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Experience of Registered Nurses During Their First Year As Neonatal Nurse Practitioner Students

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THE EXPERIENCE OF REGISTERED NURSES DURING THEIR FIRST YEAR AS NEONATAL NURSE PRACTITIONER STUDENTS

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has been approved as meeting the requirement for the Degree of Doctor of Philosophy in the College of Natural and Health Sciences in the School of Nursing, Program of PhD in Nursing Education.

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ABSTRACT

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Many neonatal intensive care nurseries require neonatal nurse practitioners (NNPs) to manage care of premature and sick neonates. The supply of NNPs has consistently lagged behind the demand for their services and the current number of projected graduates from NNP programs is unlikely to meet the demand. Neonatal nurse practitioner students are required to have two years of experience as a registered nurse in a neonatal intensive care unit prior to beginning a NNP program. The purpose of this qualitative study was to describe the experiences of registered nurses during their first year as neonatal nurse practitioner (NNP) students.

This was a qualitative study using a phenomenological approach. Ten NNP students who were in the first year of their Neonatal Nurse Practitioner program were interviewed regarding their experiences in their NNP program. Open ended interview questions were used to obtain information regarding the experience of the participants in regards to transition to the NNP role. Interviews of participants took place between June 2014 and August 2014 and were analyzed by the researcher looking for categories and themes. Coding was done by hand and then repeated using NVivo 10 software.

Five themes were identified from the interviews: Reliance on previous knowledge; Identification of knowledge deficit related to expert to novice; Precepting and working in same unit: support and awkwardness; Decision making and communication in relation to role transition; and Support from others related to role transition.

There were some limitations to the study. All participants had a least some experience in a neonatal intensive care unit (NICU) prior to beginning their NNP program. There were no participants without NICU experience. The researcher is a NNP and coordinator of a NNP program.

The study suggested a number of implications for nursing and for curriculum design. The shortage of NNPs continues due to increased demand and a limited supply of students. This has raised the question of whether or not NNP students should be required to have previous RN experience. The National Association of Neonatal Nurses (NANN) recommends two years previous experience in a neonatal intensive care unit (NICU), but this is based on anecdotal experience. Participants in this study describe times in their NNP program where they relied on their previous knowledge. This is likely expected because of the experience requirement prior to entering a program. Participants also identified areas where they had a knowledge deficit, in particular the well-baby nursery clinical experiences. Participants described the experience of transitioning from the role of expert nurse to novice and the role of support from peers and preceptors in making this transition.

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CHAPTER I

INTRODUCTION

Background

The number of nurse practitioners (NPs) working in acute care settings in the United States continues to increase. According to the American Academy of Nurse Practitioners (AANP), there are nearly 190,000 nurse practitioners in the United States (AANP, 2014). Of those, 6.3% (approximately 11,800) work in acute care areas (AANP, 2014). Of those, 2.1% (approximately 4,000) are neonatal nurse practitioners (NNPs) (AANP, 2014). Other acute care settings include adult and pediatric critical care, emergency room, high risk obstetrics, oncology, and anesthesia. Factors such as an aging population, advancing technology, and the decreased number of medical residents available in acute care settings have increased the demand for nurse practitioners. The complexity of patients seen by nurse practitioners and the level of technical skill required has also increased (Moote, Krsek, Kleinpell, & Todd, 2012). In neonatal intensive care units (NICUs) the advancement of technology has led to a patient population of increasingly smaller and sicker infants requiring complex care. Decreased residency time for physicians in the NICU has led to more of this care being assumed by NNPs.

The NNP role was initially established in the late 1970's in response to the increase in neonatal intensive care units and technology available to treat preterm infants (Honeyfield, 2009). As the ability to save preterm infants increased, there was a need for

personnel who could provide complex emergency care to neonates 24 hours per day, including delivery room resuscitation and responding to emergencies in the NICU.

In the beginning, experienced NICU nurses were trained in certificate programs taught in hospitals by physicians. These early NNPs were trained in advanced resuscitation techniques, treatment of common neonatal problems, and emergency care of the neonate immediately after delivery. A number of advanced skills were taught to NNPs to facilitate this role, including endotracheal intubation, umbilical catheterization, and chest tube placement. While the NNP role was developed to be a first responder to neonatal emergencies in the NICU and the delivery room, the role has expanded to include day to day management of neonates in the NICU, level I nurseries in community hospitals, and in some locations, follow up of preterm neonates. This care includes patient assessment, interpretation of laboratory data, review of radiographic studies, diagnosis of illness, performance of advanced resuscitation skills, and prescribing treatment for various neonatal problems. In addition to the clinical role, NNPs are expected to be resources to nursing staff; participate in nursing education, policy development and quality improvement; and participate in or lead research studies (NANN, 2014a).

The NNP role has been shown in a number of studies to be a safe and cost effective addition to the care of neonates when compared to other care providers such as medical residents in the NICU (Bissinger, Allred, Arford, & Bellig, 1997; Karlowicz & McMurry, 2000; Woods, 2006). The role has been endorsed by the American Academy of Pediatrics (AAP) as being cost effective and safe (Wallman & Committee on the Fetus and Newborn, 2009).

Currently, NNPs work in level III NICUs in both academic and private hospitals, level II community hospitals, well baby nurseries, and NICU follow up clinics (Freed, Dunham, Lamarand, Loveland-Cherry, & Martyn, 2010; Cusson, et al. 2008). The strict limits now placed on the number of hours medical residents can work has required a shift in the neonatal workload, with more duties falling to NNPs and a need for an increased number of NNPs in NICUs (Freed, et al.; Bellini, 2013; Cusson, et al.; Reynolds & Bricker, 2007). The increase in complexity of neonatal care has required more care providers in the NICU.

Decentralization of neonatal care in many urban areas has increased the number of hospitals with their own neonatal intensive care units. This has contributed to a growing need for NNPs, creating a significant shortage in care providers and an accompanying demand for NNPs that far exceeds the supply (Cusson, 2008; Staebler, 2011; Freed, et al.; Timoney & Sansoucie, 2012). The decision to lengthen nurse practitioner programs to award a nursing practice doctorate has heightened the concern regarding supply and demand (Bellflower & Carter, 2006; Pressler & Kenner, 2009; Samson, 2011; Cronwett, et al., 2011). Some authors have expressed concern that if the demand continues to exceed the supply, the NNP role could be supplanted by physician's assistants and hospitalists (Pressler & Kenner).

Problem Statement

It is important to have a healthy supply of competent, qualified NNPs to fill this health care need (Bellflower & Carter, 2006; Cusson, et al., 2008; Samson, 2011). Traditionally nurses are required to have one to two years of RN experience as a condition of admittance to a nurse practitioner or other advanced practice nursing

program (American Association of Nurse Anesthetists, 2012; National Association of Neonatal Nurses, 2014b; Rich, 2005). Neonatal nurse practitioner programs have traditionally required two years neonatal intensive care nursing experience, preferably in a level III NICU. The NNP Educational Guidelines published by the National Association of Neonatal Nurses (NANN) states the following practice experience requirements for prospective students:

> the equivalent of 2 years of full-time clinical practice experience (within the last 5 years) as a registered nurse (RN) in the care of critically ill neonates or infants in critical care inpatient settings is required *before a student begins clinical courses*. Students may enroll in preclinical courses while obtaining the necessary practice experience (NANN, 2014b).

This reflected an increase in required experience from the previous recommendations that stated one year experience was acceptable. The guidelines state that this is based on anecdotal experience and is believed to be essential (NANN, 1014b).

Despite traditional requirements in schools of nursing and NANN's recommendation, there is little research that determines how many years of experience or what type of experience is really needed for a successful educational experience or transition to the NNP role. The NANN recommendation notes the importance of developing critical thinking skills for success in the NNP role (NANN, 2014b). However, there is no clarity on what kind of experience and how much, if any, leads to critical thinking. Further, there is little agreement on what critical thinking is. A study by Ferrara (2008) compared critical thinking skills among traditional, first degree graduate nurse practitioner students with previous RN experience, and accelerated, second degree, graduate nurse practitioner students. The accelerated students performed significantly better on tests designed to measure critical thinking. This suggests that it is possible that

clinical experience does not necessarily lead to improved critical thinking skills in nurse practitioner students (Ferrara).

Benner, Hooper-Kyriakidis, and Stannard (1999) noted that critical thinking develops most efficiently in the clinical setting with experience and mentoring. It develops less efficiently under formal classroom instruction. They also noted that critical thinking requires the student to take the knowledge they have, add additional knowledge, and sort out what it means in relationship to the patient. What does a particular symptom mean for this particular patient at this particular time? What other information do they need to gather in order to determine what is happening with the patient? This requires the ability to recognize the context the information is occurring in, as well as the impact of additional information. It is assumed that nurse practitioner students will draw on experience they have gained as an RN in the clinical setting, and that nursing expertise will result in a quicker development of such critical thinking and easier role transition as a nurse practitioner. However, there is limited evidence to suggest that this is true. It has been noted in studies looking at role transition from staff nursing to advanced practice that many nurses experience upheaval in going from an expert nurse to a novice nurse practitioner (Steiner, McLaughlin, Hyde, Brown, & Burman, 2008; Cusson & Strange, 2008).

Benner (2001) discusses the concept of experience in her theory of novice to expert skill acquisition. As described by Benner, years of experience correlate with the development of expertise in nursing practice, assuming that knowledge and expertise are gained over time. The focus of this expertise is an intuitive grasp of situations that is developed from previous experience. This process of intuitive judgment based on

previous experience was shown by Offredy (1998) and Offredy (2002) in studies of decision making by nurse practitioners. The ability to use intuition increases as the individual progresses from a novice in the role to an expert (Benner).

Is experience the only criteria for expertise? Other influences such as education, knowledge base, and motivation certainly play a role (Evans & Donnelly, 2006; Gobet & Chassy, 2008). Not all nurses with years of experience become experts (Benner, 2001). Experience is not just amount of time, but also includes exposure to a variety of situations and the ability to synthesize those situations with preconceived notions (Benner). Experience also refers to opportunities to practice particular skills and apply knowledge. Therefore, experience cannot be limited to time alone, but must include exposure to certain situations or patient conditions.

Benner's model of novice to expert in skill acquisition focuses on the role of experience in gaining skills and knowledge (Benner, 2001). With ongoing experience the nurse passes through five levels; novice, advanced beginner, competent, proficient, and expert. Nurse practitioners, when taking on the advance practice role, have been shown to regress from a previous level of competent, proficient, or expert, back to a novice or advanced beginner role (Roberts, Tabloski, & Bova, 1997). Students in Robert's study were able to eventually rely on previous information and skills and were able to return to their previous levels of proficiency more quickly than their original time table as a new nurse. Benner's skill acquisition framework can be used to examine the influence of previous RN experience in transition to the nurse practitioner role. Benner (2001) also describes this phenomenon when nurses change areas of practice, or move to a different

unit. While a period of regression is expected, nurses with experience were able to regain a level of competence more rapidly than a new graduate nurse.

It has been demonstrated that prior knowledge can have a significant impact on learning new knowledge; both in acquiring new knowledge and hindering the acquisition of new knowledge (Driscoll, 2005; Shuell, 1988). Driscoll explains prior knowledge and memory as a schema, or a collection of knowledge and how that knowledge is constructed around emotions, values and interpretations. New knowledge can be filtered through the schema, either changing the schema or influencing how the new knowledge is interpreted. Cholowski and Chan (2004) describe prior knowledge as a network of knowledge that can be accessed when confronted with new knowledge or with a new problem to solve. Without prior knowledge, students have to develop a schema from the beginning, rather than apply new knowledge to previous scaffolding (Driscoll). Because they have to learn each step or element separately it creates a greater cognitive load than the student who already possesses a schema. However students can use related prior knowledge or problem solving skills to help them learn new content. Helping student uncover prior knowledge that may be partially related to what they are learning can help them assimilate new information.

Prior knowledge also gives students a context in which to place new knowledge. The more comprehensive the prior knowledge is, the easier it is to add to that knowledge. According to Baviskar, Hartle, and Whitney (2009) constructivism assumes that knowledge is acquired in relation to prior knowledge. The instructor must discover what prior knowledge the student has in order to present new knowledge in a way that can be incorporated into the existing knowledge base. They note that previous knowledge may

be incorrect or incomplete. This may cause the learner to either reject the new knowledge or incorporate it into the knowledge base that exists (Baviskar, et al.).

