CHAPTER 5:

COMPETENCES AND PROFESSIONAL CHARACTERISTICS EXPECTED OF REFLECTIVE NEONATAL NURSES

5.1   INTRODUCTION

The first phase of this study focused on identifying and clarifying concepts related to the education of reflective neonatal nurses in a South African context. This phase was addressed in the two previous chapters, in which a thorough literature study allowed the South African higher education system to be explored, especially as relevant to post-basic nursing education, neonatal nursing students and reflective learning to be broadly described.

This chapter discusses the second phase of the study, namely clarifying and describing concepts in neonatal nursing practice that are important for educating reflective neonatal nurses. The following concepts related to neonatal nursing practice were identified: neonatal patients, neonatal nursing practice environment, family-centred care, multi-professional teamwork and professional nursing practice. Based on these concepts, competences and professional characteristics expected of reflective neonatal nurses were formulated.

The objectives of this phase were: to explore and describe the attributes of neonatal nursing practice and what it demands from reflective neonatal nurses, to synthesise the expected outcomes of the programme (applied competences and professional characteristics), and to deduce the outline the contents of an educational programme for reflective neonatal nurses. These objectives contributed to the development of a model for education of reflective neonatal nurses, particularly the purpose (content outline and competences expected of reflective neonatal nurses), framework (neonatal nursing practice in the South African context) and recipient (professional characteristics expected of reflective neonatal nurses).

The research design and methodology were described in Chapter 2. The attributes and demands were verified with literature control. The competences and professional characteristics expected of reflective neonatal nurses were deduced from these described attributes and demands, and were evaluated by means of peer review.

5.2   ATTRIBUTES AND DEMANDS OF NEONATAL NURSING PRACTICE AND COMPETENCES EXPECTED FROM REFLECTIVE NEONATAL NURSES

An *attribute* is 'a quality or property inseparable from anything; that which can be predicated of anything' (*Webster's New Dictionary and Thesaurus* 1990:48), or 'a quality ascribed to person or thing; characteristic quality; object regularly associated with person, etc.' (*The Oxford Combined Dictionary of Current English & Modern English Usage* 1987:15). The term 'attribute' is used in this study to mean a characteristic or quality that can be predicated or associated with neonatal nursing practice.

A *demand* is defined as 'the asking for what is due; an asking for with authority; an urgent claim; desire shown by consumers' (*Webster's New Dictionary and Thesaurus* 1990:156); 'request made as of right or peremptorily; urgent claim; desire of would-be purchasers or users for commodity' (*The Oxford Combined Dictionary of Current English & Modern English Usage* 1987:71). As a verb, 'demand' is defined as 'require; call for (tasks that demand special knowledge); requiring skill or effort' (*The Oxford Combined Dictionary of Current English & Modern English Usage* 1987:71). The term 'demand' is used in this study to mean what is required of, called for or requested from reflective neonatal nurses as a result of the attributes of neonatal nursing practice.

The concepts *competence/s, professional characteristics* and *process of reflective learning* were clarified in Chapter 4. Competences include reflexive, foundational and practical competences. Reflexive competences are not discussed separately in this chapter, as they comprise the abilities (low cognitive, high cognitive, reflective and critical reflective skills) inherent to foundational competences. Thus foundational and practical competences, with professional characteristics, are the focuses of this chapter. It is important to note that reflective learning drives the process of developing these competences; this kind of learning involves critical, clinical, reflective and critical-reflective thinking/reasoning.

Foundational competences includes the different levels of knowledge, namely:
- empirical-analytical knowledge, which is concerned with facts and figures and their descriptions (Duan 2006:4; Smith & Lovat 2003:88-90; Van der Horst & McDonald 2001:36-39),
- historical-hermeneutic knowledge, which involves applying, manipulating and using knowledge (critical thinking and reasoning), as well as giving it meaning within the context and against the background of ones own experience and personal knowledge (Duan

2006:4; McEwen & Wills 2002:15; Smith & Lovat 2003:88-90; Van der Horst & McDonald 2001:36-39) and

- critical or self-reflective knowledge, also known as internalised knowledge, which arises from the combining of experiential knowledge and research-based knowledge (Endres 2005:1-9; Jarvis 1992:178; Rolfe 2000:175-178).

Practical competences are the abilities to successfully execute technical tasks; it requires coordination (for example eye-hand coordination) and the relevant gross and/or fine psychomotor skills (Duan 2006:10; Olivier, 2002:37-38; Van der Horst & McDonald, 2001:36). To be competent practically an individual nurse needs to know subject-specific skills and algorithms (nursing skills), subject-specific techniques and methods (nursing process), and also the criteria for determining when to use appropriate procedures such as diagnostic and laboratory tests (Duan 2006:4).

The categories into which the data is grouped, which were identified from neonatal nursing practice, are: neonatal patients, neonatal nursing practice environment, family-centred care, multi-professional teamwork and professional nursing practice. The data will now be presented.

5.2.1 Neonatal patients

Neonatal patients are the core concern of neonatal nursing practice. They are an exceptionally vulnerable and high-risk group of patients due to their total dependence, poor communication skills and unique mental health needs, as well as their unique anatomical features and physiological needs, their immaturity and the wide range of neonatal health problems and congenital conditions to which they are prone.

Factors that contribute to the vulnerability of neonatal patients are their total dependence on others for care, their poor ability to communicate and their unique mental health needs. For these reasons they are protected legally by the Bill of Rights in the Constitution of South Africa, Act 108 of 1996 (South Africa 1996:13-14), the Child Care Act no. 74 of 1983 (South Africa 1983), and the Children's Bill (South Africa 2003). Infants in their capacity as 'patients with special needs', who are dependant on nurses for their care, are also protected by nursing legislation (SANC 2004:13-14; SANC 1992b:1-5).

The importance of physiological and behavioural cues as neonatal infants' attempts to communicate has been widely discussed in recent years, and guidelines for interpreting infants' language or stress cues have been developed as part of the developmental care approach (Als & Lawhon 2004:47-64; Gardner & Goldson 2002:219-282; Harrison, Roane & Weaver 2004:236-245; Hennessy 2004:29.31-29.34; Modrcin-McCarthy, McCue & Walker 1997:62-71; Raines 1993:43-48; Symington & Pinelli 2003:1-34; White-Traut 2004:235). These cues must be carefully interpreted, with delicate discrimination between fine nuances, before clinical decisions are based on them. The patient cannot be asked to confirm the nurse's interpretation, but decisions made on this information can have far-reaching implications. Neonatal nurses must therefore show great sensitivity for infants' needs and careful discernment in making clinical judgement.

Neonatal patients' unique mental health needs have also received significant attention in the past decade, especially optimal parent-infant bonding for the infant's long-term well being, safety and security. The literature emphasises improving infants' social and emotional well-being by strengthening relationships with caregivers and promoting age-appropriate social and emotional skills (Gale, Flushman, Heffron & Sweet 2004:65-74; NANN 2004a:22; Siegel, Gardner & Merenstein 2002:725-753). Kenner (2004:403) stresses the fact that

> the relationship between parent-infant attachment and later parenting behaviours has been well established. In addition, the parent-infant attachment is the basis for all the infant's subsequent attachments and is the relationship through which a sense of self is developed. Therefore an important component of nursing care of the high-risk infant is facilitation of parent-infant interaction and attachment.

To address the unique mental health needs of neonatal patients demands a caring and compassionate approach and good interpersonal skills from neonatal nurses.

Neonatal patients' anatomy is very small and vulnerable, and differs significantly from that of adults. The size, appearance and anatomy of neonates also change significantly during different gestational ages as they grow and develop (Joffe & Wright 2002:1-8; Lotas, King & King 2004:89-104; McGrath 2004:105-117). These differences have specific implications for various invasive procedures, including endotracheal intubation, insertion of venous or arterial catheters and ventilation. The more preterm the neonate, the more difficult it is to execute invasive procedures on him/her and the higher the risk of complications (Fletcher & MacDonald 1993; Furdon & Benjamin 2004:135-172; Gardner & Goldson 2002:219-282; Heiss-Harris 2004:342-374; NANN 2004a:13; Poirier Maguire 2004:472-484; Pressler,

Turnage-Carrier & Kenner 2004:1-34). This demands difficult and high-precision practical competences from neonatal nurses.

Neonatal patients have basic physiological needs that must be met, including comfort, nutrition, thermoregulation, ventilation, hygiene and cord care, rest and sleep, a safe environment and care of minor and common newborn problems, which also differ very much from those of other groups of patients. The developmental care approach, which is based on the underlying principle of individualised care for each infant according to individual needs and abilities, is important (Als & Gilkerson 1995:44ccc-44kkk; Gardner & Goldson 2002:219-282; Greenwood *et al.* 2000:1106; Hennessy 2004:29.3-29.40; NANN 2004a:7; Turnage Carrier 2004:236-264; Verklan 2004c:86-91; Zabloudil 1999:46-51). Neonatal nurses must have a sound foundational knowledge of these things, and be competent practically to execute appropriate nursing care interventions.

Neonatal health problems are unique and are often related to the patients' immaturity, which adds to their vulnerability and sensitivity, and results in unpredictable responses to extra-uterine stimuli and treatment. This inability to cope with extra-uterine stimuli and treatment often results in severe adverse outcomes or mortality (Child PPIP Group… 2004; Poirier Maguire 2004:472-484; Pressler, Turnage-Carrier & Kenner 2004:14-19; Symington & Pinelli 2004:1-34; Verklan 2004:80-101). Any or all of a neonate's systems can be immature, including the neurological, respiratory, endocrine and metabolic, gastrointestinal, renal and genito-urinary, cardiovascular, haematological, immune and musculoskeletal systems, and the skin and special senses as discussed by Avery *et al.* (2005), Merenstein and Gardner (2002) and Verklan and Walden (2004).

Neonatal health problems can also be acquired conditions, which are often preventable, such as asphyxia neonatorum (most often associated with difficult or prolonged delivery), intracranial haemorrhage, meconium aspiration syndrome, infections, pathological jaundice, cold injury due to severe hypothermia and trauma due to various causes. These problems are often associated with secondary disturbances of internal homeostasis such as hypoxia, acidosis, hypotension, hypothermia, fluid- and electrolyte disturbances and hypoglycaemia (Avery *et al.* 2005; Maree 2004:31.1-31.88; Merenstein & Gardner 2002; NANN 2004a:13-22; Zukowsky, Goodwin, Askin, Diehl-Jones, Lund, Sadowski, Watson, Stokowski, Horns, Botwinski, Lynam, Verklan, Sterk & Witt 2004:485-932). Asphyxia and trauma at birth are identified in *Saving Babies 2004* (Child PPIP Group … 2004) as the second most common

cause of neonatal deaths (preceded by immaturity) in South Africa, followed by infections as the third most common cause.

A common cause of neonatal morbidity and mortality is congenital conditions. These abnormalities may be apparent or invisible at birth, and may present acutely or progress slowly to deterioration, death or impaired progress. Multiple physiological systems are commonly affected. Examples of congenital conditions include neural tube defects, congenital cardiac defects, Down syndrome, VATER syndrome, tracheo-oesophageal atresia, gastroschisis, cleft lip and palate, metabolic disorders, congenital infections and foetal alcohol syndrome (Avery *et al.* 2005; Matthews & Robin 2002:679-701; Sterk 2004:858-892). Congenital conditions are amongst the top ten causes of neonatal death in South Africa (Child PPIP Group 2004).

