directed learning using informatics. The nurse resident would perform a quality review of the care they provided to the patient and have the opportunity to further explore the

pathophysiology, diagnostic studies, treatment, and care plan for that patient by researching the topics using the knowledge map.

Following the quality review process, the NRP coordinator and/or CNE lead debriefing sessions where the nurse residents were encouraged to discuss the experiences on the units. This was an opportunity to openly discuss any issues, both good and bad experiences, and to share their experiences with the cohort. This allowed for the narrative story telling of lived experiences to be reflected upon and for the NRP coordinator and/or CNE to help the nurse resident to understand their experiences in the context of professional socialization. After the debriefing session, a nurse resident, CNE, experienced RN or scheduled speaker would present a topic of interest.

During the 12-week transition stage, classes that were presented including communication, palliative care, critical patient changes and rapid response, basic hemodynamics, and dysrhythmia ECG interpretation. The most important aspect is the nurse resident inquiry and team based learning that occurred in the classroom seminars built upon the clinical experiences of the nurse residents.

Each nurse resident would be asked to present their clinical experience in caring for a patient to the CNE coordinator and nurse resident cohort using the situation – background – assessment – recommendation (SBAR) format. From information presented by the nurse resident, the CNE coordinator could question the nurse resident about their knowledge concerning issues related to patient care.

For instance, the nurse resident may present a list of medications that the patient was prescribed, and the CNE may ask a question as to the rationale or possible side effects related to the use of a specific medication. From the response of the nurse resident, the CNE may discover an opportunity to advance knowledge development by facilitating self-directed inquiry through creating a problem based learning activity. This is an example of having a constructivist learning strategy by having a student-centered curriculum facilitated through problem-based learning.

The presentation of the patient experience would also occur through team-based learning. During the residency, each nurse resident would be responsible for leading a team based learning session by presenting a patient they cared for as the subject patient. As in all patient presentations, no patient identifiers were used. The primary nurse resident presented general patient information and the care plan, and the other team members would teach specifics such disease process, medications, and a comparative plan of care. Research of disease processes, medications, plan of care and other information were accessed through cyber-resources on the intranet and Internet.

During the presentation of the patient experience, the role of the CNE coordinator is to facilitate the problem based learning process and the use of the nursing process provides structure for the CNE to facilitate learning through the process of problem based learning. This process helps to develop clinical reasoning, which develops the nurse resident's clinical judgment. The case study

problem based learning also uses the nursing process as a structure to review the care provided to the patient. As the review process is presented by the nurse resident(s), the CNE interjects new knowledge inquiring questions to stimulate reflection and inquiry.

Subjects

Twenty-two subjects participated in the 12-week transition stage and completed 6 months of the NRP. The NLRNs were selected to participate in the NRP from applicants of registered nurses that had no previous employment as a registered nurse or less than one year of non-acute care hospital experience as a registered nurse who applied for employment as a registered nurse at the hospital and were associate degree of nursing and bachelor degree of nursing. The NLRN were hired into medical-surgical unit, emergency department, labor/delivery unit, and telemetry unit. Selection for employment included verification of applicant's information, background checks, and an interview with stakeholders, and selection by a committee composed of nursing leadership.

Inclusion criteria into the study are the registered nurse has participated in the 12-week transition stage of the NRP is currently employed as a registered nurse, and has voluntarily consented to participate as a subject in this study. Exclusion criteria includes loss of employment as a registered nurse at the hospital during the study period, inability to participate in the NRP for any reason (e.g., illness, injury, family medical leave) for more than four consecutive weeks during

the study period, or voluntary exclusion from the study at any time. There is no identifiable additional risk to the individual or group associated with participating as a NLRN in the NRP.

Method

The study used the Casey-Fink Graduate Nurse Experience Survey (CFGNES) to collect data (Casey, Fink, Krugman & Propst, 2004). The Casey-Fink Graduate Nurse Experience Survey is a validated qualitative tool designed to measure the transitional experience of the graduate nurse from academia to professional nursing practice (Fink & Krugman, 2008). Use of the CFGNES provides the clinical nurse educators with information regarding the experiences of the NLRN participating in the NRP.

The survey instrument consists of 5 sections: section one is three questions that pertain to skills/procedure performance; section two is 25 questions that pertain to comfort/confidence; section three is 9 questions that pertain to job satisfaction; section four is 5 questions that pertain to work environment and role transition; and section five is demographic information. Use of section five of the CFGNES paper version was eliminated in order to maintain the subjects anonymity, which improves confidence in the survey process and decreases risk of potential harm. Demographic information obtained on the CFGNES is limited to age, sex, and level of nursing education. Section three is omitted as instructed as not applicable to nurse residents.