Ming-Tien and Ling-Long (2005) looked at prior knowledge and how it impacts transfer of knowledge to the clinical setting. They found that students with higher levels of previous knowledge were more confident and were more independent during their clinical assignments. Students with less prior knowledge relied more on assistance from others and asked more questions. They also indicated that the clinical experience was very helpful in accumulating new knowledge and they transferred their recently acquired didactic knowledge to the clinical setting more rapidly than those with more prior knowledge. This is consistent with findings by Prowse and Lyne (2000). They noted that learning is most effective when it can be applied in context, for instance in a clinical setting.

Lim, North, and Shaw (2014) looked at post graduate nurse practitioners in New Zealand who were studying pharmacology and therapeutics in order to become prescribers. In this qualitative study participants were asked about the experience of nurses during the course. One of the themes noted by the researchers was "drawing on clinical experience in acquiring pharmacology knowledge" (page 986). Participants noted that they were able to draw on previous clinical experience and this enhanced their understanding of the material. Recalling previous instances of using a particular medication or patients that experienced side effects was helpful in being able to apply the knowledge they were learning in their own practice.

Prior knowledge plays an important role in clinical decision making for nurses and other medical personnel. Both nurses and physicians tend to use some type of

information processing where they quickly evaluate signs and symptoms and form a hypothesis which then drives further data collection and evaluation of the hypothesis (Rashotte & Carnevale, 2004). As the practitioner gains experience, the pool of prior knowledge is increased, creating an intuitive ability to recognize clinical problems and react correctly (Blum, 2010; Benner, et al., 1999). Incorrect prior knowledge or lack of prior knowledge can hinder this process and make it difficult for the student or practitioner to react appropriately. However, there is no evidence that nurse practitioner students cannot learn information without prior nursing experience, just as medical students learn without previous medical experience. The increased numbers of clinical hours (from 600 to 1000) required in Doctor of Nursing Practice programs may allow for gaining of at least some of the knowledge previously gained by RN employment, depending on how the clinical hours are structured.

While prior knowledge allows for more rapid learning of new concepts and provides a framework for incorporating new knowledge, it can also be a hindrance. Incorrect prior knowledge can cause the student to become confused or to dismiss the new knowledge altogether. They may also fail to attend to information that does not fit with their prior knowledge base. Kida (2006) noted that humans have a natural tendency to attend to information that supports current beliefs or expectations. That information is accepted quickly, whereas information that contradicts prior knowledge may be ignored or discounted. Varied backgrounds and experiences of students may enhance or hinder their acquiring of new knowledge and adaptation to the NP role.

Purpose of the Study

The purpose of the study was to explore the experience of registered nurses (RNs) as they transition to the NNP role during their first year of their NNP program. By exploring students' experiences of making the transition from an RN to an NNP, necessary requirements for entry into NNP programs may be clearer. With the advent of the Doctor of Nursing Practice, coupled with an ongoing shortage of neonatal nurse practitioners, it may be advantageous to re-examine the requirement for previous experience prior to entering a program.

Study Question

This study focused on the following question:

Q1 What is the experience of RNs as they transition to the NNP role during their first year as a NNP student?

Significance to Nursing

The ongoing shortage of NNPs has created a sense of urgency in recruiting NNP students and training them as efficiently as possible. The push for the Doctor of Nursing Practice to be an entry into nurse practitioner practice has added to the urgency, noting that it will take longer to educate a NNP (NANN, 2011; Bellflower & Carter, 2006). This has caused many NNP educators to question the value and necessity of previous RN experience. It has also raised the question of how the increase in clinical hours required for the Doctor of Nursing Practice might change requirements for previous experience.

Current NNP education standards as outlined by the National Association of Neonatal Nurses (NANN) build on a level of knowledge that nurses are presumed to have prior to entering an NNP program (NANN, 2014b). If students have different levels of experience, education programs may need to be adapted to ensure that students acquire the background knowledge they need to be successful in the NNP role. However, there is minimal research available to support or refute the belief that experience is essential. If experience is necessary for success in the NNP role, the question remains; how much or what type of experience is required and how does that experience influence adaptation to the NNP role?

Employers of nurses and NNPs also have an interest in the question. Neonatal nurse practitioner students are typically recruited from NICUs and often return to their previous NICU to practice. While this can be an incentive for career advancement for many NICU nurses it can also be a disruption to NICU staffing if many experienced nurses enter NNP programs. Many clinical settings hire new graduate NNPs. Knowledge about previous RN experience and its influence on acquiring skills would be valuable for hiring purposes and for development of orientation programs geared to individual nurse practitioner needs.

Neonatal nurse practitioners often serve in NICUs as more than advanced clinicians. In addition to patient care responsibilities nurse practitioners are expected to be resources for nurses in the unit, providing education both informally at the bedside and formally in orientation or continuing education. They may be expected to facilitate research or assist in implementation of evidence based practice. They are often called to

participate in policy development and quality improvement projects (Smith, Donze, Cole, Johnston, & Giebe, 2009). This requires a level of expertise in neonatal nursing and identification with the nursing profession.

Summary

With the continued shortage of NNPs, it is essential to educate students as efficiently as possible while producing graduates who are knowledgeable and competent. Admission criteria based on evidence in regards to previous experience would be helpful to schools of nursing and employers alike. Minimal research has been done looking at the impact of RN experience on students in their nurse practitioner programs. This study explored the experiences of NNP students during their first year in their NNP program, asking about their transition to the NNP role and if they relied on previous experience.

CHAPTER II

REVIEW OF THE LITERATURE

The complex skills and patient assessments demanded of NNPs require a significant level of technical competence and critical thinking. Because NNPs often perform these activities in emergency situations, NANN has recommended 2 years of previous experience as an RN caring for "critically ill newborns, infants, or children in acute care, inpatient settings" (NANN, 2014b) prior to entering a neonatal nurse practitioner program. This is based on anecdotal evidence as stated in the NANN curriculum guidelines (NANN, 2014b). Nurse practitioners and advanced practice nurses in other specialties have expressed the belief that the nurse practitioner or advanced practice role is too complex and challenging for novice RNs. (Rich, 2005; American Association of Nurse Anesthetists, 2012). The introduction of nontraditional programs that accept non nurses into graduate advanced practice nurse programs, including midwifery has added to the controversy.

A review of the literature was conducted using CINAHL, Academic Search Premier, and PubMed data bases. Key words included neonatal nurse practitioner, nurse practitioner and advanced practice nurse education, nurse practitioner role transition, and advanced practice nurse role transition, and previous RN experience. There was a paucity of literature looking at NNP role transition or NNP education. There was very little

information on the effect of previous RN experience on role transition or academic success, and somewhat limited literature on advanced practice nurse or nurse practitioner role transition particularly in NNPs.

As described by Benner (2001) changes in clinical areas or job expectations can result in a regression to a novice or advanced beginner level of proficiency, even in the expert nurse. Like a novice nurse, nurse practitioner students can easily become overwhelmed by the increased complexity of knowledge and skill requirements (Latham & Fahey, 2006; Cusson & Viggiano, 2002; Forbes & Jessup, 2004). However, when changing jobs, nurses with a higher level of proficiency as described by Benner regained their previous level sooner than the new graduate nurse (Benner, 2001). This has been shown to be consistent in nurse practitioner students in a study by Roberts, et al. (1997). They worked with nurse practitioner students who had at least 10 years experience as RNs prior to entering a nurse practitioner program. They found that their students indeed regressed during the first semester of the program. There was a significant focus on how to perform new clinical skills and use new equipment, similar to the novice nurse. By the second semester they began to draw on previous nursing knowledge and skills. The authors noted that by the end of the program, the students had progressed to at least a competent level, with some beginning to return to their previous expert level of judgment. The authors did not have students with no RN experience, so it cannot be determined from this study how those students would perform.

Rashotte and Carnevale (2004) looked at clinical decision making by nurse practitioners and physicians. Empirical knowledge is often used to make "decision trees" or algorithms which identify the most likely diagnosis based on particular signs and

symptoms and outline a treatment plan. Both experienced and inexperienced clinicians made correct decisions most of the time when using these decision tools. However when not using tools, experienced physicians and nurse practitioners used a form of pattern recognition; gathering and interpreting information and organizing the evidence based on knowledge and previously experienced situations. They practiced in an intuitive manner built on previous experience. Both physicians and nurse practitioners required experience to move from the "know how" to the "know that" type of knowledge (Rashotte & Carnevale). This does not determine how a nurse practitioner student with no RN experience would perform, it merely suggests that experience lends to a form of decision making based on recognition of previously seen patterns.

A study by Lim, et al. (2014) looked at advanced practice nurses studying pharmacology and therapeutics in order to obtain prescriber status. These were advanced practice nurses who had not had a pharmacology course in their original programs and were now taking the course in order to be able to become independent prescribers in New Zealand. In addition to the pharmacology course, the nurses must have completed a master's degree and practiced for five years as an accredited nurse practitioner, as they are termed in New Zealand. The authors explored the experiences of the nurse practitioners as they prepared to become prescribers. In particular, the researchers were interested in the adequacy of the biomedical science background in the participant's original NP programs. The authors found that although participants felt their previous education in pharmacotherapeutics was inadequate for prescribing, they were able to facilitate their learning by drawing on previous clinical experience. This allowed them to

apply the new knowledge quickly. They were able to recall times when various medications were used, and side effects and adverse effects that were experienced by their patients.

A qualitative study by Cusson and Strange (2008) looked specifically at NNP role transition. They gathered written responses to questions from 70 NNPs asking about their transition from RN to NNP. Themes included preparation, transition to the NNP role, making it as a real NNP, and the helpers and hinderers. The participants described feeling prepared for the role by their instruction and clinical practicum in their NNP programs, with the clinical piece being the most valuable. Most of the participants had experience as neonatal staff nurses and noted that familiarity with hospital procedures and NICUs provided a feeling of comfort. All participants expressed challenges in moving from the expert bedside nurse role to a novice NNP. The participants also talked about the length of orientation and the support received from others during that orientation as being important to their success. The researchers reported that "overall NNPs with less staff nurse experience required more time to adapt to the new role and had more difficulty collaborating with or giving orders to the nursing staff" (page 334).

Burns (2011) looked at admission criteria and the relationship of the criteria to academic progression in nurse anesthesia programs. Burns surveyed 12 nurse anesthesia programs and variables including undergraduate grade point average, science grade point average, Graduate Record Exam (GRE) scores, and number of years of critical care nursing experience. Significant positive relationships were found between grade point average, science grade point average, and GRE scores and academic progression for students. However there was a negative correlation between years of critical care nursing

experience and grade point average in a nurse anesthesia program. The reason for this was unclear. One explanation suggested was the time away from academia might influence academic progression. The author also suggested that research on variables such as type and setting of previous experience and job performance following graduation may be helpful in determining value of previous experience.

A study of family nurse practitioners and role transition looked at the transition from RN to family nurse practitioner (Steiner, et al., 2008). One question asked by the study was if "there was a relationship between the length of time as an RN prior to family nurse practitioner education and the positive forces and obstacles indentified in the education phase of the original role transition framework" (page 442). The questionnaire was answered by 117 family nurse practitioners. No significance was found when Bonferroni corrections were calculated. The researchers found that students with more RN experience were slightly better at optimistic self talk, but had more difficulty with RN role separation. Because most of the respondents had at least some RN experience the implications are unclear.

Fullerton, Shah, Schechter, and Muller (2000) reported on their experiences in educating both nurses and direct entry students in their nurse midwifery program. After the first two years of the program they found that both nurses and direct entry students had progressed satisfactorily through the program. Both types of students reported success in finding employment. The direct entry students reported few difficulties, although there were some reports of nursing co-workers being less accepting of the non nurse midwives. Three direct entry students noted that there were some difficulties in learning hospital equipment, routines, and basic nursing skills such as medication

administration and helping with a cesarean section. However, they all felt that they were able to learn the necessary skills. Nurse midwifery students who had been nurses prior to entering the program expressed more confidence initially in routine things like starting IVs or hospital procedures, but this difference was temporary. The sample size was small, consisting of 22 RN students and 9 direct entry students who were admitted and subsequently graduated during the study period.