The care of these vulnerable and high risk neonatal patients often includes resuscitation, invasive procedures, use of medical technology (for example respiratory support, invasive monitoring, blood gas interpretation and management) and administration of pharmacological substances. The outcomes for these neonates may be good recovery, recovery with morbidity, or mortality. The neonatal patients may be discharged into the care of primary caregivers or may be transferred for specialised treatment to other institutions. Those who are discharged often have special needs that must be taken care of by the primary caregivers (Taquino & Lockridge 1999:64-79).

These attributes of neonatal patients place specific demands on reflective neonatal nurses. Nurses must be able to admit patients with any of the abovementioned conditions, to assess their condition, identify actual and potential problems and make appropriate decisions to the benefit of the patients in terms of planning and implementation of care. Nurses also have to evaluate the effectiveness of any care or treatment and make appropriate adjustments. Providing competent, safe and evidence-based care to this group of patients requires domain-specific foundational and practical competences. Empirical knowledge is not enough, and neonatal nurses will have to have at least historical-hermeneutic knowledge in addition, so that they can make safe decisions about practical interventions.

Reflective neonatal nurses are therefore required to possess at least the specific foundational and practical competences indicated in Table 5.1.

Table 5.1: Foundational and practical competences related to neonatal patients

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • Development and maturation of the fetus and neonate* • Transition from intra-uterine to extra-uterine life* • Anatomy and physiology of neonates according to their gestational age* • Basic needs of neonatal patients • Neonatal communication (i.e. physiological and behavioural cues) • Mental health needs of neonates • Developmental care approach • Aetiology, pathophysiology, clinical presentation and management of neonatal conditions, including conditions related to immaturity, acquired and congenital conditions* • Principles of basic and advanced nursing care of preterm, critically ill, recovering and dying neonates • Basics of medical technology and use thereof in neonatal care • Basic and applied pharmacology • Transport of newborns • Post-discharge care of high risk neonates *(*These are related to all the neonatal systems, including neurological, respiratory, endocrine and metabolic, gastrointestinal, renal and genito-urinary, cardiovascular, haematological, immune and musculoskeletal systems, skin and special senses)*	Neonatal nurses have to be able to demonstrate competence in the following: • Basic newborn care • Accurate assessment of all the biophysical systems and interpretation of findings, including physical assessment and special investigations • Appropriate planning and execution of interventions, including resuscitation, prevention, curative interventions and rehabilitation • Advanced care of premature, critically ill, recovering and dying neonates • Provision of safety and security, including emotional safety and security • Implementation of all developmental care principles • Appropriate use of medical technology • Administration of medication and assessment of the effects thereof • Safe transport of newborns • Facilitation of parent-infant bonding and attachment

5.2.2 Neonatal nursing practice environment

The neonatal nursing practice environment can be defined as a place equipped with necessary physical resources where neonatal patients are cared for during a time when they are especially vulnerable. The environment includes facilities, equipment, consumables, linen and techniques of environmental manipulation.

The facilities and equipment of private hospitals in South Africa are stipulated in Regulation 158 of 1980 as amended by Regulation 434 of 1993 (South Africa 1980). Further guidelines are available for planning and commissioning healthcare facilities in South Africa (Du Toit 1993:53-114), as are specific guidelines for designing and equipping NICUs or aspects thereof such as infection control (Bozette & Kenner 2004:75-88; Department of Health 2004; Niermeyer & Clarke 2002: 46-69; Pappas & Walker 2004:106; Pierce & Turner 2002:117-131;

Simmons 2004:410-421; Task Force on Guidelines: Critical Care Unit Design 1988:796-806; White 1999:S2-S12).

Some aspects of NICU facilities are vital for the unit's functioning and so are common to all units; these include physical building structures, a continuous supply of electricity, lighting and cold and warm running water, medical air supply, oxygen supply, vacuum supply for suctioning, sewerage system and telephone lines. Units must also be kept clean. Other aspects show differences between individual units, especially spaciousness, appearance and technical equipment. These differences influence the nursing care provided by the neonatal nurses at the different units.

Various types of medical equipment are available in different NICUs. However, the amount of equipment in a specific NICU is not always in proportion with the number and acuity of patients for which the unit caters. In addition, the availability of medical technical support, maintenance for equipment and in-service training in the use of equipment and the criteria for its use vary tremendously between units. Equipment includes:
• monitoring equipment such as multi-purpose monitors, cardiac monitors, saturation monitors and apnoea monitors;
• equipment for ventilatory support such as oscillators, mechanical ventilators, CPAP drivers, nitric oxide, oxygen blenders, humidifiers;
• patient beds such as radiant warmers, incubators and cribs; and
• equipment for specific interventions such as infusion pumps, syringe pumps, intercostal drain insertion trays, emergency trolleys, suction units and blood gas machines.

Medical technology and its use are dynamic and change rapidly, and so must be managed. Lynch (1991:81) however cautions that

the abundance, variety, and complexity of this technology…attach an additional dimension to caregiving responsibilities. In giving safe and comprehensive care, the nurse must understand the function and malfunction of all the pieces of equipment utilized and must address the challenge of balancing the needs of the neonate with those of the machines.

The consumables and linen used in a NICU are an integral part of caring for neonatal patients (Bozette & Kenner 2004:75-88; Department of Health 2004; Niermeyer & Clarke 2002: 46-69; Pappas & Walker 2004:106; Pierce & Turner 2002:117-131; Simmons 2004:410-421; Task Force on Guidelines: Critical Care Unit Design 1988:796-806; White 1999:S2-S12). Some problems and frustrations experienced by neonatal intensive care nurses are directly related to

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a lack of these resources. A common problem and source of frustration and conflict in NICUs is the clothing and diapers, which parents are responsible for providing.

These factors demand that neonatal nurses have a good understanding of the neonatal nursing practice environment, and of how to use it optimally to facilitate the provision of quality nursing care to neonatal patients. Again, empirical knowledge is not enough, since nurses need to apply their knowledge in the practical execution of nursing care in varying circumstances. The practical competences expected of them vary in difficulty and complexity depending on what equipment they are using at a particular time.

A further complicating factor is the fact that the NICU environment can be manipulated. This refers both to making the environment safe and to a developmental care principle. Environmental manipulation in the sense of making the environment safe include aspects such as infection control, emergency preparedness (resuscitation trolley and other emergency equipment) and compliance with health and safety requirements (Du Toit 1993:53-114; Gardner & Goldson 2002:219-281; Niermeyer & Clarke 2002: 46-69; Pappas & Walker 2004:106; SANC 2004a; South Africa 1980).

Environmental manipulation is also one of the cornerstones of the developmental care approach, based on actual research findings. Environmental manipulation in this regard includes reduction of direct and bright lightning, reduction of noise and reduction of negative smells and introduction of positive smells (for example a drop of breast milk on cottonwool placed near the infant's face). Other principles of developmental care are the maintenance of sleep-wake cycles and cluster-care. This approach is reported to have positive short- and long-term outcomes for infants and to increase job satisfaction for neonatal nurses (Bozette & Kenner 2004:75-88; Dodd 1994:23-26; Jorgensen 2000:1-4 & 2001:1-5; Symington & Pinelli 2003:1-34; Westrup, Kleberg, Von Eichwald, Stjernqvist & Lagercrantz 2000:66-72). However, the literature rarely records the frustrations involved in implementing environmental manipulation in a busy NICU if not all staff cooperates.

To apply environmental manipulation as part of the nursing care given to the vulnerable patient population of a NICU demands insight (at least empirical and historical-hermeneutic knowledge) from neonatal nurses regarding health and safety principles, the developmental care approach and the use of medical technology, as well as corresponding practical competences. Nurses may also have to compromise or to use entrepreneurial skills to provide the best possible care with limited available resources. The minimum foundational and

practical competences expected of reflective neonatal nurses regarding the neonatal nursing practice environment are shown in Table 5.2.

Table 5.2: Foundational and practical competences related to neonatal nursing practice environment

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • Legal (including health and safety) requirements for NICUs • Physical necessities (including equipment, consumables and linen) to provide neonatal care • Health and safety principles • Use and basic management of medical technology • Environmental principles of the developmental care approach	Neonatal nurses have to be able to demonstrate competence in the following: • Provision of a safe and conducive environment to preterm, critically ill, recovering and dying neonates • Appropriate use of equipment, consumables and linen in providing nursing care • Appropriate maintenance of medical technology • Implementation of environmental manipulation as a developmental care principle

5.2.3 Family-centred care

The family of the neonate is of exceptional importance in neonatal nursing practice. Carter (2002:xix-xx) remarks that

> the goals of neonatal intensive care should be patient- and family-centred. It is the patient we treat, but it is the family, of whatever construct, with whom the baby will go home. Indeed, it is the family who must live with the long-term consequences of our daily decisions in caring for their baby.

A lack of parent-infant attachment and interaction and reduced parental confidence is associated with lower levels of childcare competence and child development in the long term (Loo, Espinosa, Tyler & Howard 2003:31-37).

The family-centred approach emerges from awareness and enhanced understanding of individual and family functioning and people's adaptation to stress, and of the importance of bonding and attachment and their implications for both infant and family (Davis, Sweeney, Turnage-Carrier, Graves & Rector 2004:373-410; Gale, Flushman, Heffron & Sweet 2004:65-74; NANN 2004a:22; Siegel, Gardner & Merenstein 2002:725-753). Neonatal nurses have to demonstrate this awareness. They are further expected to be able to facilitate these processes in the midst of the uncertainties and emotional turmoil of a NICU.

Parents of neonatal patients experience intense emotional upheaval, which is only worsened by the hospitalisation of their baby. Their emotional grief and suffering are extremely intense

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when their baby dies or if aggravating circumstances worsen the baby's condition. Parents go through the various phases of adaptation and coping with stress, every parent in his/her individual way, and this can present in a variety of behaviours. Common emotions experienced by parents correlate with the phases of adaptation and include (Kenner 2004:392-393; Siegel *et al.* 2002:725-753):

- excitement and ecstasy at being parents;
- shock and denial that everything is not going as planned or expected;
- guilt, anger and disappointment about the circumstances;
- frustration and helplessness about lack of control and inability to do more for their baby or about the situation;
- mistrust of the medical team;
- anxiety and fear of what might happen; and
- intense feelings of sympathy with their baby.

These stressful circumstances can last for up to four months of hospitalisation, and in some cases continue after discharge. If a mother's stress levels increase, as when her baby is admitted to the NICU or has a relapse, her risk of developing postpartum depression or psychosis increases (Beck 2003:37-46; Dippenaar 2004:23.9-23.9; Mew, Holditch-Davis, Belyea, Miles & Fishel 2003:51-58). The more support the parents are given, the better they tend to cope with the stress they experience during the hospitalisation of their baby, and the better the outcomes are in terms of parent-infant bonding and attachment (Charchuck & Simpson 2003:39-53; Kenner 2004:392-393; Siegel *et al.* 2002:725-753).

Several authors suggest ways for neonatal nurses to support the parents of babies admitted to the NICU or whose baby has died (Charchuk & Simpson 2003:39-44; De Kock 2004:28.1-28.14; Jansen 2003:17-22; Morse, Durkin, Buist & Milgrom 2004:465-474; Raines 1996:7-12). The support demanded by parents can vary in intensity and may require that neonatal nurses act as counsellors, support bereaved parents, debrief a group after a traumatic incident until a professional person can be consulted or identify a pathological condition that needs to be referred for professional management.

Neonatal nurses and other healthcare providers in the NICU also have a significant role and responsibility in empowering parents during hospitalisation, and preparing them for adaptation to the post-discharge period to be the primary caretakers (Harrold & Schmidt 2002:165-169; Herbst 2004; McMurray 2004:43-47; NANN 2004a:22; Newborn Screening Task Force Report 2000:386-427; Sagun 2003:61).