A copy of the CFGNES, a paper survey, was handed to each NRP participant on their units. The participants were instructed to fill out the survey, and upon completion, to fax the survey to the NRP coordinator's office.

The NRP participants were instructed that if they consent to have their survey included in the study, to select "yes" on the "Consent Form for Participation in a Research Study", and if they do not consent to have their survey included in the study select "no" on the "Consent Form for Participation in a Research Study".

Data analysis was performed using IBM SPSS statistical software. Section 1 of the CFGNES consisted of summing the frequency of response to skills/procedures selected from a drop-down menu. Section 2 contained 24 items using a 4-point balanced response format that were divided into factors. Each factor's internal consistency was determined by using Cronbach's alpha. Each item within the factor was entered according to their loading/shared relationship. Descriptive statistics were used to determine mean, variance, standard deviation, minimum and maximum values. Section 4 consisted of summing the frequencies of responses to items.

In summary, creating a pilot NRP resulted in designing an evidence-based system to support the NLRN's professional socialization. This included designing and implementing a program schedule that met the requirements of all stakeholders, designing a curriculum that was student-centered using constructivist

learning strategies, and educating preceptors and clinical nurse educators in a new instructional design and a different method of precepting. The midpoint 6-month evaluation of the nurse resident experience was elicited through an evidence-based survey.

CHAPTER 4: FINDINGS

As stated in Chapter 1, the purpose of the pilot project was to demonstrate that using constructivist-learning strategies in a NRP promotes the professional socialization of the NLRN. This chapter reports the experience of the nurse residents as measured by the Casey-Fink Graduate Nurse Experience Survey (CFGNES). The Casey-Fink Graduate Nurse Experience Survey (CFGNES) is a validated instrument that has been used by over 10,000 graduate nurse residents participating in the University Healthsystem Consortium/AACN Post Baccalaureate Residency program, as well as other national and international programs (Casey & Fink, 2015).

Findings from the first section of the surveys reveal the skills and procedures the nurse residents report as being uncomfortable performing. The second section contains 24 items that use a 4-point balanced response format to elicit the nurse resident experience as it pertains to support, patient safety, stress, communication/leadership, and professional satisfaction, and section four pertains to transitioning into the specific unit work environment. The findings provide insight into the experience of the nurse resident during the first six months of the NRP, from which improvements to the NRP can be applied.

There were a total of 22 participants in the NRP and four CFGNES surveys were completed. The average age of the respondents were 28.9 years old (SD \pm 5.90 years); one male and three females; three baccalaureates and one master

prepared nurse. The number of preceptors that each nurse resident had was: two nurse residents each had one preceptor; one nurse resident had 3 preceptors; and one nurse resident had four preceptors.

Skills and Procedures

The first section of the CFGNES states “list the top three skills/procedures you are uncomfortable performing independently at this time”. This information allows the researcher to identify skills and/or procedures that the nurse residents are uncomfortable performing and may need more instruction or practice to become competent in performing. In this pilot program the frequency of skills or procedure mentioned by the nurse residents is listed below:

Table 1

Three Skills Uncomfortable Performing Independently

<u>Resident One</u>	<u>Resident Two</u>	<u>Resident Three</u>	<u>Resident Four</u>
Insulin drip	Mediport	Wound care	Insulin drip
NG tube insertion	Central line dressing	Time Management	Chest tube
Vent care	Blood transfusion	MD communication	Cardiac Arrest

Of the twelve skills selected by the nurse residents, the insulin drip was the only skill that was listed twice. For all four residents, each resident listed a skill that requires direct patient intervention that is invasive, and if the procedure is performed incompetently, may result in patient harm. Resident three is the only

resident to choose a non-patient performance skill of time management and physician communication from the drop-down list. Reviewing responses to organizing/prioritizing and communication/leadership, resident three was below the mean of each of these constructs. These findings suggest that the CFGNES provides a valuable method of formative self-assessment in specific skill/procedure items, which may contribute to redesigning an individual learning action plan for a nurse resident by providing time in a skills lab or simulation lab until self-efficacy in a specific skill performance is achieved.