A study by Hart and Macnee (2004) looked at how well nurse practitioners were prepared for practice, based on the perception of the individual nurse practitioners. Those who felt they were well prepared after graduation had more years of practice as an RN prior to entering their program. Another study by Rich (2005) looked at 116 nurse practitioners working in primary care. Ten percent of the respondents had no RN experience prior to becoming a nurse practitioner. The study found that duration of practice as an RN did not correlate with level of competency in technical skills, as reported by the individual nurse practitioners. An interesting finding was that those with many years of previous RN experience received lower rankings of nurse practitioner skills by physicians.

White, Wax, and Berrey (2000), reviewed the experiences of "second degree" advanced practice nurses. These nontraditional programs are designed for students who have a prior degree in a subject other than nursing and combine an undergraduate and graduate nursing degree in an advanced practice nursing program. White, et al. surveyed 29 graduates regarding their employment after graduation and the quality of their education experience. Most graduates were employed full time as NPs and had obtained certification. While the majority felt that previous RN experience was not necessary, 4 of

the students (17%) stated that they felt it was and 6 (20%) said that "it would have been helpful." (White, et al., p. 221). The quality of their clinical experience and their preceptors was felt to be very important to these students. The biggest difficulties cited were being unfamiliar with how health care and hospitals functioned and how they were perceived by traditional nurses and nurse practitioners. While this suggests that students without previous RN experience can be successful, it was a small sample, and none of the graduates were practicing in an acute care environment.

Fleming and Carberry (2011) looked at critical care RNs who were transitioning to a critical care nurse practitioner role in an intensive care (ICU) setting in the United Kingdom. The purpose of the study was to look at implementation and operational aspects of the advanced practice role. All of the advanced practice nurses interviewed had been ICU nurses. In addition to transitioning to a role that was new in the unit and new to the participants, they found they drew frequently on previous knowledge. They felt that it was helpful to have previous experience in nursing to see both sides of the nursing and medicine role. They also drew on their nursing experience in recognizing changes in patient condition. They were able to be resources for nursing staff and support the knowledge and skills of the nurses they worked with at the bedside.

Clayton, Lypec, and Connelly (2000) looked at nurse anesthesia program faculty and their perceptions of what characteristics students needed for success in a nurse anesthesia program. Faculty rated three characteristics as most important; pharmacology and physiology grades, 1-2 years of previous RN experience in critical care, and undergraduate GPA. Faculty described the need for experience as a chance to develop clinical skills and knowledge needed for the clinical role of the nurse anesthetist, but

were divided on what type of critical care experience was needed, including pediatric intensive care, adult critical care, neonatal intensive care or perioperative nursing. When asked why students typically failed to graduate, answers had more to do with personal characteristics such as lack of hardiness, stress, poor teamwork or interpersonal skills, inability to handle criticism, and inability to think critically (Clayton,et al.). Lack of previous experience was not cited as a reason for failure in the program.

While there is some literature looking at experience, other studies looked at characteristics of nurse practitioners that allowed them to be successful in clinical practice. Gardner, Hase, Gardner, Dunn, and Carryer (2007) looked at the concept of capability in the scope of advance practice nursing in Australia and New Zealand. Capable people were defined as having high levels of self-efficacy. The authors described this as people who "know how to learn, they work well with others, they are creative, and most importantly, they are able to use their competencies in novel as well as familiar circumstances" (pg 252). The authors interviewed practicing nurse practitioners in New Zealand and Australia who practiced in acute or primary care settings. They found that the attributes describing capable people applied to the nurse practitioners that they interviewed, and suggested that capability is an important attribute in practicing nurse practitioners and in nurse practitioner students.

It has been noted that as the nurse practitioner gains experience, confidence, and personal knowledge, the ability to focus on things other than clinical skills increases. A level of confidence in clinical knowledge must develop before quality time can be spent on activities such as patient education and other professional activities (Sidani & Irvine, 1999). A study which looked at autonomy of acute care nurse practitioners noted that

autonomous practice required a proficiency level of competent or greater (Cajulis & Fitzpatrick, 2007). As the nurse practitioner became confident with knowledge level and clinical skills, greater autonomy and job satisfaction developed. However neither of these studies looked at the number of years of RN experience and how previous competency related to gaining of competency in the NP role.

A survey by Crosby, Dunn, Fallacaro, Sozwiak-Shields, and MacIsaac (2003) looked at admission criteria in 116 nurse practitioner programs. Nurse practitioner faculties were shown to be concerned with both market forces (the need for nurse practitioners) and the need for high standards and successful graduates. They reported that controversy exists regarding the ability of new graduate nurses to be successful in an advanced practice program. Overall, clinical experience was rated as somewhat important, but not as high as personal characteristics such as trustworthiness and professional characteristics including patient advocacy. Those who rated previous clinical experience as important were divided, with 39% recommending less than two years, and 41% recommending more than 2 years (Crosby, et al.). However, there is minimal research to determine whether clinical experience is important or not, or if it is as important as other characteristics. When looking at faculty discernment of personality characteristics and student nurse anesthetists, Wong and Li (2011) found that faculty considered a number of personality characteristics that predicted success in a nurse anesthesia education program. Characteristics such as self awareness, self confidence, common sense, integrity and stamina were considered important attributes for success. Similar findings were discovered in a study by Burns (2011) of nurse anesthesia students,

suggesting that personality characteristics likely play an important role in success in advanced practice programs.

Summary

As the research has illustrated, little is known about how advanced practice nurses transition to their graduate education experience, including NNP students in particular. There is even less evidence on the influence of prior nursing experience on students in their advanced practice programs. It has been shown that students draw on prior knowledge and that can be a help or a hindrance, depending on what their prior knowledge and experience involves (Benner, 2001). No evidence was found that illustrated that students could not learn the role of an advanced practice nurse or NNP in particular without prior nursing knowledge. The evidence of how previous experience influences success in an advanced practice nursing program is mixed, with some studies suggesting it has a positive role and others finding a negative correlation. Other characteristics, including personal factors of self confidence, common sense, critical thinking ability, and self awareness likely play a factor in student success.

Given the importance of experience in the development of expertise and the ability to make complex decisions, how does previous experience as a nurse influence the transition to the role of a student and a nurse practitioner? Is there a definable amount of experience that a nurse should have before entering a nurse practitioner program? Despite the fact that most advanced practice nursing programs, (nurse practitioner, certified registered nurse anesthetists, and certified nurse midwives) require previous

nursing experience, there is limited data available to demonstrate that this is a necessary requirement or if experience is required how much experience is necessary.

Increasing knowledge about how previous RN experiences influences the experience of the NNP student can guide education standards, graduate admission policies, and how students and new NNPs are oriented to the NNP role. Currently admission policies and recommendations for advanced practice programs have little published evidence to support them, and there is minimal understanding about how students might draw on previous RN experience. Because the body of literature on this subject is limited it is desirable to learn from current students how they see previous RN experience influencing their experiences in an NNP program. This study will be a qualitative phenomenological study with a descriptive, naturalistic design, looking at various themes in a complicated phenomenon – NNP students' perception of their experiences in their NNP program, including the influence of their previous RN experience during their NNP program and their experience of transitioning to the NNP role.

Theoretical Perspective

Philosophical Paradigm and Way of Knowing

Without a nursing perspective, nurse practitioners may fall into a role of a mere physician substitute or physician extender, undistinguishable from a physician's assistant. Beal, McGuire, and Carr (1996) looked at NNPs and whether they tended to identify with nursing or medicine. Those with a strong nursing philosophy, advanced education, and those who belonged to a professional organization tended to identify with nursing. Those who did not have a master's degree or who did not have strong nursing role models

tended to identify with medicine. It is unclear as to the influence that RN experience in the NICU might have on identification with the nursing profession. To include all domains of nurse practitioner practice - clinical practice, education, research, and consulting - a philosophy must lend itself to the study of all aspects of nursing. A humanistic philosophy allows the researcher to examine all domains of the nurse practitioner role.

While nurse practitioners rely heavily on empirical knowledge for clinical practice and patient care, they must use all ways of knowing to incorporate all domains of the nurse practitioner role. In particular, new nurse practitioners must demonstrate self-assessment skills. Personal knowledge is a way for nurse practitioners to evaluate their level of knowledge and skill. Chinn and Kramer (2008) state that "personal knowing arises from the following critical questions: 'do I know what I do?' and 'do I know what I know?' " (pp 133). Personal knowledge is reflected in interaction with others as well as inner reflection and self-assessment of one's knowledge and experience. Benner (2001) notes it is practical and personal knowledge that allows the nurse to make use of experience, and translate those experiences into meaning. Willingness to learn, ability, and personal history are all ways of personal knowing. This personal knowledge will influence what is gained from various experiences.

As the nurse practitioner gains experience, confidence, and personal knowledge, the ability to focus on things other than clinical skills increases. A level of confidence in clinical knowledge must develop before quality time can be spent on activities such as patient education and other professional activities (Sidani & Irvine, 1999). A study which looked at autonomy of acute care nurse practitioners noted that autonomous

practice required a proficiency level of competent or greater (Cajulis & Fitzpatrick, 2007). As the nurse practitioner became confident with knowledge level and clinical skills, greater autonomy and job satisfaction developed.

A study that looked at ways to predict student success in a nurse anesthetist program found that personal characteristics like anxiety levels, flexibility, and locus of control predicted success better than undergraduate grade point average or performance on the Graduate Record Exam (Hulse, et al. 2007). The nurse practitioner must be able to realistically assess personality characteristics that will enhance or hinder adaptation to the role.

Patricia Benner's theory of skill acquisition provides a helpful viewpoint for this study (Benner, 2001). Benner outlines the impact of experience in acquiring skills and expertise, particularly in critical care nursing and discusses the importance of experience in moving from the novice level of practice to an expert level. It is particularly important that this experience is with similar patient populations. When changing careers and working with different populations, nurses return to a lower level of practice for a period of time. This is also true of nurses transitioning to an advanced practice role.

Benner's model of novice to expert in skill acquisition focuses on the role of experience in gaining skills and knowledge (Benner, 2001) Through experience, the nurse passes through five levels; novice, advanced beginner, competent, proficient, and expert. Nurse practitioners, when taking on the advance practice role, have been shown to regress from a previous level of competent, proficient, or expert, back to a novice or advanced beginner role (Roberts, et al., 1997). Students in this study were able to eventually rely on previous information and skills, and were able to return to their

previous levels of proficiency more quickly than their original time table as a new nurse. Benner's skill acquisition framework can be used to examine the influence of previous RN experience in transition to the nurse practitioner role. It may be useful to identify the level of proficiency, in addition to years of experience, when looking at ease of transition to the role.

A conceptual model of advanced practice was developed in 1994 at Strong Memorial Hospital at the University of Rochester Medical Center (Mick & Ackerman, 2000; Gardner, Chang, and Duffield, 2007). This model, known as the Strong Model of Advanced Practice delineates five domains of practice that comprise the role of the advanced practice nurse. These include 1) patient focused activities such as procedures, assessments, and data interpretation; 2) system support, such as quality improvement and contribution to nursing services; 3) education, including patient, staff, student, and public education; 4) research; and 5) professional leadership (Ackerman, Norse, Martin, Wiedrich & Kitzman, 1996; Mick & Ackerman). Mick and Ackerman used the Strong model to evaluate how nurse practitioners and clinical nurse specialists in a critical care setting self-ranked their expertise (novice to expert) in each of the practice domains. Students can use this model to determine how they are developing in each practice and the model can be useful in reviewing transition from the role of staff nurse to NNP.

CHAPTER III

METHODOLOGY

Qualitative Research

This was a qualitative study using a phenomenological approach. Phenomenology has been described as the lived experience of individuals, what their experiences are like and what they mean to the individuals (Polit & Beck, 2011). The researcher assumes an ontological philosophical approach. Creswell (2013) describes ontology as looking at the nature of reality and the idea that reality is subjective and dependent on the viewpoint of the participants. The researcher looks for themes uncovered in the words and descriptions of the participants (Creswell). Hermeneutical phenomenology is research that seeks to understand the lived experience of participants (Creswell; Laverty, 2003; Crotty, 1998). The backgrounds of participants and researcher contribute to understanding of how the participant experiences their world (Laverty). Crotty describes hermeneutics as perceptions, attitudes, and feelings that people have about their lived experiences. By exploring the experiences of participants and how they understand them, we can gain insights into those experiences. This study looks at the experiences of the students as described by them and how the students understand those experiences. It also considers historical experiences of the participants and how those experiences contribute to current

experiences. Because the research on NNP students and previous experience is limited, this approach allows an exploration of the phenomena and may lead to further research questions.