The manner in which neonatal nurses are expected to support or empower the parents and family members of infants is significantly influenced by the diversity of these families. Parents and family members vary greatly in age, marital status, sexual preference, socio-economic status, race, culture, history, political views, religion, value system, language, personality and education. This diversity of parents often creates interpersonal or internal conflict, but can also lead to the formation of supportive groups.

Another factor that influences the implementation of family-centred care is that the care-taking roles of parents and neonatal nurses are not very clearly defined, especially in cases of prolonged hospitalisation. Such lengthy hospitalisation creates opportunities for meaningful relationships between parents and neonatal nurses, but can also result in conflict about care-taking issues and role differentiation. Parental roles are also influenced by cultural expectations and other attributes relevant to the diversity of parents.

Eventually all care, including involvement and empowerment of parents, must be beneficial for the baby (Herbst 2004; Jansen 2003:17-22; Kenner 2004:392-393; Loo *et al.* 2003:31-37; Siegel *et al.* 2002:725-753). According to the Constitution of the Republic of South Africa (South Africa 1996:16), "a child's best interests are of paramount importance in every matter concerning the child". The mandate of the profession of nursing is 'to take responsibility for nursing care that is provided by a cadre of committed nurses that do not discriminate on the grounds of race, colour, creed, gender, religion, culture, politics, social status, personal attributes or the nature of the health problem' (SANC 2004b:9).

Neonatal nurses must therefore be able to
- facilitate parent-infant bonding and attachment and deal with emotional parents, irrespective of how the parents manage their stress;
- fulfil a variety of roles, including a crutch for support, a scapegoat for feelings of guilt or a punch-bag for negative feelings; and
- manage cases where the baby deteriorates or dies, and often be the bearers of bad news.

Neonatal nurses are obliged to give a dying infant a dignified death and fully involve the parents and/or family. If an infant is recovering and nearing discharge, nurses have to support and empower the parents for their post-discharge role. Nurses are expected to manage potential interpersonal conflict arising from care-taking issues in a way that prevents the infants' being affected. Neonatal nurses will only be able to meet these expectations if they

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possess at least the relevant empirical-analytical and historical-hermeneutic knowledge, the associated practical competences and appropriate professional characteristics.

The foundational and practical competences expected of nurses are indicated in Table 5.3.

Table 5.3: Foundational and practical competences related to family-centred care

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • The rights, needs and responsibilities of parents/family members • Bonding and attachment • Adaptation and mechanisms of coping with stress • Cultural diversity • Principles of family-centred care • Principles of empowerment (including basic teaching) • Principles of emotional support, counselling, bereavement and debriefing • Identification of pathological relationships, adaptation or coping of parents/family members	Neonatal nurses have to be able to demonstrate competence in the following: • Effective communication skills • Provision of a safe and conducive environment for parents/family members • Implementation of a family-centred approach • Facilitation of bonding and attachment • Empowerment, emotional support, counselling, caring for the bereaved and debriefing • Effective trans-cultural nursing skills • Early referral for identified pathological conditions

5.2.4 Multi-professional teamwork

Neonatal healthcare professionals work as a team, sharing a common interest in neonatal practice but each having his/her own specialised knowledge and skills. "An effective neonatal intensive care team consists of trained professionals of many disciplines – no one of us can do it alone. … Shared decision making should be the commonly employed process, requiring shared information among health care professionals …" (Carter 2002:xix-xx).

Common features of multi-professional teamwork in South African NICUs are related to role differentiation, and the diversity of team members.

The most dominant members of the multi-professional health team in South African NICUs are the nursing and medical staff, but other members can include occupational therapists, speech-language therapists, audiologists, physiotherapists, dieticians, radiographers, radiologists, pharmacists, counsellors, ophthalmologists, paediatric surgeons and other specialised health professionals. The various roles and involvement of these team members differ greatly from hospital to hospital. In the public sector most of these practitioners are often routinely included in the team. In the private sector most become team members and gain access to patients by

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being officially consulted by the attending doctor or neonatal nurses. The neonatal nurses play an important role in both cases by coordinating the teamwork in the unit. As coordinators, they are expected to have insight into the various roles, functions and responsibilities of the different professional persons, as well as their relevance to the particular patients in the NICU.

One way to define a particular profession, especially in healthcare, is to describe the dependent, independent and interdependent functions of a member of that profession and how these relate to responsibility and accountability. The *dependent* role of the professional is his/her function and accountability as a professional registered with the applicable body (in this case the SANC or the Health Professions Council of South Africa) and includes his/her obligations to comply with the relevant legislation, such as the prescribed scope of practice and standards for practice. The professional's *independent* role is his/her function in making decisions about patient care and related issues, and includes his/her being accountable and responsible for these decisions and his/her own acts and omissions, independent of any other health professional. The professional's *interdependent* role is his/her function as part of the healthcare team and includes his/her shared responsibility towards patients and community. All three roles are applicable at all times and have to contribute to quality patient care (SANC 2004:1-61; Searle & Pera 1993:193-201).

The different members of the multi-professional team have distinct functions and responsibilities, but these also overlap to a certain degree (Kirby & Kennedy 1999:20-23; NICU Task Force 2000:641-648; Pressler & Rasmussen 2004:473-496; South Africa 2003; South Africa 1985; South Africa 1984; South Africa 1978). The differentiation of the shared responsibilities of neonatal nurses and other team members is not always clear and/or consistent, resulting in inter-professional, interpersonal and internal conflict. An example of this can be seen in private hospitals, where a doctor is not always on the premises: during office hours, the doctor is responsible for resuscitation when he/she is on the premises, but after hours, when the doctor has left, the neonatal nurse is responsible for resuscitation.

A further feature is the diversity of team members. They are individuals, with various backgrounds, educational levels, personalities, races, genders, cultures, religions, value systems and circumstances. This diversity results in dynamic and ever-changing contexts, with inter-professional and interpersonal relationships that can be either positive or negative, contributing to teamwork and the morale of practice or breaking it down (Sully & Dallas 2005:173-188).

Neonatal nurses are required to be part of the professional neonatal healthcare team. They have to fulfil their roles and responsibilities towards patients and their families though these roles and responsibilities are not always clear or consistent because of the diversity of the members of the healthcare team. Nurses are often gatekeepers and coordinators in the healthcare team. They cannot be part of the team if they do not possess at least domain-specific empirical and historic-hermeneutic knowledge, as well as insight into teamwork. The foundational and practical competences expected of nurses are indicated in Table 5.4.

Table 5.4: Foundational and practical competences related to multi-professional teamwork

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • Functions, roles and responsibilities of various multi-professional team members (including their own) • Effective communication • Principles of teamwork and group dynamics • Dealing with diversity	Neonatal nurses have to be able to demonstrate competence in the following: • Effective communication skills • Effective teamwork skills • Effective management of diversity and conflict

5.2.5 Professional nursing practice

A crucial characteristic of neonatal nursing practice is its professional setting; neonatal nurses are professionals. Several features of this characteristic determine some of the attributes of neonatal nursing practice. These features include managerial aspects, ethico-legal aspects and professional- and personal outcomes.

5.2.5.1 Managerial aspects

Managerial aspects of professional practice include both a responsibility to manage the unit effectively, and a responsibility towards the wishes and directives of the management of the institution.

At all times a specialised neonatal nurse is responsible for managing the NICU. There is usually an appointed unit manager on duty, but in his/her absence the responsibility can be delegated to any of the specialised neonatal nurses on duty. A neonatal unit has many facets that need managing, including care of patients and their families, personnel, safety, facilities and equipment, stock and linen and administration. The management of these facets is complicated by various factors, such as resource availability, interpersonal relationships, staff

members' personalities and institutional policies, as well as the diversity of parents and other multi-professional team members. The work of the nurse responsible for managing the unit is heavy and stressful, and often loaded with conflict and emotions.

The literature extensively discusses the principles, relevance and impact of management and management styles on workplace climate, staff morale, job satisfaction, conflict management, decision making and problem solving (Booyens 1993 & 2000; Muller 1996:120-133; Naude, Meyer & Van Niekerk 2000). The neonatal nurse in charge of the NICU must manage all the facets of the neonatal unit effectively in all their diversity, which he/she will only be able to do if he/she at least has the relevant empirical and historical-hermeneutic knowledge of the various facets of the unit's functioning and relevant management skills.

Another relevant managerial aspect of professional practice is the responsibilities and rights of neonatal nurses as employees. The management of the institution can have either a positive or negative impact on the climate and staff morale in the NICU, through their handling of communication and feedback, management style, institutional policies and availability of resources and support (Muller 1996:198-212; Naude *et al.* 2000). Neonatal nurses must execute their responsibilities skilfully and rely on their rights appropriately. If they do not agree with the hospital's management they should follow the correct procedures, always acting responsibly and with integrity (SANC 2004a).

The managerial aspects of professional neonatal nursing practice require certain foundational and practical competences from reflective neonatal nurses, as indicated in Table 5.5.

Table 5.5: Foundational and practical competences related to managerial aspects of neonatal nursing practice

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • The rights and responsibilities of employees and employers • Principles of management • Effective communication	Neonatal nurses have to be able to demonstrate competence in the following: • Effective communication skills • Effective management of multi-facets of neonatal nursing practice (including personnel, facilities, equipment and technology) • Effective management of conflict • Compliance with rights, responsibilities and institutional policies

5.2.5.2 Ethico-legal aspects

Nursing's professional character adds a unique but very important dimension to the attributes of neonatal nursing practice. Neonatal nursing practice is an ethico-legal minefield. Quality of care is paramount. The nursing process is a universal tool that can be used to meet the demand for safe quality nursing care, but its application is worthless without the necessary education in basic and advanced neonatal nursing care.

Ethical decision-making remains a universal problem without a perfect solution/s and clear right or wrong answers (Jevon 1999:45-46; NANN 2004a: 9-10; Pector 2004:4-10; Penticuff 1998:339-352; Pierce 1998: 287-297; Stutts & Schloeman 2002:27-33). Many ethical issues are involved in neonatal nursing practice, since many decisions taken by nurses have long-term consequences. Common ethical issues included deciding:

- to resuscitate or not;
- to stop treatment or not;
- which patient to benefit (probably at the cost of another) if there is not enough equipment;
- to admit and treat a patient whose weight is less than the required weight for treatment;
- on issues of confidentiality, such as to reveal HIV status or not;
- on issues of consent, such as to administer blood or continue with an intervention that requires consent though the parents are not available to give consent;
- whether to initiate treatment, such as chemotherapy and antiretroviral treatment, that has a chance of helping but could have severe side-effects;
- whether to report incompetent or negligent acts or omissions by members of the multi-professional team, including colleagues;
- how to tell important information about an infant to the parents, for example a diagnosis or prognosis;
- whether to grant parents' requests such as to hand over the medical treatment of the baby to a traditional healer;
- what to do with an orphaned baby;
- whether to go on strike about difficult working conditions or to respond to a call for solidarity with others; and
- whether to work with neonatal patients while having an infectious condition and knowing the risks for the patients, if a replacement cannot be found.

Ethical principles are described to assist decision-making, and ethical guidelines formed to uphold human rights (Botes 1994; Center for Ethics and Human Rights 2001:1; Ketefian

1989:509-518; Sudia-Robinson 2004:946-951; Swaney, English & Carter 2002:801-811). The SANC (1992, 2004) provides ethical guidelines to assist professional nurses in ethical decision-making. Of course, nurses are still vulnerable to legal prosecution for any of their decisions.