Support Factor

The support factor of the CFGNES consists of 9 questions that relate to the nurse residents experience of support from unit staff. The UHC midpoint mean was 3.32 with a standard deviation of 0.412, and the reliability alpha is 0.79 (Lynn, 2015). Listed below are the support factor and independent items in order of their loading/shared relationships:

Table 2

Casey-Fink Support Factor

	Max	Min	Mean	SD
Support factor	3.75	2.75	3.65	1.41
My preceptor is helping me to develop confidence in my practice.			3.75	.5
I feel supported by the nurses on my unit.			3.75	.5

I feel my preceptor provides encouragement and feedback about my work.	3.75	.5
I feel staff is available to me during new situations and procedures.	3.75	.5
There are positive role models for me to observe on my unit.	3.75	.5
I have opportunities to practice skills and procedures more often than once.	3.75	.5
I feel at ease asking for help from other RNs on the unit.	3.75	.5
I feel the expectations of me in this job are realistic.	2.75	.96
I feel my manager provides encouragement and feedback about my work.	4.0	0.0

A mean value of 3.65 indicates that the nurse resident is experiencing support from the unit staff. The lowest mean value 2.75 was the support factor item "I feel the expectations of me in this job are realistic". The first four items represent interpersonal relationships and had the highest mean value of 3.75. The reliability alpha of -.381 indicates there is inconsistency in item selection in the support factor construct when the sample consists of only four survey responses.

Organizing and Prioritizing Factor

The organizing and prioritizing factor consists of five items related to the experience of the nurse resident organizing and prioritizing their work. The UHC midpoint mean was 3.00 with a standard deviation of 0.40, and the reliability alpha

is 0.76 (Lynn, 2015). Listed below are the organizing and prioritizing factor and individual items in order of their loading/shared relationships:

Table 3

Casey-Fink Organizing and Prioritizing Factor

	Max	Min	Mean	SD
Organizing and prioritizing factor	2.63	2.25	3.25	1.73
I am having difficulty organizing patient care needs.			2.75	.96
I am having difficulty prioritizing patient care needs.			2.25	.96
I feel overwhelmed by my patient care responsibilities and workload.			2.25	.96
I am able to complete my patient care assignment on time.			3.25	.5
I feel I may harm a patient due to my lack of knowledge and experience.			3.0	0.0

Analysis of the organizing and prioritizing factor reveals that the mean of 2.63 is below the UHC mean of 3.00 (Table 3). This suggests that at the midpoint of the NRP, the participants in our NRP had more difficulty organizing and prioritizing their work, or experienced a greater workload than their counterparts in the UHC affiliates. The item with the lowest mean (2.25) was “I feel overwhelmed by my patient care responsibilities and workload”, which suggests

the nurse residents were not given a patient assignment equivalent to their knowledge and experience (Table 3). The item “I feel I may harm a patient due to my lack of knowledge and experience” scored a mean value of 3 (1-4), indicating although the nurse resident experienced a feeling of being overwhelmed related to the patient care responsibilities and workload, the nurse resident did not perceive they lacked the knowledge and experience to care for the patients. These findings may represent the element of time-pressure associated with caring for patients simultaneously. As in the support factor construct, the reliability alpha of 0.00 indicates there is inconsistency in item selection in the organizing and prioritizing factor construct when the sample consists only of four survey responses.

Communication and Leadership

The communication and leadership factor consists of 6 items related to the experience of the nurse resident in communication and leadership. The UHC midpoint mean was 3.00 with a standard deviation of 0.40, and the reliability alpha is 0.76 (Lynn, 2015). Listed below are the communication and leadership factor and the individual items in order of their loading/shared relationships:

Table 4

Casey-Fink Communication and Leadership Factor

	Max	Min	Mean	SD
Communication and leadership factor	3.75	2.50	3.08	1.73

		50
I feel confident communicating with physicians.	2.75	.5
I feel comfortable delegating tasks to the nursing assistant.	3.5	.58
I feel comfortable making suggestions for changes to the nursing plan of care.	2.75	.5
I feel prepared to complete my job responsibilities.	3.25	.5
I feel comfortable communicating with patients and their families.	3.75	.5
I am comfortable knowing what to do for a dying patient.	2.5	.58

The communication and leadership mean of 3.08 is within the mean value of the UHC participants (Table 4). The minimum mean of 2.50 was the response to item “I am comfortable knowing what to do for a dying patient”. As in the support factor construct, the reliability alpha of 0.533 indicates there is inconsistency in item selection in the communication and leadership construct when the samples consists only of four survey responses.