Colaizzi developed a method for analyzing data collected in a phenomenological study (Worjnar & Swanson, 2007). There are seven steps which are used to guide the analysis of the data. The first step requires reading the descriptions of the participants regarding the phenomenon studied. This requires reading the transcripts multiple times to get a feel for the experience of the participants. The second step is to pull out significant statements that pertain to the phenomena. Third, the meanings must be formulated for the statements. In the fourth step, the meanings are categorized into clusters, looking for themes that are common among the participants. The researcher must pay close attention to the transcripts during this process to make sure the conclusions are consistent with the participant's stories and that important data is not ignored. The fifth step requires that the findings be integrated into a description of the phenomenon. In the sixth step the results of the interviews are formulated into study findings. In the seventh step, the findings are then confirmed and validated by reconnecting with the participants and asking those participants if the findings are consistent with their experiences. The seventh step also requires that any changes are incorporated into the final description of the phenomenon (Worjnar & Swanson; Creswell, 2007).

Researcher Background

The researcher has been practicing as a NNP for 27 years and has experience as a preceptor of student NNPs and new graduate NNPs. The researcher is currently a faculty member and coordinator of the NNP program at a major university. The researcher

acknowledges a bias toward a belief that previous RN experience in a level III nursery is important for timely acquisition of skills and transition to the role of the NNP. Nurse practitioners in an NICU are required to perform complex skills, often under emergency conditions. These skills include such interventions as advanced physical assessment, radiographic interpretation, tracheal intubation, thoracotomy, and umbilical catheter placement. Neonatal nurse practitioners are also called upon to participate in staff development such as instructing nurses in neonatal resuscitation, common problems of the neonate, and nursing interventions for a variety of common neonatal conditions. These job requirements may create difficulty for NNP students and new NNPs who are not familiar with basic NICU routines, common nursing interventions, and common problems of the neonate.

The type and amount of experience needed, however, is uncertain. One study by Rich (2005) looking at adult nurse practitioners suggested that experienced nurses took longer to become comfortable with various nurse practitioner job requirements than those without experience. It is possible that many years of experience create difficulty as well. Nurses who are experts in an area have difficulty transitioning back to a novice or advanced beginner role. Benner (2001) has acknowledged this difficulty in nurses transitioning to an advanced practice role. One study that looked at student registered nurse anesthetists found that length of nursing experience had an inverse relationship to grade point average in the program (Burns, 2011). The reason for this was not determined. In this researcher's experience as NNP faculty, students with limited experience may indeed have difficulty recognizing certain disease entities or treatments. However, students with many years of experience as staff nurses sometimes have trouble

transitioning to the advanced practice role in terms of focusing on new responsibilities and in determining diagnoses, something outside the normal practice of a staff nurse.

Hermeneutic phenomenology calls for the researcher to acknowledge bias and prior experiences that may guide interpretation (Laverty, 2003). These biases and experiences are embedded rather than set aside. Reflective journaling by the researcher aids in identifying biases and may reveal how those biases relate to the phenomenon being described by participants (Laverty). Acknowledging a bias regarding the need for prior RN experience, the researcher focused on the lived experiences of new nurse practitioners in their transition to the NNP role. Participants were asked to describe a time their previous experience influenced their experience in their NNP program. This allowed participants to describe their own experiences and their own interpretation of those experiences. The themes and codes identified by the researcher in the analysis of the data were shared with the participants to confirm that they were consistent with the participants' intended meaning.

Participants

The study was reviewed and approved by the University of Northern Colorado Institutional Review Board (IRB) prior to implementation (Appendix A). Purposive sampling was utilized to identify NNP students who might participate in the study. This form of sampling allows the researcher to select participants who can speak to the phenomena being studied. Inclusion criteria for the participants of this study consisted of NNP students who are currently enrolled in a Master's or Doctor of Nursing Practice level NNP program. Students of both genders and all ethnic backgrounds were eligible. This was a purposive, unique sample selection (Merriam, 1998); chosen so that

participants would have a recent memory of their previous RN experience and their current student experience. Students from the researcher's school were excluded for confidentiality reasons. Following IRB approval a notice was placed on the list serve of the NANN website asking for first year NNP students who would be willing to participate in a research study. (Appendix B) Notices were also sent to program directors of 29 Neonatal Nurse Practitioner Programs in the United States. Twelve program directors agreed to forward the information to their NNP students.

Students were asked to answer a short demographic survey consisting of questions regarding age, gender, previous RN and NICU experience, and willingness to participate in a telephone interview (Appendix C). Thirty students responded that they would be willing to participate and provided contact information. Of these, 12 students responded to a follow-up email requesting a telephone interview time. Two participants were unable to participate due to ability to determine an available time. No incentives were offered for participation.

According to Polit and Beck (2011), saturation of data occurs when no new information is uncovered in the interviews that correspond to the categories identified in the data. A sufficient number of participants are required to reach saturation. While this cannot typically be determined in advance of the interview process, it will be apparent when the interviewer begins to hear the same information in each interview. If saturation had not occurred with the 10 participants who were initially available, an attempt would have been made to reach the other students who initially responded to the demographic survey.

Participants were current students from a mix of online and campus based NNP programs. All but two were currently working while attending school. There was one male student. Previous RN experience ranged from 2 years to over 15 years, with NICU experience ranging from 18 months (one participant) to 15 years.

Interviews

The participants were all interviewed by telephone at a time of their choosing. Interviews were recorded with permission from the participants. The consent form was read aloud to each participant at the beginning of the interview and each consented verbally to the study. Copies of the consent form were then emailed to each participant. Procedures for confidentiality were explained. The participants were told they could decline to answer any questions they were not comfortable with and could stop the interview at any time.

The interviews consisted of open ended questions to allow each participant to describe their personal experience (Appendix D). This allows for some consistency among interviews, but allows the participants to tell their individual story and to expand upon the topic as desired. The interviewer is able to respond with follow up questions depending upon the individual responses in order to clarify or confirm a particular idea.

The interview began by asking participants to describe their experiences during the first year of their NNP program. Additional questions regarding their programs included what didactic and clinical courses they had taken, if the program was on line or campus based and what type of clinical experiences they had experienced thus far. Participants were then asked about their experiences of transitioning to the NNP role by asking them to describe a time when they felt they were transitioning to the NNP role.

Participants were asked to describe a time when their previous experience as an RN affected their NNP experience, either in clinical or in classroom experiences. They were asked to describe a time when they were able to rely on information from their classes. Finally they were asked to describe a clinical experience in their NNP program which they felt reflected their need for more information. The descriptions of the students have been examined to determine similarities and differences in their experiences. Descriptions of how they used previous knowledge and experience were identified by this method as well as the experiences of transitioning to the NNP role and how they experienced the need for more information.

The interviews ranged from 40 to 60 minutes including introduction and consent before the recording was started and casual conversation at the end after the recording was discontinued. Interviews were transcribed verbatim by the researcher and then double checked for accuracy by listening to the recording again while reading the transcription.

Protection of Human Subjects

Approval from the Institutional Review Board (IRB) was obtained prior to commencement of the study. The names of all participants, from surveys and interviews, will be kept confidential. Each participant received a number and the numbers will be kept separate from the names and consent forms. The name of the participant was not included on the audio tape or on the transcribed interview. All recordings were destroyed at the end of the study after they were transcribed and double checked. The interviewer did not ask the name of the school or the place of employment. In the event this was mentioned by the participant, the information was not included in the transcribed data in

order to protect confidentiality. The signed consent forms were separated from the transcribed interviews and stored separately in the office of the dissertation chairperson, so that the interviews cannot be connected with the consent form. The participants cannot be traced based on any data in the interview. The transcribed interviews are kept in a locked file cabinet which is only accessible by the researcher. The transcribed interviews will be kept for three years and then destroyed. For purposes of confidentiality, no students were interviewed from the university where the researcher is a faculty member.

Trustworthiness

Observations about the interview and initial impressions were noted by the researcher immediately after each interview. An interview guide (Appendix D) was used to assure that all participants were asked the same basic questions, although follow-up questions varied depending on the response of the participant. A journal was kept by the researcher with thoughts and impressions about each interview and possible areas of bias on the part of the researcher were reflected upon. Coding was done by hand and then repeated using NVivo ™ 10 (QSR International, Burlington, MA).

The interviews were then reviewed by two colleagues of the researcher for their impressions of the themes revealed in the interviews. These colleagues were selected based on their experience with qualitative research. One colleague is an acute care pediatric nurse practitioner and one is a medical surgical nurse who is not an advanced practice nurse. After consultation, themes were modified and recoded, and then reviewed again by the researchers ‘colleagues.

Upon completion of the preliminary and secondary development of the themes, the participants were contacted by phone to review the themes. One participant felt that

the revised themes better reflected her experiences. Other than one participant there was no additional input.

Analysis

The data were analyzed using a systemic approach to analysis designed by Colaizzi as described by Polit and Beck (2011) and Beck (1994). This consists of seven steps used to analyze the data.

Step 1: Each interview was transcribed verbatim and then compared to the audio tape of the interview to ensure accuracy. Notes were taken immediately after each interview and added to the transcript with notes in the margin regarding impressions. Each interview transcript and notes were reviewed multiple times to attempt to gain understanding and feeling for what the participants were describing.

Step 2: The transcripts were then reviewed looking for significant statements or phrases by the participants that pertained to their experiences during their NNP program and how their previous RN experience influenced their experience. Repetition of ideas or phrases from several participants was noted.

Step 3: The third step involved formulating meanings from the significant statements, looking at what the participants meant by their statements.

Step 4: These meanings were then organized into themes, looking for those ideas or themes that were common to the various subjects.

Step 5: The fifth step was to integrate the findings into a description of the experiences of the NNP students.

Step 6: The descriptions were then formulated into study findings.

Step 7: The themes were then discussed with the individual participants by phone to validate that they fit with their experience. This allowed the participant to identify discrepancies and add any additional information they felt was important. After the initial consultation, the interviews were reviewed by two colleagues of the researcher to clarify and refine themes that were revealed. After some revision, participants were again contacted by phone to determine if the themes still reflected their experiences.

Transcripts were initially coded by hand to identify categories and themes. Categories were written on index cards, with statements sorted into the various categories. Themes were then developed from the participants' statements. Categories were revised as the process progressed. Once categories and themes were identified, coding was then done using qualitative analysis software NVivo™ 10 (QSR International, Burlington, MA). Qualitative analysis software can be helpful in validating findings and checking for themes and codes that might be overlooked (Leech and Onweugbuzie, 2011). It is also helpful in organizing data into themes to look for patterns.

Summary

In summary, this study used a qualitative research design with a phenomenological approach to explore the experiences of NNP students during their first year in their NNP program. Interviews were conducted with current NNP students in master's or DNP programs. This process gave insight to the experiences NNP students were having, how they relied on previous knowledge, how they used knowledge they gained in their program, times when they needed additional information, and their

experiences in transitioning to the NNP role. This information may be useful to faculty teaching NNP students, to preceptors of NNP students and in determining what type of experiences NNP students might need prior to entering a NNP program.

CHAPTER IV

STUDY RESULTS

Qualitative phenomenology methodology was used to study the experiences of RNs during their first year in their NNP program. Ten students were interviewed by telephone with the interviews transcribed by the researcher verbatim. Five themes emerged from the interviews that describe the experience of the students. The themes were: *Reliance on previous knowledge; Identification of knowledge deficit, related to expert to novice; Precepting and working in the same unit: support and awkwardness; Decision making and communication related to role transition; and Support from others related to role transition* (Table 1). A detailed description of the themes is summarized in this chapter with illustrative quotations.