Various other factors also have the potential to result in legal prosecution, as many causes can worsen the condition of an already compromised and vulnerable neonate, for example, the many investigations and interventions to which infants are subjected; the varied sensory stimuli of the environment and repeated handling of the infant can all influence the infant negatively; and the many decisions that are made regarding treatment and the infants' unpredictable responses to it. Any such factors can therefore have potentially legal implications, irrespective of negligence, purposive malpractice or accidental misconduct (Carter 1998:xix-xx; Lynch 1991:78-86; Miller 2003:67-68; NANN 2004a:8; Orleans, Tappero, Glicken & Merenstein 2002:1-8; Verklan 2004a:92 & 2004d:952-971; Verschoor, Fick, Jansen & Viljoen 1997:71-77).

The neonatal nurse's legal protection lies in his/her registration at the SANC as a professional nurse (South Africa 1978), the scope of practice (SANC 1984 & 2004a) and other relevant legislation and guidelines for nursing practice and for the professional nurses' accountability and liability (Muller 1996; South Africa 1984 & 1985; SANC 2004b; Searle & Pera 1992). A nurse also has a certain amount of protection from his/her employer in the form of contracts, policies of the organization, the liability of the organisation, and labour organisations if the nurse is a registered member with indemnity insurance (Verklan 2004d:952-971; Verschoor *et al.* 1997:26-38, 71-77). The most important protection that a nurse can have is a sound base of knowledge and practical competence (Schober & Affara 2006:30-34). Neonatal nurses are required to understand their scope of practice, rights and responsibilities, the risks and protection in taking decisions and the principles of legal action, but more importantly must have the required foundational and practical competences on which to base any decisions.

Once ethico-legal risks have been considered, quality care in the NICU is the next priority. Optimum care requires evidence-based practice, upholding the standards of nursing practice, safe and competent practice and professional care. The SANC embraces these principles. It has evidenced-based practice at its foundations, and works to ensure that 'the South African public receives knowledgeable, competent, safe, and compassionate and ethically based nursing care' (SANC 2004a:8; South Africa 1978 & 2005) through its efforts to 'set, promote

and control the standards of nursing and midwifery education and practice' (SANC 1992 & 2004a:9).

Evidence-based practice can be interpreted as practice based on principles derived from the aggregated results of randomised controlled trials, typically investigated using meta-analysis. In nursing, evidence-based practice can also be interpreted as practice following guidelines based on trustworthy research results and best available knowledge of practice. This implies that evidence-based practice is not rigid and can always be changed if 'better' knowledge becomes available or if new evidence supports a different view (Thomas 2004:940-941; Van der Walt 2004:3.4-3.5; Orleans *et al.* 2002:1-8).

McCain (2003:5) defines evidence-based nursing practice as "the use of research evidence (or the best evidence in the absence of research) combined with clinical expertise and consideration for the patients' values and culture". This approach is necessary, because, McCain continues, "very busy nurses [need] up-to-date knowledge in order to provide the highest quality of care in the most efficient way." Verklan and Walden (2004:xiii) agree, saying that, at a minimum, neonatal nurses are expected to enhance their application of clinical knowledge by utilizing an evidence-based approach to improve patient outcomes.

The nursing process is the recommended approach for using competences in a systematic manner in practice. However, application of the process varies and is strongly influenced by the competences and characteristics of the individuals involved.

The nursing process is well described in the literature. As Verklan (2004a:952-953) says,
> the nursing process forms the foundation for nursing education, practice and documentation, regardless of whether the nurse graduated from a diploma, associate degree, or baccalaureate program....Failure to follow the...five steps of the nursing process is the number one cause of all patient injuries.

The five steps are assessment, diagnosis, planning, implementation and evaluation, with documentation being an integral part of each step (Geyer 2005; SANC 2004). Neonatal nurses have an obligation to implement the nursing process.

Ethico-legal risks and quality of care therefore demand from neonatal nurses at least domain-specific empirical and historic-hermeneutic competences, but also call for critical or self-reflective knowledge in the forming of judgements and the making of decisions. Nurses are also expected to have appropriate practical competences. The minimum foundational and

practical competences expected of neonatal nurses in terms of ethico-legal professional practice are indicated in Table 5.6.

Table 5.6: Foundational and practical competences related to ethico-legal professional practice

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • Ethico-legal framework of neonatal nursing practice • Ethical decision making • Principles of legal action • Principles of evidence-based practice • Nursing process • Principles of quality improvement and risk management	Neonatal nurses have to be able to demonstrate competence in the following: • Effective ethical decision making • Provision of safe, ethico-legally responsible, evidence-based and quality neonatal nursing care • Effective application of the nursing process • Quality improvement and risk management

5.2.5.3 Professional and personal outcomes

Neonatal nursing practice can produce a wide range of professional and personal outcomes for neonatal nurses. These outcomes, which can be negative or positive, seem to be among the main determinants of whether or not neonatal nurses remain in the profession. Neonatal nursing is highly stressful, characterised by high demands and high risks, with limited opportunities for promotion or other monetary incentives. It is often characterised by low staffing, high workload and responsibility load, limited support and restricted resources. However, in the midst of these difficulties the profession still offers great opportunity for personal growth.

Some of the negative outcomes include traumatic experiences such as neonatal deaths; poor interpersonal relationships; low morale; stress related to workload and unrealistic expectations from the management; burnout; and frustration due to restrictions on reflective practice. These negative outcomes commonly result in high absenteeism and staff turnover, and nurses leaving neonatal nursing, or even the profession, (DENOSA 2006:42-45; Geyer 2006:46-47; Geyer 2001:26-27; Zondagh 2004). Resistance to change or lack of change also appear to be significant factors in causing nurses to leave (Turnage-Carrier, Ward-Larson & Gates 2004:423-462).

Positive outcomes of the profession include job satisfaction; high morale; the joy to nurse such a vulnerable group of patients and the feeling of meaning something to them; experience of

personal growth; the satisfaction of being competent; lifelong learning; and positive interpersonal relationships. These outcomes correlate with the professional and personal outcomes of reflective and critical-reflective practice as discussed in Chapter 4. This type of neonatal nurse tends to remain in the profession in spite of problems with low staffing, high workload and restricted resources.

Neonatal nursing practice places high demands on neonatal nurses to deliver competent, safe, evidence-based, quality neonatal care in a complex and stressful environment to an exceptionally vulnerable group of patients. The foundational and practical competences expected of them are at least to be reflective practitioners as discussed in Chapter 4. Particular competences relevant to professional and personal outcomes are indicated in Table 5.7, with the focus on improving these professional and personal outcomes.

Table 5.7: Foundational and practical competences related to professional and personal outcomes

Foundational competences	Practical competences
Neonatal nurses have to understand and demonstrate insight into the following: • Process of reflective learning • Principles of reflective practice • Principles of leadership • Group dynamics and interpersonal relationships • Stress management • Change management	Neonatal nurses have to be able to demonstrate competence in the following: • Reflective neonatal nursing practice • Lifelong learning • Effective leadership skills • Effective management of stress • Effective change management

As Verklan and Walden (2004:xiii) state,

> the art and science of neonatal nursing is never stochastic. We learn from scientists, researchers, multidisciplinary colleagues, and of course, our infants and their families. At a minimum, we are expected to enhance our application of clinical knowledge by utilizing an evidence-based approach to improve patient outcomes. The role of the nurse is frequently to bring together all of the pieces of the puzzle to ensure comprehensive, clinically excellent, and compassionate care to sick newborns and their families.

Thus, not only are foundational and practical competences demanded by neonatal nursing practice, but professional characteristics as well. We have highlighted various characteristics in the discussion of the attributes and demands of neonatal nursing practice and the competences it expects of neonatal nurses. The professional characteristics demanded by neonatal nursing practice will now be briefly described.

5.3 PROFESSIONAL CHARACTERISTICS DEMANDED BY NEONATAL NURSING PRACTICE

It was concluded that the professional characteristics associated with the attributes and demands discussed in the previous section are related to the individual nurse's value system and perception of the world, perception of self and emotional status, and interaction with the outer world. The discussion that follows here explores these characteristics in neonatal nursing practice, building on the theoretical discussion in Chapter 4.

5.3.1 Value-system and perception of the world

Neonatal nurses are expected to value life and to have respect for others, for their rights, views and preferences. Nurses are also expected to have respect and give recognition to other professions, to value professional interdependency and to respect authority. These nurses must have integrity and high moral values, and have a passion for neonatal nursing.

5.3.2 Perception of self and emotional status

Neonatal nurses are expected to have good self-knowledge, self-respect and self-awareness. They must be confident in themselves and their abilities. They have to take responsibility for their own lives, decisions and actions. They must have self-discipline, internal motivation and a need for professional and personal growth.

These nurses must have stable characters and be emotionally stable, even when coping with frustrations, emotional turmoil, death and a dynamic, changing and stressful environment.

5.3.3 Interaction with the outer world

The manner in which neonatal nurses conduct themselves with their outer world has to be caring and compassionate, sensitive and receptive, supportive, gentle, patient and precise, particularly in the handling of infants.

These nurses must be reflexive, open-minded, flexible and adaptable, assertive, innovative and professional. They have to maintain confidentiality and handle information and data respectfully. They also must be inquisitive and interested in their patients and all that affects them. They must be approachable, acknowledge and support others, be team players when necessary and the team leader when needed. They must adhere to rules, authority and principles, and manage time, situations and incidents effectively.

Neonatal nurses are expected to be honest, fair, consistent, reliable, trustworthy and prepared to sacrifice if need be.

It might not be possible to achieve all these professional characteristics as part of the outcomes of an educational programme, as many have to do with core individual characteristics. It might be possible to keep these in mind for selection criteria and recruitment of students. Aspects thereof would be possible to address, for example communication skills. Suggested educational approaches to achieve expected outcomes are discussed in more detail in Chapter 6.

5.4   CONTENT OUTLINE AND EXPECTED OUTCOMES OF PROGRAMME FOR EDUCATION OF REFLECTIVE NEONATAL NURSES

The expected outcomes of the programme must be interpreted in light of the discussion in Chapter 4 of the various processes and levels of competence underlying reflective learning and the characteristics of a reflective practitioner. The various categories do not carry the same weight in the educational programme, for example, the neonatal patient category will obviously weigh the heaviest. This report includes an outline of the content that should be included in such a programme and not their proportions or detailed descriptions thereof. The content outline, as deduced in this study, is presented in Table 5.8.