Professional Satisfaction

The professional satisfaction factor consists of three items related to the experience of the nurse resident’s professional satisfaction. The UHC midpoint mean was 3.38 with a standard deviation of 0.515, and the reliability alpha 0.77 (Lynn, 2015). Listed below are the professional satisfaction factor and the individual items in order of their loading/shared relationships:

Table 5

Casey-Fink Professional Satisfaction Factor

	Max	Min	Mean	SD
Professional satisfaction factor	3.75	3.50	3.67	1.41
I feel my work is exciting and challenging.			3.5	.58
I am satisfied with my chosen nursing specialty.			3.75	.5
I am supported by family/friends.			3.75	.5

The professional satisfaction factor directs the nurse resident to reflect on the value of “exciting and challenging”, which in this context equates with “rewarding”, and to judge whether they have chosen the “right” nursing specialty. In the NRP, the nurse resident was not always given the opportunity to begin their nursing career in their preferred specialty, and so may not believe they are experiencing the level of satisfaction in their present specialty as they would in their preferred specialty. In addition, although the items were validated through factor analysis, it seems extraneous that support from family and friends has a shared relationship with the other two items in the professional satisfaction factor.

The lowest scoring nurse resident’s mean on the professional satisfaction factor was 3.0, giving each item a score of “3” (agree) (Table 5). In analyzing the results of other factors, this nurse resident gave her manager, preceptors, and other nurses on the unit a “4” (strongly agree) on the support factor, but gave the support

from her friends/family a “3”. Continuing to analyze the items selected by this specific nurse, she also scored item “I feel the expectations of me in this job are realistic”, and “I am having difficulty prioritizing patient care needs” a “2” (disagree). Although she feels well supported by her manager and peers, she appears to feel over-challenged, possibly resulting in a feeling of ambiguity.

Stress Factor

The stress factor of the CFGNES mean was 0.61, with a standard deviation of 0.87, which is comparable to the UHC midpoint mean of 0.99, with a standard deviation of 1.349. The stress factor is a construct that is a summation of the yes/no response and measures stressors identified by the nurse residents. The stress factor is determined from question 24; “I am experiencing stress in my personal life”. If the respondent chooses “agree” or “strongly agree” the respondent proceeds to answer question 25 and chooses from a selection of 6 stressors from which more than one response is allowable, and one “other” fill-in-the-blank. Of the four residents, two self-identified as experiencing stress in their personal life, and two self-identified as not experiencing stress in their personal life. As demonstrated by the data below, the two most frequently self-identified stressors are personal relationships and job performance (Table 6). Of the two residents that identified as experiencing stress in their personal life, below is the frequency of each stress factor items:

Table 6

Casey-Fink Stress Factor

Finances	Child Care	Student Loans	Living Situations	Personal Relationships	Job Performance	Other
1	1	1	1	2	2	0

Transitions Factor

Section IV “Transitions” of the CFGNES consists of four questions that measure possible transition issue(s) that may be affecting the nurse resident.

Below are the questions, possible responses, and the frequency of response to each item. The survey allows for more than one response to each question:

Table 7

Difficulties Transitioning From the Student Role to the RN Role

	Frequency	Percent	Cumulative Percent
Role expectations	1	10	10
Lack of confidence	2	20	30
Workload	3	30	60
Fear of doing harm	3	30	90
Orientation	1	10	100

Table 8

Help You Feel Supported or Integrated into the Unit

	Frequency	Percent	Cumulative Percent
Improved orientation	1	17	17
Increased support	0	0	17
Unit socialization	1	17	34
Improved work environment	4	66	100

Table 9

Work Environment That is Most Satisfying

	Frequency	Percent	Cumulative percent
Peer support	4	33	33
Patients and families	2	16.6	49.6
Ongoing learning	2	16.6	66.2
Professional nursing role	2	16.6	82.8
Positive work environment	2	16.6	100

Table 10

Work Environment That is Least Satisfying

	Frequency	Percent	Cumulative Percent
Nursing work environment	2	50	50
System	1	25	75
Interpersonal relationships	1	25	100

Orientation	0	0	100
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Section IV responses to the four questions demonstrates an underlying theme. The question “What difficulties, if any, are you currently experiencing with the transition from the student role to the RN role”, the highest ranking responses was “Workload (e.g. organizing, prioritizing, feeling overwhelmed, ratios, acuity)” and “Fear of doing harm (e.g. medication error, inadequate intervention)” (Table 7). The question “What could be done to help you to feel more supported or integrated into the unit”, the highest ranking response was “Improved work environment (e.g. gradual ratio changes, more assistance from unlicensed personnel, involvement in schedule and committee work)” (Table 8) .

The question “What aspects of your work environment are most satisfying”, the highest ranking response is “Peer support (e.g. belonging, team approach, helpful and friendly staff)” (Table 9). The question “What aspects of your work environment are least satisfying” the highest-ranking response is “Nursing work environment (e.g. unrealistic ratios, tough schedule, futility of care)” (Table 10). The underlying theme of the above four items suggests that the nurse residents at the midpoint of the nurse residency program are experiencing the stress and anxiety associated with the time-pressures of caring for multiple patients simultaneously. The juxtaposition is that the nurse residents identify peer support as the most satisfying factor in their work environment.