Table 1

Themes

Themes
Reliance on previous knowledge
Identification of knowledge deficit related to expert to novice
Precepting and working in same unit: support and awkwardness
Decision making and communication related to role transition
Support from others related to role transition

Participants

The study participants were NNP students in the first year of their NNP programs. Ten students were interviewed. There was a range of age from 25-55 years and previous NICU experience of one and a half years (one student) to more than 15 years. The NICU experience was all in level III or level IV NICUs. There was one male student. All but two students were working in NICUs while going to school. Five of the students were working as staff nurses, one was a manager and two were transport nurses. The majority of students attended online programs while only two attended campus based programs. This is reflective of the distribution of NNP programs: of the 35 programs in the United States, only 2 are campus based (Bellini, 2013). The participants are summarized in table II. For purposes of confidentiality, no students were interviewed from the university where the researcher is a faculty member.

Table 2

Study Participant Demographics

Participant	**Gender**	**Age**	**Years as RN**	**Years in NICU**	**Type of Program**	**Current Nursing role**
1	F	36-45	15	8-12	On line	manager
2	M	25-35	8	3-7	On line	transport
3	F	25-35	5	3-7	On line	Not working
4	F	36-45	16	>13	On line	Not working
5	F	36-45	16	>13	On line	Staff nurse
6	F	36-45	18	3-7	On line	Staff nurse
7	F	25-35	6	3-7	On line	Transport
8	F	25-35	2	2	Campus	Staff nurse
9	F	46-55	20	3-7	Campus	Staff nurse
10	F	46-55	14	1.5	On line	Staff nurse

Themes

Five themes emerged from the interviews of NNP students as they described their experiences in their NNP programs. Theme one was *reliance on previous knowledge*. Students were asked to describe times their previous RN experience influenced their experience in their NNP program. Students described relying on previous knowledge in class when studying diseases or conditions commonly seen in neonates. They also described familiarity with equipment, NICU routines, and generalized familiarity with preterm neonates. The second theme was *identification of knowledge deficit related to expert to novice*. Students identified times they were lacking knowledge and a feeling of going from being an expert nurse to a novice practitioner. They described times they needed more information to feel that they were being successful in the NNP role.

The third theme was *precepting and working in same unit: support and awkwardness*. Students who were completing clinical hours in the same units in which they worked described both feeling supported by some staff and feeling awkward and unsupported in other situations.

Two themes emerged related to role transition. One theme, *decision making and communication related to role transition* described times when students felt they were transitioning to the NNP role. These events were times when they felt they could make decisions, or communicate findings to parents or to other staff members. The second theme regarding role transition, *support from others related to role transition* dealt with how support or non support from preceptors affected their feelings of transitioning to the NNP role.

Reliance on Previous Knowledge

Participants were asked to describe a time when their previous RN experience influenced their experience in their NNP program. There were several examples of times they relied on previous knowledge to help them both in class and in the clinical setting. Several students expressed that they were familiar with many of the diseases that were talked about in class, and even if they did not know a lot about the topics they were discussing, they had at least seen a baby with that particular disorder. One participant said "we could talk about things in class, and I would think, oh yeah, I have seen that before." Other students described a similar experience.

> Sometimes there are things I should have done more research on but I pop up with an answer based on something I have seen or a baby I took care of. Especially on discussion board questions or things like that.

> Most of my classes you bring in previous experience. I mean, it's like babies you have seen in the past that have the thing you are learning about in class. You can think, oh I have seen that before. You know, like a ventilator you have worked with, or really in all my classes I bring in my experience. I personally am taking so much of what I learned as a NICU nurse. I mean, you don't get that training in nursing school in an undergraduate program. So as far as the NICU, you need to have that solid base, and most of my fellow students already have knowledge of what things are. So, if they talk about NEC, we know what that looks like. Maybe not all the pathophysiology, but we know what it is.

Some students mentioned that previous experience helped in their core classes like pharmacology, pathophysiology and physical assessment.

> Well for instance in my pharmacology class. I know what a lot of the drugs are and the doses and why we use them. I remember pharmacology in my undergraduate class and it did not mean very much because I was not familiar with those drugs. Now I know what many of them are and why we use them. That has been very helpful. I can't imagine if I was not familiar with any of them. Now I have to order them or write a prescription. It would be really hard if I was starting from scratch.

> I have taken clinical pathobiology which was across the lifespan so that was, you know, starting from the newborn and all the things that can go wrong all the way

> up to the adult. I mean, I had not done most of that since nursing school and I know I will never see some of that. But you know, it was not that different from a baby. It does help to know some of the terminology when they were talking about things, and to know it when I read things now. So I guess I did learn a lot.
>
> Especially in physical assessment class, when we are learning the basics of physical assessment, the basics of the well-baby assessment. With the sick baby I think I was able to pull in my experience of examining a baby, especially regarding lung sounds and heart sounds, murmurs,and that kind of thing.

Others expressed that while they had some knowledge about the process, they found they were lacking some information. They may have had some experience with physical assessment, for instance, but did not have all the information needed.

> Obviously I knew how to do a newborn assessment. I mean, at least sort of one. But it has been really good to learn, you know. the Ortolani and Barlow maneuvers and feeling the liver and that kind of thing I did not really know how to do as a staff nurse. Just to be able to do a complete exam.

Some topics addressed things they knew a little bit about as staff nurses, and they were excited about the ability to build on that knowledge.

> I mean, I was familiar but I didn't comprehend totally ABO incompatibility and Rh incompatibility. I mean I took care of babies with that, and I knew about blood types but I did not really know about antibodies and all of that. So today I had two babies with OA incompatibility, so we were watching their bilirubins and hematocrits and things that I had not really paid attention to before. Not at that level. So today, it was a perfect example of, oh yeah, we learned about that in class and this is why I need to look for those things.
>
> Some things I knew but now I have a better understanding of. Like blood transfusions. I used to wonder why a baby did not get a blood transfusion when I thought they should. Now I know there are more things that go into it. I did not even know what a retic count meant. Now I know and can explain it to the staff.

Learning the "why" of how things were done was mentioned by some participants. There were things they had wondered about as staff nurses or that they had misinformation about prior to entering their NNP program.

> There were lots of times in class when we would talk about different diseases. And I would think, oh, so that is why they do that. That is partly why I wanted to be an NNP. As a bedside nurse you can anticipate what is likely to happen in the future, and even if you don't know the exact reasoning for it, you can think, well, I can see how they would do this, on this baby versus not. So I think at least I had some knowledge base from which to draw from. This really built on that. Or we would talk about something in class and I would think, oh, I have seen this kind of baby, so that is what was happening. I mean, you learn the pathophysiology but until you actually see it on a patient it does not really mean anything. It doesn't sink in, you know? Then you see the labs and you see how it looks on your baby, so it is totally different.

> One of my patients was a 27 weeker with a huge PDA and her electrolytes were all messed up, and it was interesting to see what it was like to have to decide what to do and think about why I wasn't adding sodium. As a staff nurse I would have had an opinion about it, and wondered why they didn't but I was pretty good at asking the NNP why so it wasn't a total shock. But it was exciting that now I knew what to do.

Some students mentioned the ability to prioritize was an area where they felt their previous experience influenced their clinical experience.

> You have to be able to prioritize and delegate and know what baby to see first. I think having been a NICU nurse helps with that, because I know what the different babies have and what might be going wrong with different ones. I can rely on my nursing background in just knowing, you know, something isn't right here, that feeling you get.

One participant who had a variety of experiences in addition to working in a small NICU offered a different perspective.

> In some ways my previous experience made it harder, because I had not worked in a really busy NICU so some things did not seem as familiar. But in other ways I think that it really made it easier for me because I had so much experience with so many different things and I, you know, I talked to some nursing students the other day and I said it really takes about 5 years to feel like you can handle whatever walks in the door. You might not have seen it before, but you know you have the skills and knowledge to figure it out. So, in some ways, you know, I think nothing fazes me because I have seen so many things.

Finally, the familiarity with equipment and staff and the NICU environment in general was mentioned as something participants found helpful prior to beginning their program. One said "I am used to skills like IV starts and things and working the monitor and bili lights and isolette and things." Another mentioned "The NICU is such a different environment. It is like its own little world. It is very overwhelming for parents in the beginning and even new graduate nurses."

Identification of Knowledge Deficit Related to Expert to Novice

Participants were asked to describe a clinical experience in their NNP program which they felt reflected their need for more information. The participants had all had some NICU experience and some expressed surprise at how much they didn't know. One participant said "some days I feel really good and other days I feel really stupid. I thought of myself as a fairly good nurse and it is shocking to feel like you really don't know anything." Another participant said "I came into the program with 15 years of NICU experience. So I came in as a really good level III nurse, really experienced, and then when I got into clinical I felt I didn't know anything." Another commented "This is a totally different arena. I didn't expect to feel so dumb. I didn't feel like I had been doing this for 10 years." One expressed fear in the new role. "I feel like I have forgotten everything I ever knew. I am always afraid I will mess up something or make a mistake." Yet another participant described feeling overwhelmed with the material.

> At times I didn't actually change my clothes or take a bath for four days in a row because there was so much reading to do. A lot of the material has been overwhelming. But I am getting through it. I am learning a lot. There are so many things, but I am learning many, many things. If I had just known all this when I was a NICU nurse, I would have been a much better nurse.

Even being in a different unit where equipment and routines are somewhat different added to the stress level of some students and decreased their feelings of confidence.

> I was very, very confident as a NICU nurse, you know, going on transports and things and so this is unusual. Part of it is that I am not at my own hospital, so, you know, a different hospital where they do things differently and have different equipment and so it made me less confident. Not necessarily because I was in a new role, but because everything was different.

Because all of the participants were in the first year of their program, much of their clinical time thus far was spent in the well-baby nursery, an area they were typically unfamiliar with. This caused some angst among many of the participants. They were not used to the things that came up with that patient population and were unnerved by the thought that the babies were discharged quickly, within two or three days. They described it as a "revolving door" or that there was little time to figure out if something was wrong.

> I have to stop and think especially if I get in a hurry, to do a complete assessment, you know as an advanced practice nurse, to look at all the systems. I am the one responsible for the baby and finding anything that might be wrong. I never knew there were so many things that could be wrong in the well nursery. That makes me nervous; there is so little time to find out if anything is wrong. In the NICU they might be there for 6 months. So I do find that difficult, that I don't have lots of time to figure them out. You really have to hone in on your assessment skills. It is just a very, very limited time with those babies.

Others expressed surprise that there were so many things in the well-baby nursery that they were unfamiliar with, and worried about making decisions around unfamiliar diagnoses. Skin conditions such as rashes and other lesions were mentioned by a number of participants as being something they were unfamiliar with and they were surprised by the number of "skin lesions in the baby and rashes that we had to memorize."

> I was not familiar with dermatology, especially in well babies. I did not know there were so many things, skin things, you know. I am more familiar but I still have trouble deciding – is this newborn rash or is it something else. And what to

> do about it. Diaper dermatitis for instance. I always thought bumps meant yeast. Then I found out it did not. That was a surprise. I wasn't sure how to decide, I am still not, really.
>
> I thought I knew about sick babies, but it is good to see well. It helps you recognize sick. I never really thought about that before. As a NICU nurse I figured everyone out there was, you know, well and did not require much thought. I have a new respect for mother baby nurses. It is harder than I thought it would be.

Participants were also surprised at all the other issues that came up during their clinical experiences in the well-baby nursery and how much they had to learn.

> It has been kind of shocking what I did not know about that population. I guess it is some of the primary care stuff that I never thought about, or that could get bypassed. I didn't know the kind of murmurs they could have. Or what to look for as far as bilirubin went. I mean, when you have to decide if they can go home and we aren't getting all the labs we get in the NICU. I always want to draw more labs.
>
> Mostly in the well-baby nursery, there were a lot of things I did not anticipate there. Lots of skin issues, and feeding issues, and things like that. A lot of breast feeding questions I had not thought about. And, you know, all the follow up that you have to make sure happens.
>
> Even now, I see a baby and I look at an ear dimple, or a skin tag and I am like, oh, is that something to worry about, you know, like, should I get a renal ultrasound on that baby? And you know, probably not, but I have to learn to work through that. I always want to make them sick or something, or I think they need something. And my preceptor is like, no, they don't.
>
> I had no experience working there. So I have had to think about bilirubin and hypoglycemia, and murmurs and all those things in a different way than when I was in the NICU. All that stuff I really did not know before, although I thought I did.
>
> More information about breast feeding would be helpful, especially when I was in the well-baby nursery. I don't have much experience with that really. In the NICU the lactation nurse sees all the moms and I never really paid much attention to what she was doing. Now they ask me questions as the nurse practitioner and I don't really know as much as I should.