Table 5.8: Content outline and expected outcomes of educational programme for reflective neonatal nurses

Content	Expected outcomes: foundational and reflexive competences (knowledge)	Expected outcomes: practical competences	Expected outcomes: professional characteristics
Neonatal patients	Neonatal nurses have to understand and demonstrate insight into the following: • Development and maturation of the fetus and neonate* • Transition from intra-uterine to extra-uterine life* • Anatomy and physiology of neonates according to their gestational age* • Basic needs of neonatal patients • Neonatal communication (i.e. physiological and behavioural cues) • Mental health needs of neonates • Developmental care approach • Aetiology, pathophysiology, clinical presentation and management of neonatal conditions, including conditions related to immaturity, acquired and congenital conditions* • Principles of basic and advanced nursing care of preterm, critically ill, recovering and dying neonates • Basics of medical technology and use thereof in neonatal care • Basic and applied pharmacology • Transport of newborns • Post-discharge care of high risk neonates *(*These are related to all the neonatal systems, including neurological, respiratory, endocrine and metabolic, gastrointestinal, renal and genito-urinary, cardiovascular, haematological, immune and musculoskeletal systems, skin and special senses)*	Neonatal nurses have to be able to demonstrate competence in the following: • Basic newborn care • Accurate assessment of all the biophysical systems and interpretation of findings, including physical assessment and special investigations • Appropriate planning and execution of interventions, including resuscitation, prevention, curative interventions and rehabilitation • Advanced care of the premature, critically ill, recovering and dying neonates • Provision of safety and security, including emotional safety and security • Implementation of all developmental care principles • Appropriate use of medical technology • Administration of medication and assessment of the effects thereof • Safe transport of newborns • Facilitation of parent-infant bonding and attachment	**Value-system and perception of the world:** Value life Respect for others, their rights, views and preferences Respect and recognition for other professions Value for professional interdependence Respect for authority Passion for neonatal nursing High moral values and moral integrity **Perception of self and emotional status:** Self-knowledge, self-awareness and self-respect Confidence in self and own abilities Responsibility for own life, decisions and actions Ability to cope with frustrations, emotional turmoil and death Emotional stability and stability of character Ability to cope in dynamic, changing and stressful environment Need for professional and personal growth Self-discipline Internal motivation
Neonatal nursing environment	Neonatal nurses have to understand and demonstrate insight into the following: • Legal (including health and safety) requirements regarding NICUs • Physical necessities (including equipment, consumables and linen) to provide neonatal care • Health and safety principles • Use and basic management of medical technology • Environmental principles of developmental care approach	Neonatal nurses have to be able to demonstrate competence in the following: • Provision of a safe and conducive environment to preterm, critically ill, recovering and dying neonates • Appropriate use of equipment, consumables and linen in provision of nursing care • Appropriate maintenance of medical technology • Implementation of environmental manipulation as a developmental care principle	

			Interaction with outer world:
Family-centred care	Neonatal nurses have to understand and demonstrate insight into the following: • Rights, needs and responsibilities of parents/family members • Bonding and attachment • Adaptation and mechanisms of coping with stress • Cultural diversity • Principles of family-centred care • Principles of empowerment (including basic teaching) • Principles of emotional support, counselling, bereavement and debriefing • Identification of pathological relationships, adaptation or coping of parents/family members	Neonatal nurses have to be able to demonstrate competence in the following: • Effective communication skills • Provision of a safe and conducive environment for parents/family members • Implementation of a family-centred approach • Facilitation of bonding and attachment • Empowerment, emotional support, counselling, caring for the bereaved and debriefing • Effective trans-cultural nursing skills • Early referral for identified pathological conditions	Caring and compassionate Sensitive and receptive Supportive Gentle, patient and precise when handling an infant Reflexive Open-minded, flexible and adaptable Assertive and leading Professional
Multi-professional teamwork	Neonatal nurses have to understand and demonstrate insight into the following: • Functions, roles and responsibilities of various multi-professional team members (their own inclusive) • Effective communication • Principles of teamwork and group dynamics • Dealing with diversity	Neonatal nurses have to be able to demonstrate competence in the following: • Effective communication skills • Effective teamwork skills • Effective management of diversity and conflict	Maintain confidentiality Respectful handling of information and data Inquisitive, interested in neonatal care and her world Continuously develop Approachable Acknowledge and support others
Professional nursing practice: managerial aspects	Neonatal nurses have to understand and demonstrate insight into the following: • Rights and responsibilities of employees and employers • Principles of management • Effective communication	Neonatal nurses have to be able to demonstrate competence in the following: • Effective communication skills • Effective management of multi-facets of neonatal nursing practice (including personnel, facilities, equipment and technology) • Effective management of conflict • Compliance with rights, responsibilities and institutional policies	Management of time, situations and incidents Adherence to rules, authority and principles Team worker when needed Prepared to sacrifice if required Honest, fair and consistent Reliable and trustworthy
Professional nursing practice: ethico-legal aspects	Neonatal nurses have to understand and demonstrate insight into the following: • Ethico-legal framework of neonatal nursing practice • Ethical decision making • Principles of legal action • Principles of evidence-based practice • Nursing process • Principles of quality improvement and risk management	Neonatal nurses have to be able to demonstrate competence in the following: • Effective ethical decision making • Provision of safe, ethico-legal, evidence-based and quality neonatal nursing care • Effective application of the nursing process • Quality improvement and risk management	

| Professional nursing practice: professional and personal outcomes | Neonatal nurses have to understand and demonstrate insight into the following:
• Process of reflective learning
• Principles of reflective practice
• Principles of leadership
• Group dynamics and interpersonal relationships
• Stress management
• Change management | Neonatal nurses have to be able to demonstrate competence in the following:
• Reflective neonatal nursing practice
• Lifelong learning
• Effective leadership skills
• Effective management of stress
• Effective change management | |

5.5   SUMMARY

In this chapter relevant aspects of neonatal nursing practice in the South African context were identified and clarified as distinct concepts that can be used in the education of reflective neonatal nurses. These findings were presented in this chapter as expected outcomes, which are knowledge (foundational and reflexive competences), practical competences or professional characteristics. These outcomes were used to outline the content of such an educational programme.

The chapter contributes to the development of a model for the education of reflective neonatal nurses by clarifying and describing the purpose (competences expected of reflective neonatal nurses), framework (neonatal nursing practice in the South African context) and procedure (content outline of an educational programme).

The next chapter addresses possible approaches or strategies for educating reflective neonatal nurses.

CHAPTER 6:

ROLE OF THE EDUCATOR AND APPROACHES TO EDUCATING REFLECTIVE NEONATAL NURSES

6.1   INTRODUCTION

In the previous chapter concepts were identified and clarified from neonatal nursing practice that are of importance in educating reflective neonatal nurses. At the end of that chapter, the competences and professional characteristics expected of reflective neonatal nurses were described, and content of an education programme from them was outlined. In this chapter relevant literature was analysed to describe the role of the educator and to find possible approaches for achieving these outcomes. This chapter is a continuation of phase 1, but is discussed here in logical sequence in terms of content. The methodology followed is discussed in Chapter 2.

The role of the educator and the educational approaches are the final components of the model for educating reflective neonatal nurses. They are relevant specifically to the agent (educator) and procedure (educational approach) elements of the model.

6.2   TEACHING REFLECTIVE NEONATAL NURSES

To 'teach' is defined as "to impart knowledge to; to impart knowledge of (e.g. to teach arithmetic); to explain, show (that, how to); … to give instruction, esp. as a profession", while 'teaching' refers to "the act, practice, or profession of giving instruction" (*Webster's New Dictionary and Thesaurus* 1990:563). *The Oxford Combined Dictionary of Current English & Modern English Usage* (1987:302) defines 'teach' as "enable, cause, (person, etc. to do) by instruction and training …; give lessons at school or elsewhere in or on (subject, game, instrument, etc., to person …); be teacher, give lessons esp. at school; give instruction to, educate …; explain, show, state by way of instruction", while 'teaching' refers to the "teachers' profession, doctrine, what is taught". 'Teaching' can also be described as the educational process used to facilitate learning or to enable a person to obtain certain objectives by means of instruction, explanation, demonstration, example or other appropriate means (*Oxford Combined Dictionary* 1987:302).

This study focuses on educating reflective neonatal nurses. These nurses are expected to achieve particular outcomes described as applied competences (including specific foundational, reflexive and practical competences) and professional outcomes, as discussed in Chapters 4 and 5.

Teaching was traditionally seen as the transmission or delivery of education, based on the assumption that knowledge comes in discrete, pre-formed units, which students ingest in smaller or greater amounts until graduation or 'indigestion' takes over. The modern perspective sees teaching rather as stimulating, facilitating or establishing inquiry about underlying processes or principles, based on the assumptions that knowledge is not a static, pre-formed substance but is constantly changing and that deep or lifelong learning has to be an outcome of higher education as preparation for a rapidly changing world (Gravett 2004:27-29).

Gravett (2004:24) states that the quality of the outcomes of learning is functionally related to the approaches adopted by the students, and facilitated by educators. A deep approach is a prerequisite for significant learning that will last, the type of learning ideally associated with higher education.

Educating reflective practitioners requires a programme that facilitates their acquisition of specialised knowledge and clinical skills, and promotes their personal growth and development, so help them meet the demands of reflective practice (Atkins & Murphy 1993:1189; Carter 1998:xix-xx; Pappas & Walker 2004:116).

Powell (1989:830) states that an essential ingredient in reflective practice is in-depth knowledge combined with nursing theory and other contributing disciplines to develop sound theories of practice or theories-in-use.

Another essential ingredient in reflective practice is experience. Cross (2005) suggests that adult learning programs should capitalise on the experience of students, adapt to their limitations due to age, and challenge students to move to increasingly advanced stages of personal development. Students should have as much choice as possible in the availability and organisation of learning programmes.

Knowledge and skills necessary for neonatal specialisation can be learned through formal courses, but in large part are obtained in practice through experience. Unfortunately, the knowledge and skills generated through research and formal theories often differ from the

knowledge and skills produced in practice, a phenomenon commonly described as the theory-practice gap (Greenwood *et al.* 2000:1106-1114; Kaufman 2003:1-11; Rolfe 2000:1-3). The ideal approach to educating reflective practitioners will be one that contributes to overcoming this gap.

Olivier (2002:101-106) describes teaching as a facilitation process that guides students through the learning process, in which the teacher becomes a mentor, coach, facilitator, co-ordinator, demonstrator, advisor, manager and guide in assisting students to learn through various strategies.

Henniger (2004:4-10) describes teaching as challenging work that requires considerable effort and skill, as well as simultaneous independence and interconnectedness. Teaching is an art that leads to inspired learning, a science based on research, and a profession that requires lifelong learning.

Thoughtful teaching is a combination of intent, commitment and the adoption of compatible practices designed to promote learner achievement. Educators must question their classroom practices, their beliefs about teaching, the contextual forces that influence what they teach and how they teach it, and the moral and ethical principles implicit in their teaching (Van der Horst & McDonald 2001:126).

Reflective teaching is "when we think carefully about our teaching, we demonstrate our commitment to improving our professional practice. We want to find out about the consequences of our actions" (Hillier 2003:13).

Smith and Lovat (2003:2, 73) identify the key roles of the teacher as information processor, manager, decision-maker and problem-solver. The teacher is responsible for organising, adapting and presenting the curriculum in such a way that the students learn from it to solve their own problems.

We can summarise all these points of view and say that the process of teaching, for the purpose of educating reflective neonatal nurses, entails facilitating learning by:
- **processing (assessing) information** including beliefs, assumptions, perceptions, needs and expectations, expected outcomes of the programme, context and facts of reality;
- **planning and implementing**: educational approach/es, teaching and learning activities, resource use, socialisation, enculturation, a community of inquiry and interpretation and its logistical management; and

- **evaluating**: students through assessment and feedback, the programme through evaluation and accreditation, and the self as a teacher.

6.3   ROLE OF THE EDUCATOR IN REFLECTIVE EDUCATION

The educator is the person responsible for facilitating the teaching of the programme as part of development of reflective students and reflective practitioners. As the responsible person, the educator has to fulfil certain expectations. These responsibilities and expectations will now be briefly discussed under the headings of information processing, planning and implementation, evaluation, and the qualities expected of a reflective educator. These discussions have to be interpreted at the background of Chapters 3, 4 and 5.

6.3.1 Information processing

The first step of teaching is processing information, whether this is beliefs, assumptions, perceptions, needs and expectations, content and expected outcomes of the programme or facts about context. Information processing allows the educator to get familiar with the programme to be taught, the students to whom it is to be taught, the framework and context within which the teaching will take place, the educator's own beliefs and assumptions, and any other relevant information (Smith & Lovat 2003:2, 73). (The term 'assessment of information' is possibly a synonym here for 'processing of information', but is avoided to prevent confusion with 'student assessment'.)