In summary, the Casey-Fink Graduate Nurse Experience Survey is a validated qualitative tool designed to measure the transitional experience of the graduate nurse from academia to professional nursing practice (Fink & Krugman, 2008). Data from the four survey responses suggest the nurse residents are experiencing stress and anxiety related to caring for multiple patients simultaneously and caring for the dying patient. The support factor item “I feel the expectations of me in this job are realistic” has a minimum mean of 2.75, and the organizing and prioritizing factor item “I feel overwhelmed by my patient care responsibilities and workload”, has a minimum mean of 2.25. When considering the two factor items, the confidence and comfort the nurse resident is experiencing is below the mean for those two factors and this represents higher than average stress and anxiety in caring for multiple patients simultaneously. In addition, the communication and leadership factor item “I am comfortable knowing what to do for a dying patient” has a minimum mean of 2.50, representing a lower than average confidence and comfort in caring for the dying patient.

CHAPTER 5: CONCLUSIONS AND DISCUSSIONS

The purpose of the pilot program was to implement a NRP using constructivist-learning strategies that would facilitate the professional socialization of the NLRN. The constructivist learning strategies consist of case study problem based learning and concept based teaching in a seminar class, and collaborative precepting using cognitive task analysis/guided experiential learning in the clinical setting. This chapter summarizes the findings and discusses the implications of the current and future applications to practice, and the limitations of this pilot program. In the summary, the value of synthesizing constructivist learning strategies and the need for future research is discussed.

Importance of the Research

The pilot program was designed to implement constructivist-learning strategies in a NRP to facilitate the process of professional socialization of the NLRN. The process of professional socialization consists of learning new knowledge, adapting to a new social environment, and being responsible for caring for multiple patients simultaneously in a complex adaptive environment (Kramer et al, 2011). Preceptors and educators using collaborative precepting and CTA/GEL, case study problem based learning and concept based teaching facilitate the assimilation and accommodation of new knowledge and behaviors. Use of the informatics process of knowledge mapping provides a means for the

nurse resident to perform self directed learning. These constructivist-learning strategies are an instructional method that can be used in a NRP for the professional socialization of the NLRN.

Summary of Findings

This pilot program used the Casey-Fink New Graduate Nurse Experience Survey as a method to assess the nurses' experience during the first six months of participating in the NRP. Of the 22 participants, four surveys were returned. Of particular importance to constructivist learning strategies are the support factor items that address the support of the nurse resident by the preceptors (Ortaliz, 2014). Two questions address the role of the preceptor: "My preceptor is helping me to develop confidence in my practice" and "I feel my preceptor provides encouragement and feedback about my work". Using the four point balanced response format of strongly disagree to strongly agree, the mean value for these two items were 3.75. This is an important finding and represents the nurse residents' experience of confidence feedback from their preceptors, which is identified by Kramer as one of the seven management areas that are an important component of professional socialization in a NRP (Kramer et al., 2012).

Another significant indicator is the four support factor items addressing the role of the nurses on the unit and the support of the manager. The support of the nurses on the unit include: 1) I feel supported by the nurses on my unit, 2) I feel staff is available to me during new situations and procedures, 3) There are positive

role models for me to observe on my unit, and 4) I feel at ease asking for help from other RNs on the unit. Again, using the four point balanced response format of strongly disagree to strongly agree, the mean value for these four items is 3.75 (Appendix G). Peer support and inclusion into the unit's culture is important in identifying with the new social group and is a positive outcome of professional socialization (Dinmohammadi, Peyrovi, & Mehrdad, 2013). The item "I feel my manager provides encouragement and feedback about my work" had a mean value of 4.0. As stated above, confidence feedback is an important component of professional socialization in a NRP (Kramer et al., 2012) and for the nurse residents in our program, the nurse managers on the residents' unit significantly contributed to the overall experience of supporting the nurse resident in their transition to practice.

The implementation of the NRP required collaboration at different levels of nursing leadership in the organization. Prior to the beginning of the NRP, 25 preceptors were trained in the concept of adult learning pedagogy, collaborative precepting, cognitive task analysis and guided experiential learning, and following the start-up of the NRP an additional 100 preceptors were trained in the techniques. In addition, the clinical nurse educators participated in learning the constructivist learning concepts and were crucial in supporting the preceptors, training the nurse residents in the clinical setting and in the seminar class. Nursing supervisors on each unit where the nurse residents were employed were educated

in the purpose and goals of the program and the importance of using collaborative precepting. This was an important element because the unit supervisor makes the patient care assignment, and prior to the training of the unit supervisor, if the unit exceeded the nurse-patient ratio the unit supervisor would usually give the extra patient assignment to the preceptor and preceptee.