Other participants did not have delivery room experience prior to beginning their NNP program and were unprepared for what to expect, or what a baby looked like immediately following delivery.

> The delivery room has also been a huge adjustment for me, because I had not been exposed to that before. I didn't know what babies looked like right after delivery. I knew it would be an adjustment, but it has been more than I thought it would. I had never been to a delivery before, and even now I find myself thinking, is this baby fine or not?

> Most of my experience was at a free standing children's hospital. So babies didn't come to us unless they were sick. I wasn't used to babies in the delivery room or babies who were not sick. At this hospital I started to see that, getting a feel for the well baby. The kind of patients I never really saw before in the setting I was in. I didn't know what they looked like right after delivery. Or,I mean a baby who just has a low sugar and you have him for a day or something. I wasn't used to that. So it is good to learn the ins and outs of that, you know, why does it happen? I had to kind of work through that, not a well baby but more of a well baby; that has been a learning curve for me.

Finally, total parenteral nutrition (TPN) was something that they found difficult to do in the clinical setting and felt that their preparation during class was lacking. They had frequently hung TPN as nurses and expected that they knew more about it than they did. "I was used to telling the residents to order TPN. And I double checked it all the time. I thought I knew what was in it. I didn't expect it to be so hard to write." Another student expressed that even though it was covered in class, she was uncertain about what to do.

> My first semester was more level II babies. And I had not written TPN yet. I had seen it written but did not know how they did it or how the labs related. And we had kind of gone over it online, but I had never actually written it. And everyone uses different forms and things. So she helped me learn to write it. And after a time I learned to do it, I could start to figure out what labs to look at and what to order. I learned to go back to look at the previous labs and what changes were done before and could learn how they did it and how they were thinking. And then when you get a fresh baby and you have to write TPN from scratch, there is nothing to go back and look at. And I had to figure out how to start from the beginning. There wasn't really a standard. And some babies need it and some don't, and there are different windows for when to start it.

One student summed it up by saying "I think I am just surprised at how much stuff there is to know, and that I will never be done learning all of this. I can see I will keep learning stuff even after school for a long time."

Precepting and Working in Same Unit: Support and Awkwardness

Some of the participants were completing clinical hours in the same unit in which they worked as staff nurses. For some this was beneficial as they received support from fellow staff members, NNPs and physicians. Others found it awkward, or found that the staff was actually not supportive.

For some it was the relationship they had with NNPs before they started the program that encouraged them to become NNPs or helped them with the role transition. "Many of the NNPs that I work with are good at answering questions and I can always ask them why they were doing something or what they were thinking."

This knowledge of the role, and relationships with NNPs in the units where they worked had an impact on the study participants. For some it led to them thinking about the role or inspired them to become a NNP. For others it was a positive relationship where they felt comfortable asking questions or discussion patients with the NNP. Support from others was mentioned frequently by participants as being important in their transition to the NNP role.

> Everyone has been very, very supportive. I mean, I have worked there for a long time in a couple of different roles and I get along with most people, so it has been pretty good. Some are like, you know, "I am not happy you are doing this and won't be our manager any more, but you will be great."
>
> Some nurses were a little crabby, that I was leaving bedside nursing. They did not understand why I had made that decision, but overall, most of them were supportive.

Some mentioned how the NNPs and physicians they worked with knew they were in school, so would help them by challenging them, or encouraging them to make decisions even when they were working as staff nurses.

> When I work as an RN, the nurse practitioners know I am in school to be an NNP, most of them. So when I go to them with information that is abnormal they throw it back at me and say, well, what do you want to do? So that is good, they make me start thinking that way. So now I can look at labs and know what is likely wrong with my baby and can anticipate what they are likely to do."

Students mentioned that it was sometimes helpful that they knew the personalities of the nurses and physicians in the units where they worked and were now doing a preceptorship. They knew who was likely to be helpful and who was not. They also knew how to approach various people to get their questions answered. They knew them and knew how they worked.

> I think it is helpful to know the nurses and how they think, what they are trying to tell me or what they mean when they tell me something. As far as working with the attendings I don't think it will be a big problem because I know them already and I am used to how they work.

> I know the neonatologists and their personalities, and I know the practitioners, so coping with that I know how to approach and who to approach and what their personalities are and how they might respond, so I know that has helped in my unit. So I think I have relied on that some. You know, sample questions, depending on who the neonatologist is I feel more comfortable with some than with others. Some I wait for my preceptor to go with me. So I know when to approach them and who to approach.

Others worried about making a bad impression on those who perhaps recommended them for a NNP program, or were planning to hire them once they were done. One said "I have a job, I guess anyway, assuming I pass. It would be embarrassing if I don't." Another said

> There is a girl ahead of me right now in the unit. She will graduate this August and she has been doing her clinical in the unit where we work. She seems to be doing OK. I think it will be fine. I mean, it will be a little awkward at first,

> transitioning between the nursing role and the NNP role, especially in the unit where I work, but as far as communicating, you know, with the nurses who have the babies I am assigned. I think it is helpful to know them, and I know how they think, what they are trying to tell me or what they mean when they tell me something. As far as working with the attendings I don't think it will be a problem because I know them already and I am used to how they work. They recommended me to go to school, so I don't want to seem too bad.

Another participant voiced the worry about how she would look performing skills in front of peers that she knew and worked with as a staff nurse.

> It's funny how the bulk of the curriculum is theoretical material, and how important it is for your understanding of how to perform in the role and put things together, but how, as a student, all you think about are skills and how important skills are. I have to think about not only what is happening with my respiratory problem, and what does it mean and what is my plan going to be, and how am I going to wean the baby from the ventilator. And that is what I should be thinking about. But what I am really thinking about is how many people say that I didn't get that PAL line in.

Other participants were worried that they would not master skills and that would be noticed by other NNPs and nurses and reflect poorly upon them.

> I have trouble with intubations. I wish my percentage of success were better. But I still miss some and I guess, I definitely have a mental block about intubations, because I am remembering something that someone said to me, at least what I thought they said, I don't think they really said it, that if you can't intubate every time you can't be an NNP, you can't pass. I don't think they really said that to me, but at one point I thought that was what they were saying, and I think I have a mental block about it.

Some felt that the transition contained some unexpected difficulties. For some it was transitioning to the NNP role from a staff nurse role in the same unit. "It is a little awkward, transitioning between the nursing role and the NNP role, especially in the unit where I work." Another told how the nurses bypassed her and went to the "real NNP" with questions, even though she had worked with them as a nurse and they knew her. Some found that working with physicians and practitioners they knew was not always in their best interest.

> In a system like I am in, if you are an established RN in that unit and you already had established relationships with the doctors, you could either, because they know you, what you know, they might not push you as much, or they might not let you finish a thought before they attack you or they could also give in to their personal quest to push you and make it difficult. And it is frustrating because I am the kind of person who loves being quizzed, I want you to ask me questions and see what I know, and push my knowledge base, but if you are doing it in an aggressive manner where you are completely invalidating anything I have to say as being stupid and wrong before I even get from A to B. It is just not a very good learning environment.

A couple of students felt that when they were working as staff nurses, their questions or concerns were discounted by the NNPs who were on, that the NNPs assumed that the nurses were challenging them because the nurses were NNP students.

> There was one particular night I was working and taking care of a baby. I was thinking about what was happening with my baby and what my differential diagnosis was. Then I thought, oh, I am practicing out outside my scope of practice with this. And then I reported to the NNP and she actually took me less seriously, because she thought I was challenging her because I was a student.

> There are some things we do in my unit that are different than what I am learning in school so that is hard. I can't bring that up with everybody. I ask questions and they are like, oh, now you're a student you are going to tell us what to do. So some are supportive about that and some are not.

Decision Making and Communication Related to Role Transition

Students were asked to describe a time when they felt they were making the transition to a NNP role. Students primarily described times when they were able to make decisions or discern what was likely to happen to their baby.

Determining a diagnosis was an area where several participants discussed the different perspective they had to take as NNPs. They had been taught that nurses could not make a diagnosis, and had learned to talk around it, or talk about diagnoses in terms

of nursing problems. As staff nurses they knew the diagnoses of the babies they were caring for, but they had trouble actually stating the diagnosis, even with the knowledge they had gained in the program.

> I had it so ingrained in my head that nurses cannot diagnose, that it was difficult. Having to say what was really wrong with the baby, and committing myself to naming it. That was really different for me.

> I am becoming more aware of creating a differential diagnosis and that type of thing. That is not really your problem as a bedside nurse. I mean, lots of times you can figure out what is wrong with the baby, especially if you have a lot of experience, but now I have to figure out a list of what could be wrong and what is most likely. That has been a definite transition.

Being able to determine a diagnosis, think about possible diagnoses, and make a plan for the baby was something that made them feel more like a NNP. They also appreciated the difficulties of this. One student noted that "it is easy to have an opinion about what everyone should do, and then when you have to be the one to make a decision it is different." Another student expressed that "it is a big responsibility and a higher level of responsibility for knowing what to do."

Students talked about a different perspective, or a way of looking at the whole baby, not just fixing the problem at hand. They had to think about what the possible diagnoses could be and then think about possible treatment plans for all of the problems the baby might have.

> I was taking care of a baby that started having apnea, so I could go through the checklist in my head – you know, is it central, is it obstructive, what labs are going to be ordered, what things I might try. Before I would just notify someone and figure they would order some labs and maybe caffeine and that would be that. I never thought about all the reasons a baby might have apnea. Or before, if I knew the baby had respiratory distress I knew he was having breathing problems. Now I consider it to be a sepsis issue or respiratory distress syndrome or PPHN, so I know all the reasons there might be a breathing issue.

Another talked about seeing the bigger picture.

> It definitely gives me a different perspective. I can think about what the plan is for a particular diagnosis, and sort of, you know, see the bigger picture. Some things I have a better understanding of."

Others found it sometimes difficult to transition to taking on the role of the NNP

> It was hard to get out of a nursing mind set and into a NNP mind set, and to leave the nursing tasks for the nurses. I can see some progression, like moving from taking care of one baby to taking care of more babies. So that is good.

> Like when I do an assessment on a baby I find always find myself looking at the IV site, and wondering if the site is OK, if I need to replace the IV or something even though I know that is not really my job. I am thinking about what the staff nurse does, instead of what the NNP does, you know. So I have to work on that.

Different expectations regarding communication with staff and families was something noted by the participants and made them feel like they were changing to an advanced practice role. One student expressed the new experience of talking to a parent about findings on a baby and being able to explain the plan of care, rather than relying on the NNP or physician to do it. The experience made her feel more like a real NNP.

> For instance, I had a baby in the nursery with a murmur. Before I would have just told the parents there was a murmur and I would have someone talk to them. Then I would get the NNP to do it. I thought I would just have the pediatrician talk to these parents but she (preceptor) made me do it. She went over what to say; what it could be, what we were going to do, and I went out there and told them everything. I could answer their questions. I might have been able to do that as a staff nurse but I did not think I was allowed to do something or I did not want them to ask questions I wouldn't know. So, I felt like a real NNP doing that, or at least I felt like I could be.

Another spoke of talking to staff or others in the unit, saying "it gives me a little more of an ability to explain things when people ask me questions, like why are we doing this or that. You know, or what is going on with the patient." Another said "I feel really good when an experienced nurse asks me something and I know the answer and I think wow, I really am learning something."

One student, who had worked primarily as a mother baby nurse before transferring to the NICU and then going to an NNP program spoke about the differences in decision making that the role has required.

> I think part of it, as a mother baby nurse, you are used to, I mean, I had ingrained in me a lot more of stepping back and letting someone else make decisions or call the shots, because you always do step back. So that whole thing 'oh, it's me who has to make the decision' is really hard.

Support from Others Related to Role Transition

Participants talked about the role of their preceptors and the importance of support in their transition to the NNP role. Most students were doing their first or second clinical rotation so had experienced one or two preceptors thus far in their program. Some stated that they appreciated how much help their preceptors were and how good they were at explaining things to them.