Particularly important in this study is the fact that during reflective teaching the educator is merely a facilitator of the education process who moves the teaching beyond content to a more process-oriented approach using a variety of teaching strategies. The emphasis is on *learning through reflection and self-assessment* to integrate formal theory with experiential knowledge (Hatcher & Bringle 1997:153; Pee *et al.* 2000:754-761; Piterman & McCall 2000:30-37; Rolfe 2000:84-124).

To achieve this facilitation, the educator has to be clear on his/her own beliefs and assumptions, as these have a direct impact on all aspects of planning and implementation in the teaching process (Smith & Lovat 2003:2).

The educator has to be familiar with the programme to be taught in terms of content, requirements and expected outcomes, assessment criteria and methods, underlying framework and context. Relevant aspects that will affect the programme for educating reflective neonatal nurses have been discussed in Chapters 3, 4 and 5.

Other relevant information includes institutional policies and culture, selection of students, students' needs and expectations, students' prior knowledge and experience, available resources, related subjects or programmes which might influence the students, and the clinical situations in which the students do their practical work (Hillier 2002:142-167; Olivier 2002:101-105).

Once the educator has mastered information processing and is familiar with the relevant information, planning and implementation can follow.

6.3.2 Planning and implementation

In the teaching process, the following have to be planned and implemented: educational approach/es, teaching and learning activities, use of resources, socialisation, enculturation, establishment of a community of inquiry and interpretation, and its logistical management. The main purpose of this phase of teaching is to help students become reflective as students and practitioners.

Before beginning facilitation, the educator has to identify specific learning outcomes and critical outcomes, formulate end-product outcomes, plan how to engage students in learning, establish appropriate assessment criteria, develop learning material and plan and schedule learning experiences (Olivier 2002:101-112).

Waghid (2001:80) describes reflective teaching as a process of transformation.

> Transformation is about empowering those involved in the higher education process to develop the critical ability of students and educators to the extent that they become self-determined (rational) and reflexive. In essence, a discussion of transformation in higher education makes the idea of a reflexive praxis unavoidable.

Educators need to take responsibility for enabling their students to learn reflexively. This involves shaping education into a dynamic activity. Students should engage in experience, reflection, restructuring and planning, and so develop lifelong learning skills (Waghid 2001:80).

The educator must use the learner's prior knowledge and experience as point of departure and build on it (Gravett 2004:37), or provide practical support and encouragement for students who have to 'unlearn' routine practice. At all time educators must provide space for students to intentionally reflect on practice (Driscoll & Teh 2001:98-99), depending on the particular situation.

It is extremely important to create a safe and nurturing social environment for reflective learning and reflective practice (Mann 2005:330). The educator has to have a prior relationship with the student if any meaningful discussion and open dialogue is to take place on a personal level (Getliffe 1996:364; Powell 1989:826). Students need competent support and a trusting relationship before engaging in reflective activities (Burton 2000:1014-1015).

Students have to be encouraged in reflection and helped to think rationally so as to develop their own ideas about nursing practice. The educator needs to spend time with them, asking open-ended questions to facilitate reflection-on-action and developing a nurturing, safe environment in which students can learn. An optimal learning environment has a healthy balance between support, interest, enjoyment and challenge without threat (Gravett 2004:39).

The individual learning styles of students must be considered, and opportunities offered for structured reflection on and open discussion of these styles (Getliffe 1996:363-364, 370). The accommodator, activist or 'diver' who thrives on new experiences, but becomes quickly bored and who learns best by doing and feeling, would need support to work on creative thinking, reflecting and planning. The diverger, reflector or 'dreamer' who is thoughtful, listens well and considers all well before engagement or taking risks, would need to be assisted to set priorities, make decisions and participate in group activities. The converger, theorist or 'logician' who analyses, synthesises, thinks logically and rationalises, and who likes thinking and doing, would need support with creative and lateral thinking, and the ability of personal reflection and team work. The assimilator, pragmatist or 'searchlight' who like experimentation, to try out new ideas and to implement what he has learned, would need support with analytical and critical thinking (Hillier 2002:71-78; Honey & Mumford 1992; Kolb 1984).

Educators have to facilitate one-on-one and group learning according to the needs of the students, identify and utilise individual learning styles, monitor the learning process, choose the most appropriate course of action to achieve an outcome, use a variety of teaching methods and techniques, assess and give proper feedback, and support and propagate creativity. Other roles that educators play during the presentation of the programme include

mentor, coach, facilitator, co-ordinator, demonstrator, advisor, manager, assessor, moderator and guide (Henniger 2004:176-199; Olivier 2002:101-106).

Socialisation and enculturation of students into the domain or discipline is important if they are to become productive in the professional context. Each discipline has its own particular ways of communication, language use, conventions of behaviour and underlying meanings and values. These are commonly learned in a social context, especially where there is a positive atmosphere. Educators have to deliberately plan activities that enhance socialisation and enculturation, manage group interaction, enhance communication, encourage participation and sharing, explain concepts and be explicit about the meanings of terms used, especially those that concern assessment. The educators' own use of vocabulary and behaviour plays a significant role in the students' adoption of unique conventions (Henniger 2004:176-177; Olivier 2002:101-106; Van Rensburg & Lamberti 2004:67-89).

Gravett (2004:29-30) adds that the educator is responsible for gradually establishing a community of inquiry and interpretation through shared purposeful activity involving both teacher and students in the knowledge domain. The educator is responsible for intentionally creating a supportive space for such a community. This can be done by combining intentionality with flexibility (communicating expectations clearly but remaining sensitive to and considerate of individuals' needs and expectations), nurturing respectful relationship with students, intentionally striving to inspire learning, demonstrating passion for the knowledge domain, and resisting students' desire to locate authority unilaterally in the teacher and thus to be passive.

Planning and implementation involve decision-making and problem–solving. The educator is expected to deal with any problems or barriers to reflective learning or practice. Examples of barriers include anxiety and other emotions triggered by reflection; ethical issues e.g. patient and student confidentiality and privacy; painful feelings of vulnerability; resistance to reflective journal keeping; and failure to implement reflective thoughts in actual practice (Burton 2000:1014-1015; Henniger 2004:60-61).

For practical sessions students must be accompanied by skilled staff able to facilitate reflective practice. The educator must ensure that students have this skilled guidance (Powell 1989:830-831).

A significant portion of planning is choosing appropriate educational approaches and techniques and planning for their logistical requirements. Other planning activities include daily, weekly, quarterly and yearly planning (Van der Horst & McDonald 2001:160-174).

6.3.3 Evaluation and assessment

Evaluation is a very important aspect of reflective teaching and includes student assessment and feedback, evaluation and accreditation of the programme, and self-evaluation. Evaluation is not done only at the end of the academic year or the programme, but is integrated throughout the learning process. The term 'evaluation' is used in the context of this study as a more comprehensive concept and inclusive of the term 'assessment'.

Assessment is defined by the Council on Higher Education (Higher Education Quality Committee 2004b:33) as "systematic evaluation of a student's ability to demonstrate the achievement of the learning goals intended in a curriculum." In this study the term 'assessment' refers only to 'student assessment'.

The Council on Higher Education (Higher Education Quality Committee 2004b:12) specifies that, to be accredited, a programme must have for all its modes of delivery appropriate policies and procedures for:
- internal assessment;
- internal and external moderation;
- monitoring student progress;
- ensuring explicit, valid and reliable assessment practices;
- recording assessment results;
- settling disputes;
- ensuring a rigorous and secure assessment system;
- recognizing prior learning; and
- developing staff competence in assessment.

The programme must comply with the student assessment policies of the institution at which it is offered. The educator is also responsible for using assessment constructively as an integral part of learning by focussing on *what* has to be assessed, as well as *how* it can be assessed to create a learning opportunity (Geyser 2004a: 90-91). The educator has to carefully select appropriate assessment methods that bring out different qualities in students, concentrate on

processes and products for the students' individual education, and are learning experiences in themselves (Getliffe 1996:363-364, 370).

Some problematic aspects of student assessment with which the educator has to deal are difficulties in assessing reflective abilities, and subjectivity in assessment (Burton 2000:1014-1015).

Geyser (2004a:92-99) discusses the following principles of assessment:

- Assessment should be an integral part of learning that focuses on deep, active learning and involves high order cognitive skills.
- Assessment should be an integral part of programme and module design, matching the learning outcomes.
- The purpose of assessment should determine the assessment methods and techniques (e.g. diagnostic, formative or summative assessment).
- The relevant assessment criteria should be identified and applied clearly.
- Assessment processes should be reliable and valid.
- Assessment should be transparent and fair.
- Assessment tasks should be practical and realistic in terms of available resources, time, etc.
- Assessment should include a wide range of approaches and methods (e.g. self-, peer, group and workplace-based assessment).
- Assessment should provide feedback to support the learning process.
- Assessment should be integral to quality assurance procedures.

The educator must also make sure that the programme meets the specific requirements of the Department of Education set out in the Higher Education Act (South Africa 1997) and is registered with SAQA on the NQF (see Chapter 3). The programme must also meet the requirements of the Council on Higher Education (Higher Education Quality Committee 2004a & 2004b) for accreditation and of the profession's ETQA and council (SANC in this study) (see Chapter 3). Preparing for external accreditation by the relevant bodies includes obligatory internal or self-accreditation by the institution, which evaluates the programme against prescribed requirements. The educator responsible for a particular programme is expected to participate in this evaluation and make any changes necessary for compliance (Boughey 2004:1-21).

Waghid (2001:77-83) argues that higher education policy frameworks on their own cannot transform teaching and learning. Transformation must be driven from 'inside' by academics serious about changing education for the better. One way to transform is through reflexive praxis. Praxis is by implication action with a worthwhile rational end in mind, "engaging in action attuned to social experience where possibilities may be contemplated, reflected upon, transformed and deepened". Reflexivity involves critically examining one's personal and theoretical disposition, and at the same time, investigating how one's personal and theoretical commitments can transform patterns of critical educational discourse. In a sense reflexivity requires that the educator has criticized and 'deconstruct' his/her own teaching through reflection to 'transform' it to new ways of approaching old problems better.

Evaluation includes self-evaluation by the educator, especially of his/her presentation of the programme. Is there room for improvement, and if so, what must be improved? This is part of the educator's own personal growth and lifelong learning (Henniger 2004:8; Killen 2004:181-182).

6.3.4 Qualities required of reflective educators

Taking up the responsibilities explored in section 6.3.1-3 requires certain qualities in an educator. Most importantly as various authors emphasise, educators have to be credible reflective practitioners themselves (Burton 2000:1014-1015; Foster & Greenwood 1998:169; Getliffe 1996:370; Powell 1989:831; Reid 1993:305-309; Teekman 2000:1125-1135; Waghid 2001:81-82). A reflective educator thinks about her own teaching, models reflective thinking strategies in the classroom and clinical practice and uses specific teaching strategies to encourage students to be reflective (Scanlan and Chernomas, 1997:1138-1142).

Other qualities associated with reflective educators include open-mindedness, active concern with aims and consequences of teaching, ability to employ methods of enquiry, ability to employ self-reflection, collaboration with peers, and the ability to engage in a dialogue with colleagues (Hillier 2003:13; Raines & Shadoiw 1995:271). Educators have to have a sound knowledge-base in nursing theories and related disciplines, emphasise applications of knowledge, monitor it closely and plan experiences appropriately based on reflective principles (Powell 1989:830-831).