The IOM (2011) recommendation to establish nurse residency programs was influential in the organization's nursing leadership decision to adopt the use of a NRP to transition the NLRN into the organization. Nurses that participate in an established NRP have improved metrics such as improved quality and safety outcomes and higher retention rates (Specter et al., 2015). The investment in the NRP included the affiliation with University Healthsystem Consortium's national-based nurse residency program, a NRP coordinator, increased productive hours of clinical nurse educators involved with the nurse residents, and the classroom training of preceptors for the NRP. The return on investment (ROI) will be measured by decreased RN turnover rates, which will also result in decreased use of contract nurses. At the time of this study, those metrics were unavailable and thus is a limitation of the study.

The structure of the program consisted of two parts as outlined by Kramer et al., (2011), a transition stage and an integration stage. During the 12-week transition stage, at the beginning of each class the nurse residents were encouraged to debrief and openly discuss what went well and what went bad during their

clinical experiences that week. Debriefing promoted collaborative learning and allowed the nurse residents to reflect on their individual practice. Following the morning debriefing, the nurse residents had time to research topics that were applicable to their clinical experience and reflect upon their practice. Participating in a reflective seminar is one of the six components of an effective strategy in a NRP (Kramer, 2011).

For the transition stage, the curriculum used in the seminar class was the case-study problem-based learning and concept-based teaching. Referring to case study problem based learning and concept based teaching as the curriculum represents how the instructional method and content are embedded in student-centered constructivist learning strategies and not teacher-centered processes. The premise of constructivism is the self-directed learner in the context of their experience constructs knowledge. Case study problem based learning facilitates the curricular process by allowing the nurse resident to self direct, assimilate, and accommodate new knowledge relevant to their practice. The constructivist-learning curriculum eliminates content saturation and content repetition that is created in a teacher-centered curriculum. Using the case study as the curriculum, the nurse resident accommodates knowledge through teacher facilitated problem based learning and concept based teaching. The nurse resident had multiple knowledge sources from cyber-based organizational knowledge sources, core

curriculum books, journals, and Internet resources from which to access information.

The nurse residents learning experience also included classes on palliative care given by the palliative care nurse practitioner, and several communication workshops using techniques of Team STEPPS given by a clinical nurse specialist. The instructional design was consistent in using a seminar setting wherein discussion and reflection on experiences during patient care informed the discussion. The nurse residents also had time during the seminar period to research topics of interest and reflect on their practice. Kramer et al., (2011) list six components that are effective strategies in a NRP in professional socialization process. They include evidence-based management programs (EBMP), precepted experiences, reflective seminars, skill acquisition, reflective practice sessions, and coaching-mentoring sessions. Of the six components, our NRP incorporated all six components except for the evidence-based management programs. Although our nurses researched topics relevant to their practice, and presented individually and in teams to other nurse residents and clinical educators, the in-depth evidence-based management program referred to by Kramer et al., (2011) was not utilized during the first six months of the program

Implications to Applied Practice

The intent of the 12-month NRP is to facilitate the transition to practice of the NLRN from being an advanced beginner to entering into the competent stage

of skill acquisition (Benner, 2004). The constructivist learning strategies used in the NRP optimize experiential learning and learning in an emotive context with a patient, which stimulates the limbic/emotional systems and increases memory formation (Schenck & Cruickshank, 2015). The use of CTA/GEL with collaborative precepting facilitates the learning process by creating a highly supportive learning environment which decreases the cognitive load of the nurse resident, thus increasing salience and retention of procedural knowledge (Schenck & Cruickshank, 2015). It is in the zone of proximal development (Vygotsky, 1978) that the preceptor scaffolds the nurse resident's existing schema of knowing with new clinical experiences and knowledge.

In the seminar class, the experiences in the clinical setting are re-examined, reflected upon, and the abstract concepts that intersect patient care management and pathophysiology are contextualized. The seminar becomes the flipped classroom, where the curriculum and subject matter is derived from the experiential learning of the nurse resident; the classroom becomes a dialectic forum. From the experiences of the nurse resident, problem based learning and concept-based teaching provides opportunities for deeper learning by connecting concrete experiences and abstract concepts. The seminar class creates a challenging and complex environment, stimulating neuronal adaptations and interconnectivity through the process of neural plasticity, creating long-term memory and deep learning (Cozolino & Sprokay, 2006). In the seminar class, each

nurse resident used a laptop computer for knowledge mapping in real-time, allowing each nurse resident to participate in collaborative learning and social facilitated self-directed learning.