> I have great preceptors that have really helped me. Good at explaining things, you know, this is why we do this or that. They all came from different programs so sometimes they have different perspectives, you know. It is kind of interesting to pick their brains, you know, why do we do this or that.

Another participant said

> My preceptors tell me what is going to happen and I go review my notes, and then we talk about what we are going to do, the next step and stuff like that. They have been great. I suppose the newborn nursery is the one place that was unfamiliar where I thought I didn't know enough, but my preceptor was great there as well.

Other participants explained that their preceptor was always willing to answer questions and did not let them go off on their own right away. One said "My preceptor is always there to answer questions." As they became more confident, they appreciated preceptors that allowed them more independence.

> In the beginning it was mostly following someone around, learning the computer, the routine, taking one easy baby, charting, learning to write orders, becoming

> familiar with those basics, you know, before doing sicker babies. I was then doing a couple of level II babies, then progressing to more babies and then to eventually taking the whole team. And they were fairly confident at the end that they would kind of hang around and be available, so over time it went like that.

> As I was moving along and progressing I was allowed to do things, like, OK, you are going to this delivery by yourself but I will be there outside the room, that progression, first together and I would watch, and then later stand back, and then eventually you can go by yourself. It wasn't like just boom, out OK, you're fine. I think my preceptor really learned my style and what I was capable of doing then backing off. The other good thing was starting with one or two babies who were not very sick then progressing to doing more babies.

One student reported that her preceptor was not very helpful and that made the transition more difficult in that unit.

> I was going to a unit I was not familiar with and I didn't know the staff or physicians, or where anything was. And my preceptor was not very good at explaining everything, or really giving background information. She sort of expected me to know everything. And, you know, people do things differently. So I wasn't sure how they did things like starting TPN. Writing TPN is hard anyway. It seems like we learn what should be in it in class, but not really how to write it. And everyone has different forms or different rules.

Another expressed that some seemed to forget what it was like to be new.

> If you can remember what it felt like to be new and make that person feel welcome and act like you are interested in them, and foster their development, that goes a long way. But attitude is a huge piece of it, and wanting to help someone be successful. Then being willing to figure out their learning style, and helping them get the things that they need to make the end product be successful.

Some preceptors and staff protected their student from physicians or others who they thought might be less supportive. One participant reported that her preceptor would go with her to talk to some physicians. Another reported

> There was a baby, a diaghragmatic hernia that I wanted to make some vent changes that made sense in my brain. And we were doing rounds and the physician questioned me on my vent changes, so I explained what I was thinking and he was OK, I can see why you thought that, and maybe on this kind of kid I would do this instead. I was fine with that you know, and afterwards the nurse came up to me and said "I just want to let you know that we all love you. And we were all so offended that Dr. H. criticized you and questioned you like that. And I was like, what? I had

> already forgotten because it had not impacted me like that. I want people to question me so I learn stuff, I thought nothing of it. But the nurse thought it was terrible.

Participants found it helpful to hear from NNPs that it takes time to transition to the NNP role.

> It is really helpful to have people tell me that it takes two to five years to be comfortable in the role. A lot of people have said that to me over and over, and it is really, really helpful. You can't hear that enough. I really appreciate that everybody told me that. Even the really good ones told me that. It is very reassuring.

> I asked a friend of mine, did you feel like a NNP when you graduated. And she said no, I felt like I would be the best bedside nurse in the world but I didn't feel like I could be an NNP. And she put it so perfectly, because now you are learning why you are doing something. So it is making the transition from the best bedside nurse to an NNP.

Some found that preceptors were not as helpful as they could be. One in particular described a particular difficult time she had trying to gather data and make a plan on her baby before rounds.

> So there was one occasion that I felt very frustrated with my patient load, that I couldn't get everything done. I was just gathering numbers and making a plan without even seeing the baby which is so wrong, and I am trying to present my baby in rounds and I have maybe eyeballed my baby over the top of the crib and I had one of them tell me, oh well just, you know, fudge your way through rounds and then you can always go back and fix something. And I am like, well yeah, but I don't like that. I think they were intimidated by the physicians as well, being rather new practitioners and they were not very supportive. They had their own relationships they were trying to foster.

Support from physicians was variable. One participant had a physician as her preceptor during a recent rotation. "I am learning a lot from her. It has been a really, really good experience. Others found some physicians to be less supportive.

> The physicians, well, there are some that are very supportive, want to teach and really want to help you. They feel that is part of their role. Then there are others who take it upon themselves to be as difficult as possible and just rake you over the coals for everything you say.

> I would be in charge of a patient and the fellow would come in and make changes or whatever and in report, he hasn't told me he made those changes so then I look like a complete idiot because he is like, no it's not this, it's this, so that was frustrating. Or if I put out my plan to discuss it, he would be like, why are you doing that?

One student with less RN experience in the NICU expressed a different viewpoints bout the support she received from NNPs and staff nurses in particular and shared that she felt she was viewed with suspicion.

> I think there is a cultural issue when you are transitioning to the role and have not been a NICU nurse. People are suspicious, or mine I think, were a little prejudiced and I was working in the NICU while I was in school, so I think if I had come in and had only worked med surg or as an OR nurse and said I wanted to be an NNP, I bet they would have said no. And I felt like there were a couple of people who, you know, they didn't think I could come into the NICU period. How could a mother baby nurse work in here?

She did learn from staff nurses in some instances, although they were not necessarily supportive about it and felt like they knew she lacked some knowledge.

> There were certain things, like the different modes of ventilation we learned in class but it would have been easier if I had more experience. I could learn the basics out of the book, but there were subtleties that I had not picked up in my experience in level III in the time I had. I remember one experience that, we brought back a baby that maybe had a little mag effect, you know, and we brought it back and she was doing pretty well but in the end was a little borderline. So, um, somebody said, you know, put the baby on CPAP and I said, well this is going to sound stupid, but I said, well the sats are good. The CPAP is just going to irritate her. And the nurse said, well, that's the point, and laughed. She didn't need oxygen. But she did need to be a little irritated to way up and breathe. And I thought, OK, well you know, all the books in the world don't explain that kind of thing. They don't help me whip that out the way the experienced NICU nurses did.

Summary

Five themes each were identified from the interview data. The themes included: *Reliance on previous knowledge; Identification of knowledge deficit related to expert to novice; Precepting and working in the same unit: support and awkwardness; Decision*

making and communication related to role transition; and *Preceptor support related to role transition*. Participants described times where they relied on previous knowledge during their NNP programs. They described having "seen it before" when discussing common diseases and problems of the neonate during their program. They described the difficulty of times when they felt they lacked knowledge or felt like they did not know what they were doing, particularly when working in an unfamiliar area like the well-baby nursery. They described the experience of doing clinical rotations in the same unit in which they worked as a staff nurse, the good points about it and the areas that were difficult.

Two themes related to role transition. The participants described times they felt like they were making decisions or were able to communicate data to staff or to families that made them feel like they were making the transition to the NNP role. In addition, they discussed the importance of support from staff, NNPs and physicians, both those they worked with in their current work settings and those they encountered during their clinical rotations in the NNP program.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This qualitative study describes the experiences of 10 RNs in the first year of their NNP programs. The purpose of the study was to explore the experiences the students have had during this time. Students from eight different programs were asked to participate. This chapter will briefly review the purpose and research design of the study. Comparison of the results with the literature and theoretical context will be discussed, along with recommendations for further research, and implications for NNP education.

Discussion of Results

The purpose of the study was to explore the experiences of registered nurses (RNs) during their first year in a neonatal nurse practitioner (NNP) program using a phenomenological methodology. Ten current NNP students were interviewed for the study. The participants had one and a half years (one participant) to more than 13 years experience in a neonatal intensive care nursery (NICU) prior to beginning their NNP program. Interviews were conducted by phone and audio taped, then transcribed by the researcher. Five themes were identified from the data. The first theme identified was reliance on previous knowledge. The second theme was identified as identification of knowledge deficit related to expert to novice. The third theme that emerged was precepting and working in the same unit: support and awkwardness. Two themes related

to role transition were decision making and communication, and preceptor support. The discussion in this chapter will be organized by the themes uncovered and their relation to existing literature, followed by a summary of findings and recommendations.

Reliance on Previous Knowledge

There is little published research that could be found on how nurse practitioner students might draw on previous nursing knowledge during their NP programs. Because all of the participants who were interviewed had at least some NICU experience it is not possible to determine that prior experience is necessary or desirable in NNP students. However the participants did speak about times they relied on experience and the surprise they found in being in areas they were less familiar with (well-baby nursery and delivery room).

Nearly all of the participants described scenarios where they relied on having "seen" things in their nursing practice that were later talked about in class or encountered in their NNP clinical experience. The ability to build on this prior knowledge may be valuable in learning the NNP role, although there is no evidence to suggest that one without previous experience could not learn the material given adequate instruction and support. Fleming and Carberry (2011) describe the experience of critical care nurses who transition to the role of advanced nurse practitioner in an intensive care unit (ICU). The participants describe using their previous nursing knowledge and building on that knowledge as their ability to perform the role increased. Cusson and Strange (2008) noted that the participants in their study with less staff experience required more time to adapt to the role of the NNP. However, faculty in nurse anesthesia programs tended to rate experience lower than other attributes such as integrity, common sense, hardiness, self

confidence, and ability to learn as more important than RN experience (Burns, 2011; Wong & Li, 2011; Hulse et al., 2007). Literature related to student success in NNP programs was not found in the literature review, so it is unknown if the findings in this study would be consistent with other NNP students.

Participants described previous RN experience as preparing them for the NICU environment. The NICU can be an overwhelming place for those who have not spent time in this unique environment. The myriad of equipment, sound, personnel, and activity are intense. The sight of premature and sick neonates can be disturbing to those who are not used to the patient population. This is consistent with Cusson and Strange (2008) in their study of NNP role transition, They reported that participants who had previous staff nurse experience in the NICU reported a "familiarity with the hospital, unit, and staff" and described a "less difficult transition" (p 335).

Identification of Knowledge Deficit Related to Expert to Novice

Benner (2001) describes the concept of changing from a role in which one is an "expert" back to a novice role. Participants described the feeling of being confident staff nurses and now being uncertain in the NNP role. Benner describes the ability of previous experts to transition more quickly from novice to competent and beyond by drawing on previous knowledge gained in the clinical setting. Steiner, et al. (2008) and Forbes and Jessup (2004) also described this discomfort which NP students experienced as going backward to a less competent level of expertise. Lack of confidence can lead to difficulties in decision making and a fear of being wrong. Fear of not being perceived as competent can hamper new advanced practice nurses and requires both an ability to self reflect and a willingness to admit one's limitations (Forbes & Jessup). One student who

had been a transport nurse talked about how she had expected the transition to be easier, because she was used to a more independent role. She was surprised at how little she knew, and this caused her some self doubt and lack of confidence.

Interestingly, the participants spoke in detail of their experience as NNP students in the well-baby nursery, a patient population with which they had very limited experience. They expressed surprise at the unexpected diagnoses and problems that they discovered there. While they were able to rely on some previous experience in physical assessment and common newborn problems, this knowledge was recognized as superficial and not at the depth needed to care for this patient population. Considering that a number of NNPs work in community hospitals and care for this patient population, this knowledge is important in the education of NNPs (Hatch, 2012).

Precepting and Working in the Same Unit: Support and Awkwardness

Several participants spoke about the benefits and pitfalls of doing clinical rotations as NNP students in the same unit where they worked as staff nurses. Benefits included knowing the people they worked with, and knowing the layout of the unit, the equipment, and the routines. Disadvantages included preconceived ideas about the student from staff or physicians, and a fear of looking bad in front of peers. Cusson and Strange (2008) found that most new NNPs found returning to their previous unit was beneficial and made for an easier transition to their new role. However, others who began in units where they were not previously employed as staff nurses found that they were more readily accepted in their new role by staff in the new unit. This was offset by increased time spent learning a new culture and routine.

Decision Making and Communication Related to Role Transition

The participants were asked to describe their experiences transitioning to the NNP role. Much has been written in regards to transition from the RN to advanced practice role, although less has been published about the NNP role specifically.