Reflective educators are facilitators and 'sharers' (Olivier 2002:101; Reid 1993:305-309)). Educators have to become learners rather than experts by continuously developing and

expanding their own knowledge-base in practice and reflective education, and by combining tradition and reflection (Getliffe 1996:370; Powell 1989:831).

Reflective educators have to establish trusting and meaningful relationships with their students and assure them of competent support before engaging in reflective dialogue or activities (Burton 2000:1014-1015; Getliffe 1996:364; Powell 1989:826). Meaningful reflective relationships are created only when educators give up their powerful position as authorities and collaborate with their student (Foster & Greenwood 1998:169; Getliffe 1996:361-374; Scanlan & Chernomas 1997:1138-1143; Waghid 2001:81-82). She has to be seen as a role model (Smith 1998:24).

Educators must be experienced in the process of supervision and reflection, and must use reflective frameworks effectively to guide students attempting to reflect at an appropriate level. Nurse educators should be aware that each framework promotes a particular level of reflection, though this is not always explicitly stated. The educator has to consider the individual student's ability to acquire and process information and consider the specialised subject content before choosing a reflective framework. This will help to protect students from negative learning experiences with accompanying loss of self-esteem and confidence and resulting disinterest and disillusionment (Foster & Greenwood 1998:168-169).

Educators must be consistently non-judgemental and supportive (Kuiper & Pesut 2004:385). They must assist students to focus, encourage them in deeper analysis and help them to balance of thoughts and feelings, without rushing them to closure (Baker 1996:19-22). Whatever a student uncovers during reflection must be given due attention.

Paterson (1995:211-220) describes four factors that impact upon a student's ability to reflect: the individual's developmental level of reflection, the individual's perception of the educator's trustworthiness, the individual's expectations of journal writing, and the quantity and quality of feedback from the educator. The qualities of the educator directly affect all four of these factors.

Students' positive emotion, and interconnectedness of thought and emotion support learning. The educator can promote these by respectful, authentic and empathetic interaction with students, enthusiasm, positive emotional involvement and the creation of challenges or temporary discomfort without threatening students (Gravett 2004:38-39). Reflective educators can deal with intrapersonal and interpersonal conflict and anxiety, provide a 'safe' and confidential environment for students and deal with ethical dilemmas (Burton 2000:1014-1015;

Getliffe 1996:370; Teekman 2000:1125-1135). Reflective educators do not use reflection as a managerial tool to discipline students (Driscoll & Teh 2001:99).

6.3.5 Conclusive remark

Thus the educator processes information, plans and implements, and evaluates. To do this in the reflective teaching process educators must be credible reflective practitioners themselves, establish positive and supportive relationships with students, and be able to deal with individual problems sensitively. This is just as important in neonatal nursing education.

In the following section various educational approaches and strategies are explored that educators can use for educating reflective neonatal nurses.

6.4   EDUCATIONAL APPROACHES

A programme's educational approach has to be chosen according to the purpose or outcome the programme intends to achieve. Outcomes of a nursing education programme include the specific learning outcomes, critical outcomes and end-product outcomes, discussed in detail in Chapter 4. The expected competences and professional characteristics depend on the content of the programme, as discussed in Chapter 5. Approaches can be broadly classified as behavioural, cognitive-constructivist or information-processing, humanistic, social or reflexive approaches. (See discussion of learning theories in Chapter 4, Table 4.1). The first four approaches are more traditional. The more recent reflexive approach is the focus of this study, as it is best suited for educating reflective neonatal nurses, but the others still have relevance. This will be shown by a brief discussion of all five approaches.

6.4.1 Behavioural approaches

Behavioural approaches are based on the philosophy that students learn as they modify their behaviour in response to environmental feedback. This feedback can be positive (reinforcement) or negative (discouragement). Behavioural approaches require highly organised, carefully planned teaching methodologies that change behaviours (Henniger 2004:185-186).

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Examples of such methodologies, which tend to be teacher- or content-centred learning, are direct instruction (Henniger 2004:186), mastering of content through repetitive drills and tasks, demonstrations (real-life, simulation or video), telling and selling (talk-and-chalk), question-and-answer sessions, dictating, discussing and reading (Hillier 2002:142-167; Olivier 2002:90-91, 111). Examples of teaching techniques used especially in practical training are the next-to-Nelly approach, where the trainer is the role model whom students have to follow, and self-paced criterion-referenced instruction, where the learner paces him/her self to meet specific technical criteria (Olivier 2002:119-122).

These techniques can be used effectively as part of learner-centred learning, to introduce new concepts or new clinical skills. Repetition commonly helps to improve memory and perception, which are necessary for learning a new clinical skill or practical competence. Pauses may help students to absorb the material, especially if reflection is integrated in the pause, while feedback and reinforcement are very important in learning clinical skills (Buckingham & Palmer 2005:211-212).

6.4.2 Cognitive-constructivist approaches

The cognitive-constructivist approaches are based on the premise that students make sense of their world as they are assisted to organise the information around them. They process information differently depending on their stage of intellectual development, eventually constructing or building their own interpretation or understanding (Henniger 2004:187-188; Kaufman 2003:4).

These approaches have three subtypes, namely active learning, social learning and creative learning. Active learning occurs when the students actively engage in discussion of research topics, and in tasks that involve them physically and intellectually. Social learning entails learning through social interactions with peers, teachers and other adults. Creative learning occurs when students take in new information and create or recreate knowledge for themselves (Henniger 2004:187-188).

Examples of teaching techniques associated with constructivist education include teamwork on a selected topic, research activities, report writing and creating artefacts to demonstrate learning (Henniger 2004:188; Hillier 2002:142-167).

Problem solving can also be a technique of constructivist education if students apply existing knowledge to a new or unfamiliar situation to gain new knowledge. This can be used with other strategies or on its own. Students gain insight by exploring different views or perspectives either in a group or on their own (Olivier 2002:96-99). The focus of problem solving as a constructivist technique is on creating new knowledge and not on social interaction, which is only part of the process.

This approach is especially valuable for facilitating the learning of foundational knowledge, which in this study includes for example the physiology, pathophysiology and pharmacology related to the neonatal patient.

6.4.3 Humanistic approaches

Humanistic or personal approaches are based on the assumption that each individual must take responsibility for his/her own learning and strive to reach full potential. The educator's role is to help students develop physically, emotionally and socially to become productive members of society by helping them to grow in self-understanding (Henniger 2004:186-187).

The purest example of a humanistic approach is nondirective learning, where the learner has full control of what must be learned and how it is to be learned. More practical forms of this approach involve creating an optimum learning environment, involving students in determining expected outcomes, considering individual needs and encouraging self-understanding in combination with other teaching methods (Henniger 2004:186-187; Olivier 2002:119). This type of approach agrees closely with the principles of adult and reflective learning as discussed in Chapter 4.

6.4.4 Social approaches

The social approaches are based on the premise that students learn best as they interact with peers and teachers in learning communities. The role of the educator is to create learning communities and provide strategies to enable students to communicate effectively with each other, build relationships and achieve educational outcomes (Henniger 2004:188; Hillier 2002:142-167; Olivier 2002:96).

An example of a social approach or strategy is cooperative learning, where students work together in a group small enough to allow everyone to participate on a clearly defined collective task, without direct supervision by the educator. This approach relies on face-to-face interaction and feelings of positive interdependence and individual accountability. Useful techniques are learner-teams-achievement divisions, jigsaw and group investigation (Henniger 2004:188; Van der Horst & McDonald 2001:137-149), think-pair-share methods, round tables, student team learning, introductory focussed discussion, cooperative study groups (Bitzer 2004:54-59), role-playing, presentations, games and quizzes and group projects (Hillier 2002:142-167).

Problem-solving as a team or group is another example of a social approach. Here students work in groups to apply existing knowledge to a new or unfamiliar situation to gain new knowledge. This approach can be used as part of other strategies or on its own. The students gain insight by exploring different views or perspectives through interaction in a group (Olivier 2002:96-99; Van der Horst & McDonald 2001:150-157).

Brainstorming can be used as a group activity together with other strategies such as problem–solving. Here group members work together to list all potentially relevant ideas about a particular topic, discuss these ideas and decide which to select for more detailed exploration by individual group members (Van der Horst & McDonald 2001:154-155).

Social approaches can be applied in various areas of reflective neonatal nursing education, but are especially valuable for teaching nursing care of neonatal patients, for example through case study presentations, peer group evaluation, or group assignments.

6.4.5 Reflective approaches

A reflective approach aims to achieve reflective learning, which in this study is defined as
> a process of conscious and intentional examination by an individual of what occurs in a learning experience, in terms of thoughts, feelings and/or actions, compared with underlying beliefs, assumptions, knowledge and the particular context. It can occur as reflection-before-action, reflection-in-action and reflection-on-action on any of a hierarchy of levels of complexity, resulting in a changed perspective and consequent changes in practice. The sequence of levels of complexity includes a descriptive phase, a reflective phase and a critical / emancipatory phase. (Refer to Chapter 4.)

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Various teaching techniques for facilitating reflective learning have been described over the last couple of years. All begin with the point made by Driscoll and Teh (2001:99) that students have to understand the principles of reflection before trying to reflect.

Studies into techniques for facilitating reflective learning include the following:

- Kim (1999:1205-1212) investigates *critical reflective inquiry* in a project that explores methodology, philosophical and theoretical foundation of critical reflective inquiry, actual engagement in such inquiry (through writing narratives about clinical experience and analysing these narratives in small groups), and ways in which critical reflective culture can be incorporated into nursing at a hospital.

- Duke and Appleton (2000:1557-1568) made students *write dialogues about practical incidents* related to module learning outcomes, which were then marked using a grid constructed from theory on the reflective process.

- Wong *et al.* (1995:48-57) describe a project that explores reflection and how it facilitates students' learning from experience. The students had to *design and implement a teaching* plan in an identified area, and *write a reflective paper about it* afterwards. A coding scheme was used based on the work of Boud *et al.* (1985) to assess the journals.

- Foster and Greenwood (1998:165-172) describe using *reflective dialogue* to introduce five newly-registered novice nurse to an NICU.

- Teekman (2000:1125-1135) studies how nurses use sense-making as a means of *self-questioning* in actual nursing practice. Interviews with ten registered nurses at three different hospitals revealed that sense-making is a useful strategy to enhance reflective thinking in practice.

- Powell (1989:824-832) studies eight practising registered nurses using a tool based on Mezirow and Lazzara's use of Colaizzi's reduction. The tool is found to be very usable for assessing reflection-on-action in practice, and is recommended as an educational tool.

- Reid (1993:305-309) explores a way to improve facilitation of reflective practice. *Coaching* is found to be pivotal in guiding a facilitator's approach to reflective practice; this coaching involves balancing challenge and support in a way appropriate for each individual and using recognised knowledge, experience and reflection. If facilitators take a risk and initially offer an experience of reflecting, this helps students realise 'the need to feel' before 'understanding', and embrace the continuing process of affirmation and transformation of practice.

- Baker (1996:19-22) explores the *reflective journals* of students at a baccalaureate nursing school as teaching strategy to enhance critical thinking. Journaling is found to nurture qualities associated with the 'ideal critical thinker', and to promote mindful and thoughtful

nursing practice. The students could use various media to express themselves, and most chose written expression.

- Getliffe (1996:361-374) studies six second-year undergraduate nursing students, using *structured reflection for formative assessment* based on John's Model for Structured Reflection, in three sessions. Students were introduced to concept of reflection-on-practice, and then, in three sessions, incidents identified by the students were discussed using structured reflection. Students completed questionnaires after each session and the educator kept a reflective journal. Use of reflection sessions as a formative part of assessment is found to be valuable.