The implication to applied practice is constructivist-learning strategies represent an instructional design that can be implemented in a NRP to facilitate the transition to practice of the NLRN.

Implications for Future Research

Research (Spector et al., 2015) has identified educational content that is important in transition to practice programs to facilitate the professional socialization of the NLRN. The University Healthsystem Consortium (UHC) NRP program has an evidence-based curriculum that includes modules on professional role, quality outcomes, and leadership; and the National Council of State Boards of Nursing (NCSBN) Transition to Practice (TTP) program consists of modular content on communication and teamwork, patient centered care, evidence-based practice, quality improvement, and informatics. Both of these evidence-based curriculums provide substantive content for the nurse resident to assimilate and accommodate, but further research is necessary to identify an evidenced-based instructional design to be utilized to facilitate the professional socialization of the nurse resident.

The information above represents best practices and evidence of what content a NRP should consist of to promote the transition to practice of the NLRN,

but does not present an instructional method by which to facilitate the learning of the content. In an informational publication titled “Transition to Practice: Outline of NCSBN’s Transition to Practice® (TTP) Modules (www.ncsbn.org), the NCSBN states “ NCSBN’s Transition to Practice Model has been designed to promote experiential learning, rather than relearning material that should have been learned in the nursing program”. Experiential learning is a constructivist learning strategy of learning in context (Jonassen & Rohrer-Murphy, 1999). Further research in constructivist learning strategies such as experiential learning applied in a NRP could provide an instructional method that facilitates the transition of the advanced beginner nurse to a competent nurse, and motivates the nurse resident to become a self-directed life-long learner.

Recommendations of Kramer et al. for professional socialization are precepted experience, reflective seminars, skill acquisition, reflective practice sessions, evidence-based management projects, and clinical coaching-mentoring sessions (Kramer et al., 2011). Kramer et al. (2011) recommendations are not suggestive of educational content but of constructivist learning strategies of social facilitated self-directed learning.

As an outcome of their research, Kramer et al. also suggests seven patient management skills crucial to providing safe and effective patient care including delegation, collaborative nurse-physician relationships, feedback to promote self-confidence, autonomous decision making, prioritization, constructive conflict

resolution, and the nursing care delivery system (Kramer et al., 2012). Again, these recommendations do not pertain to educational content, but require an instructional method designed to facilitate the construction of new knowledge and behaviors through social facilitated self-directed learning.

Content saturation has negatively impacted academic nursing education (Giddens & Brady, 2007), and it is important that NRPs avoid that similar error. This pilot program has identified instructional methods of constructivist learning strategies that supports the construction of new knowledge of the nurse resident through experiential learning. Further research is necessary to determine the effectiveness of constructivist learning strategies of case study problem based learning, concept based teaching, knowledge mapping, collaborative precepting, and CTA/GEL as an instructional method to self-regulate NRP content and facilitate professional socialization. In addition, these constructivist-learning strategies could also be piloted in an undergraduate or graduate nursing program where the precepted clinical experiences of the student nurses create a curriculum that actively engages the learner who participates in collaborative learning in a seminar class.

Limitations

The NRP was designed to be a UHC affiliated yearlong program consisting of a 12-week transition stage and 9-month integration stage. During the 12-week transition stage the nurse resident engages in the clinical immersion experience,

learning patient management knowledge and skills in both the clinical and seminar environment. The constructivist learning strategies were used during the first 12-weeks of the NRP and represents the primary intervention of this pilot program. The CFGNES was applied at the six-month midpoint of the NRP, and the UHC Casey-Fink Graduate Nurse Experience Survey 2015 Benchmarking Report was used as a comparative outcome measure (Lynn, 2015). For the first 12-week transition stage, the UHC – Hospital contractual affiliation had not been completed, and therefore the UHC curriculum, assessment surveys, and technology support were unavailable.

The primary limitation of this pilot program is the outcome measure using the CFGNES. Of the 22 nurse resident participants in the NRP, only four nurse residents participated in returning the surveys, resulting in a response rate of 18%. The low response rate of 18%, a sample size of four surveys, and a reliability estimate that does not correlate to the UHC benchmarking report in each of the CFGNES factors, results in the outcome analysis not having statistical significance. A contributing factor to the error in the reliability estimate may be the inconsistency of the respondent's response to specific items in a factor. For instance, the Organizing and Prioritizing factor consists of five items and has a reliability estimate $\alpha = .76$. On the item "I am having difficulty organizing patient care needs, respondent #4 chose strongly disagree, but on the item "I am having difficulty prioritizing patient care needs", respondent #4 chose strongly agree. The

responses in the Organizing and Prioritizing factor should have internal consistency, but in this case are opposing responses resulting in an overall reliability estimate of $\alpha = 0.00$.