Participants described their increased knowledge base as an important factor in transitioning to the NNP role. They described times that they could take the knowledge they learned and either apply it to their clinical rotations, or apply it to the babies they were caring for in their staff nurse role. The experience of learning "why" something was done was very gratifying to the participants and was noted by one participant as the reason she started a NNP program. This knowledge acquisition is important for role transition, and comforting to the new nurse practitioner who may have gone from being an "expert" staff nurse to a "novice" NNP (Cusson & Strange, 2008; Benner, 2001). The ability to make decisions about their babies, or form a differential diagnosis was mentioned by several participants.

The participants also expressed gratification at being able to explain various conditions to parents or to other staff members. Talking to parents was mentioned by one as something she expected the NNP or physician to do, and was surprised not only that she could do it, but could answer the questions the parents had. Others mentioned being more confident in explaining diseases or plans of care to other staff members. Other aspects of role transition that are found in the literature such as role ambiguity, the uncomfortable feeling of being a novice again, and the worry of making the wrong

decision (Cusson & Strange, 2008; Cusson & Viggiano, 2002) were mentioned by some, but not all of the participants, mostly in the context of learning to make and declare a diagnosis.

Support from Others Related to Role Transition

Support from other team members in the NICU was described as very helpful to NNP students. They were encouraged by other NNPs or physicians who helped them orient to new units, find answers to questions and assured them that they would be successful in the role. Cusson and Strange (2008) describe this support as one of the most important factors of successful transitioning to the NNP role. The new NNPs in their study described lack of confidence and anxiety which was exacerbated when staff nurses, NNPs or physicians were perceived as unsupportive or difficult. NNP coworkers were especially influential and their mentoring made an enormous difference to new NNPs. Indeed, perceived lack of support from staff, physicians, and NNPs was one reason NICU nurses were not interested in pursuing the NNP role (Rasmussen, Vargo, Reavey & Hunter, 2005). On the other hand, support and encouragement from co-workers, NNPs and physicians was a motivating factor in enrolling in a NNP program (Brand, 2013).

New NPs in an adult acute care setting as described by Fleming and Carberry (2011) also reported the importance of support from peers, supervisors, and physicians. Feeling like part of the team, assistance in achieving competencies, and resolving conflict were cited as important pieces in transitioning to an advanced practice role (Fleming and Carberry). Spinks, in a 2009 article describing her own transition to an advanced neonatal nurse practitioner (ANNP) role, cited the importance of support from experienced NNPs and a mentor. Overall, the findings were consistent with literature regarding role

transition, particularly in regards to the importance of support from NNPs, staff, and physicians, and the feelings consistent with going from an expert to a novice role.

Limitations

There are a number of limitations to this study. Participants were a small group of NNP students who were in their first year of a nurse practitioner program. There was only one male in the group and nine females. This is likely reflective of the limited number of male NNPs currently practicing. Participants were from 7 different states, including Alabama, Texas, Tennessee, Minnesota, Missouri, New York, and Colorado. Because of the NANN guidelines the majority of programs only admit students with NICU experience, so NNP students who did not have NICU experience were not available to be interviewed. Only one student had less than the two years of NICU experience, although she had experience as a mother baby nurse and had been in the NICU for just one and one half years at the time of the study. While the majority of responses are consistent with the literature, there are some areas that have not been described, such as the experience of the students in the well-baby nursery and the delivery room.

The majority of students (eight of ten) were in online programs. Likely this is because the majority of NNP programs are online or is hybrid models (Bellini, 2013). The researcher purposefully excluded students from her own program which is one of the two campus based programs in the United States.

Given that all participants had been NICU nurses for at least some period of time, the sample was a fairly homogeneous population of nurses who had self selected to work in a NICU and then pursue an advanced practice role in that setting. It is possible that a similar study with other types of advanced practice nurses such as family nurse

practitioners who come from a variety of backgrounds would yield different results. Repeating the study with students in advanced practice programs would also provide some valuable information.

Implications for Nursing and Curriculum Design

The continued increasing need for NNPs in the United States has led nursing educators, hospital administrators, and practicing NNPs to look at ways to increase the NNP workforce (Bellini, 2013; Freed et al., 2010). Bellini cites data that shows a decrease in the number of NNPs graduating from programs of 23% between 2009 and 2013. This is alarming for a number of reasons: the increase in community hospital NICUs who would like to employ NNPs, decreased medical resident hours in NICUs, the increased age of the NNP workforce, and the possible requirement of the DNP as entry into practice. This has caused some debate among NNP faculty and practicing NNPs as to the requirement for two years RN experience prior to entering a NNP program. The NANN requirements were changed in 2009 to require only one year experience, then changed back in 2014 to two years experience, citing anecdotal evidence as the reason for the change (NANN, 2014b). While this study does not answer the question about having NICU experience, participants did describe times that they relied on their previous experience, both in class and in the clinical setting. However, the study did not explore other characteristics that might impact success in a NNP program, such as integrity, self confidence, ability to learn, self awareness and common sense as described by nurse anesthesia faculty as essential for success (Burns, 2011; Wong & Li, 2011; Hulse et al., 2007). Exploration of these characteristics and their relationship to success in a NNP program would be enlightening.

In addition to the student explanation of using prior knowledge, the discussion of lack of knowledge was interesting to the researcher as a faculty member. Many of the participants described lack of knowledge in the well baby nursery, as they had not had experience in this area in their nursing careers. This suggests that perhaps increased time spent in educating NNP students about this population would be helpful, especially as many will likely work in community hospitals during their careers. Increased experience in the delivery room would be important as this is a critical role for most NNPs. Didactic education and increased clinical experience should be considered when reviewing NNP curriculum guidelines in the future.

Suggestions for Further Research

This study describes the experiences of NNP students during their first year in their NNP programs. While students described their use of prior knowledge and their experiences of transitioning to the role of the NNP, additional studies may be helpful. In determining length of experience necessary for success in the NNP role it may be useful to explore the experiences of those who work with NNP students, including NNP preceptors, physicians, and staff nurses who have experienced NNP students in their NICUs. The perspective of newly graduated NNPs could also be useful, in particular looking at their transition to the role in their first job and how they used previous knowledge and experience. Because these students were in their first year of their programs, their clinical experience in the NNP program was limited mostly to the well baby nursery, with only three students giving examples of prior knowledge in a level III clinical setting. The impact of preceptors could also be explored as the support of preceptors and others has an impact on the role transition of new NNPs.

The impact of personal characteristics on success in a NNP program, or other types of advanced practice roles, would be an interesting area to explore. Gardner, Hase, et al. (2007) explored the concept of capability and how it related to nurse practitioners in clinical practice. Further exploration of this concept may be helpful to faculty and preceptors in mentoring students in an advanced practice role.

Limited data were found reporting the experiences of advanced practice nursing students who did not have prior nursing experience. There are programs that are accepting and educating advanced practice nurses without previous experience. Research regarding their experiences would be particularly useful when the question is posed about the need for nurses to work as a RN in the NICU for a period of time prior to entering such programs.

Conclusion

While the question of requiring previous experience cannot be answered from this study alone, it is worth exploring how to market the NNP role, and once students are enrolled in a NNP program, how to help them draw on the knowledge that they have. Neonatal nurse practitioners can serve as mentors and role models in encouraging staff nurses to return to school and in helping students transition to the NNP role. Further research on the impact of previous RN experience, or lack thereof, would be useful in establishing or revising admission criteria and curriculum guidelines.

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APPENDIX A

IRB APPROVAL LETTER

Appendix A
IRB Approval Letter

UNIVERSITY of NORTHERN COLORADO

Institutional Review Board

DATE: May 13, 2013
TO: Catherine Witt
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [419643-1] THE EXPERIENCE OF RNS DURING THEIR FIRST YEAR AS NEONATAL NURSE PRACTITIONER STUDENTS

SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: May 13, 2013

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

Clear and thorough application.

Best wishes with your research.

Sincerely,
Dr. Megan Stellino, UNC IRB Co-Chair

We will retain a copy of this correspondence within our records for a duration of 4 years.
If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu.

Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX B

NANN RESEARCH REQUEST FORM

Appendix B

NANN Research Request Form

Request for Distribution of Research Survey

To make use of the NANN web site, listservs, conference, mailing labels, or other resources to distribute a research survey to NANN members, please complete this form, and submit a copy of the survey, IRB approval, and a summary of the research protocol (no longer than 3 pages) to the NANN national office.

Name:_____Catherine Witt_____

Institution:___University of Northern Colorado_____

Address:_17586 E. Dickenson Place, Aurora, CO 80013_____

Phone:_303-550-3426____ **Email:**__clwitt@compuserve.com_____

Title of Survey: Experience of RNs during their first year as Neonatal Nurse Practitioner Students

Purpose of Survey: For my doctoral dissertation I am looking at the experiences of NNP students and how they draw on their previous RN experience during their program. The survey will provide background demographic information and determine if participants are willing to be interviewed regarding their experiences as NNP students.

Distribution method requested: (website, conference, listserv, mailing labels)

____Listserve_____

Desired start date:___January 31, 2014_____
Desired closing date:_April 1, 2014_____

Return this form to:
NANN Research Surveys
4700 W. Lake Ave
Glenview IL 60025
Fax: 800/451-3795
Email: info@nann.org

APPENDIX C

DEMOGRAPHIC QUESTIONS

Appendix C

Demographic Questions

1. What is your age?
    a. < or equal to 25 years
    b. 26-35 years
    c. 36 – 45 years
    d. 46 years or greater
2. What is your gender?
    a. Male
    b. female
3. What is your ethnicity?
    a. African American
    b. Asian
    c. Caucasian
    d. Hispanic
    e. Native American
    f. Other
4. How many years of RN experience did you have prior to entering an NNP program?
    a. 2 years or less
    b. 3 – 7 years
    c. 8 – 12 years
    d. 13 years or greater

5. Did you work in an NICU prior to entering an NNP program
    a. Yes
    b. No
6. If yes, in what level NICU did you spend most of your time?
    a. Level II
    b. Level III
7. Would you be willing to participate in a telephone interview lasting approximately 30 minutes regarding your experiences as a NNP student?
    a. Yes
    b. No

APPENDIX D

INTERVIEW GUIDE

Appendix D

Interview Guide

1. Tell me about your experiences in the NNP program.
2. Describe for me a time when you felt you were making the transition to the NNP role.
3. Tell me about your experiences in the NNP program.
4. Tell me about a time when your previous experience as a RN affected your NNP experience.
5. Describe a clinical experience in your NNP program which you felt reflected your need for more information.

APPENDIX E

CONSENT FORM

Appendix E

Consent Form

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO
Project Title: THE EXPERIENCE OF RNS DURING THEIR FIRST YEAR AS NEONATAL NURSE PRACTITIONER STUDENTS

Researcher: Catherine Witt, MS, RN, NNP-BC

PhD Student, University of Northern Colorado School of Nursing

Phone Number: (303) 550-3426

Research Adviser: Dr. Janice Hayes

Phone Number (970) 351-1690

I am a PhD student at the University of Northern Colorado. I am researching the experience of RNs during the first year of their NNP program. The purpose of the study is to look at new NNP students and their experience during their first year as they transition to the role of NNP.

Your name was acquired as a response from a survey distributed through the National Association of Neonatal Nurses of which I am a member.

As a participant in the study you are being asked to complete a brief written survey and to participate in a telephone interview asking about your experience as a first year NNP student. The interview will take approximately 30 minutes to one hour and will be conducted by phone. The interview will be audiotaped.

Every effort will be maintained to protect your confidentiality. All surveys and interview data will be separated from this consent form. Your name, address, or place of employment will not be shared with others or included in any professional report of this research. You will be assigned a code name known only to the researcher. The surveys will be kept in a locked file

drawer in the office of my advisor. All audio taped interviews will be transcribed and the name of the participant will not be on the transcription. The audio tapes will then be destroyed. The transcriptions of the interviews will be kept in a locked file cabinet accessible only to the researcher. Your name, address, school, or place of employment will not be included on the transcriptions.

The requirement from you as a participant is the amount of time it takes to complete the interview. I foresee no risk to the participants other than the risk of minor discomfort that may be encountered in answering survey questions. There are no consequences for choosing not to participate. There is no compensation for participating.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please sign below if you would like to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-2161

_____ _____

Signature Date

_____ _____

Researcher's Signature Date