- Chiu (2006:183-203) uses participatory action research, based on her reflection on literature and her own practice and research, to suggest a new *conceptual framework for critical reflection for reflective practice*. The integration of reflections from first-, second- and third-person perspectives is found to be valuable in enhancing reflective practice.

- Mann (2005:313-332) describes a self-reflective experiential study on three psychotherapists and the author's own reflection on learning using an innovative psycho-therapeutic approach (Pesso-Boyden System Pshychomotor). The study demonstrates the value of *self-directed reflection, peer support during 'co-reflection',* and *interactive inquiry*.

- Waghid (2001:77-83) describes presenting a course to students at honours level in 'Comparative Education' using reflexive praxis, which entails a variety of reflective activities. At the end of the course a focus group were held with the students. The use of *reflexive praxis* is found to be very valuable for transformation and for enhancing the quality of practice.

- Alsop (2005:174-184) describes using a *portfolio* as a place to collect and present evidence of continuing competence and professional development, as a way to encourage reflection and self-direction in identifying learning needs.

- Kuiper and Pesut (2004:381-391) describe a *self-regulated learning model* in nursing that explains how clinical reasoning skills can be acquired through attention to reflective thinking and the acquisition of critical thinking skills. Guiding the reflective process promotes greater reflectivity, with consequent transformation in the learning process. Methods that focus on guiding and supporting the reflective process include: interviews, vignettes, questionnaires, reflective papers, diaries and journals. Other methods mentioned are music, poetry, videotaping, discussion, writing, role-play, modelling, coaching/mentoring and supervision.

- Buckhingham and Palmer (2005:206-209) describe *reflecting as a core learning skill* that informs all aspects of lifelong learning and practice. They suggest opportunities for individual learning (reflective diary, reading, clinical research or a project), learning with

support (coaching, mentoring, critical incident analysis, interest groups, networking, role model, action learning groups), learning away from the usual work environment (job rotation, course design or presenting on specific topic, secondments, educational visits), personal development plans (develop individual, personal and career objectives), changing the culture, time management, stress management, clinical learning and clinical leaders, and writing and publishing.

Overall, then, various teaching techniques are available to facilitate reflective learning. It is important for educators to choose the most appropriate techniques to achieve a programme's specific required outcomes.

Suitable approaches for this study, which focuses on educating reflective neonatal nurses, will now be discussed.

6.5   SUITABLE APPROACHES FOR EDUCATING REFLECTIVE NEONATAL NURSES

The specific learning outcomes expected from reflective neonatal nurses are categorised as practical, foundational and reflexive competences. Practical competences are "the demonstrated ability, in an authentic context, to consider a range of possibilities for action, to make considered decisions about which possibility to follow, and to perform the chosen action" (Council on Higher Education 2002:49). The different levels of practical competences are *imitation* or the ability to re-demonstrate, *manipulation* of the task or the ability to perform acts on instruction, *precision and control* or the ability to produce a high level of proficiency, *articulation* according to the situation or the coordination of a series of activities, and *automation* or naturalisation, or the ability to act with maximum proficiency and the minimum expenditure of energy. To reach practical competence an individual needs to know how to do something, have subject-specific skills and algorithms (nursing skills), be familiar with subject-specific techniques and methods (nursing process), and understand the criteria for determining when to use appropriate procedures such as diagnostic and laboratory tests (Duan 2006:4).

Foundational competences are the demonstrated understandings of the knowledge and thinking that underpins the action/s taken (Council on Higher Education 2002:48-49; Geyser 2004b:145). This foundation complex occurs at various levels of complexity or difficulty, which form a hierarchy; these are empirical-analytical, historical-hermeneutic and critical or self-

reflective knowledge (Smith & Lovat 2003:88-90). The differences between the levels are not always exact, since they are integrated with and build on each other to create the whole meaning.

Reflexive competences are the demonstrated abilities to integrate and connect performances and decision-making with understanding and with an ability to adapt to change and unforeseen circumstances, and to explain the reasons behind such adaptation (Council on Higher Education 2002:48-49; Geyser 2004b:145). Reflexive competences involve the cognitive and meta-cognitive skills that underpin the process of reflective learning, and are therefore described as they relate to the different phases of reflective learning discussed in section 4.3.3.

Certain principles must be remembered when choosing the most appropriate teaching techniques. These have been compiled from the work of Bitzer (2004:41-47), Buckingham and Palmer (2005:211-212), Getliffe (1996:365-369), Geyser (2004a:90-111), Gravett (2004:22-40), Kaufman (2003:1-11), Olivier (2002:1-7), SAQA (1999:6-18) and Van der Horst and McDonald (2001:3-7):

- Deep learning requires that the teacher design teaching and learning activities that involve both teacher and students in a purposeful process of inquiring into different views on phenomena, comparing and contrasting these views and exploring why certain ways of seeing are more powerful.
- Students have to take responsibility for their own learning, and educators act as facilitators to achieve the desired end-results or outcomes.
- To foster deep learning, the focus must be on the main ideas of the knowledge domain and how these interrelate.
- Students have to be stimulated to develop a disposition of inquiry, which is inherent to a scholarly way of thinking and doing.
- Depth of learning rather than breadth of coverage must be emphasised.
- The ideal state of mind for optimal learning is 'relaxed alertness', which is characterised by low threat, a sense of well-being and moderate to high challenge.
- Teaching and assessment must be intentionally aligned to support the attainment of envisaged outcomes.
- Students' existing knowledge must be taken as the base for future learning.
- Students must be involved in formulating learning outcomes.
- The teacher must engage with students rather than expounding information.
- Students' misconceptions must be confronted and eradicated.

- Formative assessment must provide students with constructive feedback about their progress, and assess for understanding and application rather than for facts.
- Students must be involved in their own assessment to identify their own knowledge gaps and critically appraise new information.
- Students must be guided to develop the habits of outlining, organising, reflecting, explaining, theorising, applying and communicating information.
- Students must be required to read, extract core ideas, summarise, paraphrase and construct their own definitions for terms.
- Discussions must take place in small and manageable groups of students.
- Group dynamics are important, and group members must be more or less at the same level of reflection to prevent frustration.
- Sessions must be structured according to the students' learning styles and preferences; this can vary from structured questions that guide the reflection to open discussion, or some combination of structures, as long as the purpose of the reflection is made very clear.
- Assessment must be integral to the educational approach and not only a final evaluation to see if outcomes have been achieved. In itself assessment must be a learning opportunity, using clear specifications of the purpose of the assessment and proper feedback to help students learn.
- Feedback must include similarities, differences, misconceptions, good interpretations and other relevant issues.
- Learning does not take place at a steady rate, but usually in periods of rapid advance followed by periods of consolidation.

Successful teaching techniques for boosting academic performance include (Henniger 2004:180-185; Marzano, Pickering & Pollock 2001):
- facilitating identification of similarities and differences;
- teaching effective summarising and note taking;
- positively reinforcing individual performance;
- giving appropriate assignments and opportunities to practice new and developing skills;
- fostering students' ability to create non-linguistic representations or mental pictures;
- setting clear goals and giving quality feedback;
- teaching application of knowledge by stimulating generation and testing of hypotheses; and
- activating prior knowledge (e.g. using cues, effective questioning and advance organisers).

The following must be avoided in order to facilitate reflective learning (Gravett 2004:22-40):

- transferring large quantities of information;
- assessing only recall of independent facts;
- emphasising coverage at the expense of depth;
- designing an over-demanding syllabus with excessive workload for students;
- assessing frequently for credit;
- failing to give adequate feedback;
- creating low expectations for success (with comments like, 'Anyone who can't understand this should not be at university'); and
- not giving detailed notes in the form of information analysed, summarised, related and organised by the educator.

Educators have to consider these principles when deciding on an appropriate educational approach for facilitating the learning of reflective neonatal nurses. The content of the envisioned programme, as outlined in Chapter 5, and its expected outcomes significantly influence the choice of approach. The application of approaches for educating reflective neonatal nurses and achieving expected outcomes is suggested in Table 6.1.

Table 6.1: Educational approaches for educating reflective neonatal nurses

| Approach | Examples of techniques | Suitability to achieve competences | | |
		Practical competences	Foundational competences	Reflexive competences
Behavioural approach	Direct instruction, repetitive drills, demonstrations, formal lectures, presentations, dictation / reading, next-to-Nelly, criterion-referenced instruction, simulations, experiments	Very good	Selected situations	Poor
Cognitive-constructivistic approach	Discussions, research, report writing, problem solving, teamwork, case studies, projects, assignments	Limited	Very good	Good
Humanisticic / Personal approach	Nondirective learning, self-study	Limited	Varies	Limited
Social approach	Cooperative learning (group investigation, jigsaw), teamwork, study groups, discussions, brainstorming, problem solving, role play, mentoring, supervision, coaching, games and quizzes, group presentations, chatrooms, IT conferencing	Limited	Good	Good
Reflexive approach	Reflective inquiry, reflective journals, report writing, reflective dialogue, self-questioning, coaching, mentoring, supervision, structured reflection, reflexive praxis, port-folio, problem solving	Limited	Good	Very good

In conclusion, the best approach is no single selected approach, but rather a combination of relevant approaches or an integrated approach according to each learning opportunity's expected outcomes, available resources and context. It is crucial that the educator understand the underlying assumptions of the various approaches, the advantages and disadvantages of the different teaching techniques, and the principles or 'rules' of the techniques before trying to implement them. Educators must use reflexive praxis themselves, to stay updated on educational approaches and techniques as part of their own lifelong learning and to continue to improve their own practice through reflection.

Waghid teaches post-basic students research methodology at a university. A description (2001:80-82) of his reflexive teaching praxis shows an example of an integrated approach adapted to each situation to achieve the expected outcomes:

> In the beginning of the course, he first presents (format of formal lecture) and expounds on the conceptual underpinnings of issues about knowledge in the curriculum, in particular the diversity of ways in which knowledge within the field is produced. The presentation is complemented by relevant and critical readings. The students are encouraged to make analytical summaries of the selected readings to ensure basic understanding of the texts, but also to interpret these same texts relevant to their own social and every day life experiences. The focus has to be on thinking patterns that would engender a critical, reflexive understanding and approach to studies and relate abstract theoretical and methodological perspectives with situational examples in everyday life situations. The aim thereof is the reduction of facts with the focus on transferable skills and fundamental concepts (not spending too much time on absorbing knowledge, but creating an understandable link).

> After the presentation and exposition stages, he introduces activities (classroom presentation/discussions, assignment, seminar and workshop) that would demand their use of critical reflection and rethinking of knowledge and the production of their own and shared meanings. The students as individuals and in collaborative groups engage critically in reading of knowledge and knowledge formation as constructed and applied in the world regarding the particular topic. The aim of this phase is to give them insight into their own learning styles and that of others with appreciation of the value of diversity in a working environment, and to develop collegiality in working in teams, which contribute to easier transition to the workplace environment.

> He attempts to get students to think or go beyond information given with integrative skill of bringing knowledge, skills, understanding and experience together in problem solving activities and environment, which in turn provides students with an appropriate kind of preparation for lifelong independent learning.

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Similarly, a neonatal educator can achieve the best results using an integrated approach according to the particular topic.

6.6   SUMMARY

This chapter addressed the role of the educator and possible approaches for educating reflective neonatal nurses. This contributed to clarifying the concepts used in the model, particularly the agent (educator) and the procedure (educational approaches). The following chapter is a description of the construction of the model as a whole.