Another limitation was the CFGNES was administered only at the 6-month midpoint. In the UHC NRP, the CFGNES is administered at the start of the program, at the 6-month midpoint, and at the 12-month period of the 1-year program. In the study by Fink, Casey, Krugman, and Goode (2008) the CFGNES was also administered at hire, 6-months, and 12-months. The multiple measurements provide data on the changing experience of the nurse residents as they begin to take on more responsibility for direct patient care and decision making during the first year of their transition to practice.

A limitation of the research design, there was not a control group of NLRN excluded from the NRP intervention, which would have added a dimension of internal validity of the intervention of constructivist learning strategies in comparison to the non-intervention group that would receive standard orientation.

Measuring by performance assessment on a formative and summative level is important to evaluate learning and the ability to manage patient care. Ideally, high-fidelity simulation and the use of an assessment rubric is used to assess procedural knowledge, skill application and clinical judgment, but at SAMC a high-fidelity simulation lab was not available and so evaluation of the nurse

resident's clinical reasoning and clinical judgment was performed solely in the clinical environment by the preceptor and/or clinical nurse educator.

The preceptor evaluates performance in the clinical setting using the CTA and critical elements assessment forms. The critical elements assessment form is a checklist of tasks that are necessary to perform to successfully complete a patient care management procedure. The proper application of CTA and the critical elements assessment form may be a reasonable method of performance assessment of both procedural and declarative knowledge, but no validated tool with interrater reliability was used in this pilot program to determine procedural knowledge in the clinical setting.

The purpose of the nurse residency pilot program was to improve the professional socialization experience for the NLRN during the 12-month transition to practice process. The pilot program consisted of using constructivist learning strategies of case study problem based learning, concept based teaching, collaborative precepting, and cognitive task analysis/guided experiential learning. Results from the CFGNES suggest the nurse residents experienced a high level of support from their preceptors, managers, and unit staff nurses during the first 6-months of their transition to practice as indicated by the support factor mean of 3.65. In addition, the professional satisfaction factor mean of 3.67 indicates the nurse resident is very satisfied with their chosen nursing profession.

The design of the pilot NRP was based on program designs described in the literature (Kramer et al., 2011) and included curriculum topics described by Spector et al. as being necessary in a NRP (2015). In addition to the pilot NRP's collaborative precepting training, preceptor training also included an online standard preceptor class through the American Association of Critical Care Nurses. Components and strategies that were successful in other established NRPs were utilized in the pilot NRP, but in addition, an instructional method was utilized that is designed to engage the nurse resident in problem based inquiry, and through self-directed learning, the nurse resident can achieve the next level of necessary in providing patient care.

The pilot NRP had several limitations in program evaluation, including not using a validated tool for formative and summative nurse resident performance assessment; not using the CFGNES at the beginning of the program, and at the 12-month interval; and not having a large enough sample size to be statistically significant and control group for comparative analysis.

In summary, the design and implementation of the pilot nurse residency program utilized evidence from multiple studies to create a highly supportive transition to practice experience for the NLRN. In a highly supportive learning environment, knowledge sharing between preceptor and nurse resident facilitates the acquisition of new procedural and declarative knowledge, and the knowledge

and skills acquired through experiential learning in a NRP improves patient safety and quality of care (Spector et al., 2015).

Each component of the constructivist learning strategies have been utilized successfully in other applications, but in this pilot program these methods were synthesized into an instructional design that optimizes the social learning support of peers while maintaining the locus of responsibility for self directed learning with the nurse resident. The synthesizing of what was termed constructivist-learning strategies can be conceptually defined as social facilitated self-directed learning. The instructional design is a model for professional socialization for the new graduate nurse, and may contribute to the continuous life long formative learning of the professional nurse.

Further research is necessary to evaluate the effectiveness of social facilitated self-directed learning as an instructional design in a NRP. The study design would use formal grounded theory research methods to evaluate the program, and include qualitative instruments to study the social processes and structures, and quantitative instruments to study how the social processes and structures affect clinical outcomes of patients. Nursing practice is patient centric, and therefore improvements to the structure and processes in how nurses are professionally socialized, should result in improved clinical outcomes.

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