

## **Reflective learning in higher education: Application to clinical nursing**

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### **Abstract**

Reflective learning is the rational analytical process utilised to develop knowledge from experience. This approach to learning is important in post-basic clinical nursing education for both theoretical and clinical competence. A qualitative, non-empirical study was conducted to develop a model for educating reflective neonatal nurses in a South African context. Phase 1 of the study entailed the identification and clarification of concepts related to neonatal nursing education in this context. The article reports on the concept of reflective learning in neonatal critical care nursing education within this context. The concepts 'reflection', 'reflective learning', 'reflective thinking' and 'reflective reasoning' were clarified through a process of data exploration and analysis. A definition of reflective learning was developed through deductive and inductive reasoning, and reflective learning and the different approaches used to facilitate learning was described. The findings of the study show that reflective learning in higher education (nursing education) contributes to the development from a novice to a competent professional and from a competent professional to an expert and change agent. Using reflective learning to address the critical outcome of education of neonatal nurses creates an opportunity to prepare these nurses for their high risk role in caring for critically ill neonates. Neonatal reflective nurses provide patient-specific care according to the unique needs of the neonate, using a process of reflection that involves analysing and interpreting cues, weighing the evidence and only then making appropriate clinical decisions. By having the ability to reflect about patients, and about themselves and their experiences, nurses in high-risk environments are able to improve practice, adapt to different social contexts and take control of the professional practice.

**Keywords:** Reflective learning, reflective thinking, reflective reasoning, clinical nursing education.

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### **Introduction**

Reflective learning empowers professionals, changes perspectives and transforms practice (Hillier, 2002). Reflective learners develop the ability to collaborate within a multi-disciplinary team and integrate theory and practice. Critical thinking and problem solving are enhanced by the opportunity to reflect on change and growth over a period of time (Ayan & Seferoglu, 2011).

The inclusion of reflective learning in a post-basic clinical nursing programme that fosters reflection is a challenge in the preparation of competent professionals for a particular context. This need led to the clarification of the concept of reflective learning in order to develop reflective neonatal critical care nurses in an adult learning context (Maree, 2007).

Adult learners prefer experiential learning, are independent and self-directed (Boleman & Kistler, 2005). They often engage in learning simply because they like it and enjoy finding out about things (Hillier, 2002). They have significant personal knowledge and experiences that can be used to guide practice and learning (Gravett & Geysler, 2004), within formal, informal, individual and organisational activities and processes (Jordi, 2011). As adult learners professional nurses specialising in neonatal critical care, have a life-centred approach and are motivated by their own particular needs and interests.

Professional nurses engage voluntarily in the post-basic educational programme to specialise in neonatal critical care nursing science. Prerequisites are that they must be registered as general nurses and midwives with the South African Nursing Council (1993), be appointed in an accredited neonatal intensive care unit and have at least one year appropriate working experience. They are thus adults older than 22 years, commonly female, fulfilling various roles in life and having many responsibilities while they are specialising in neonatal critical care nursing science. These students are enrolled in a formal higher education programme at a university.

This research was based on the assumption that reflective neonatal critical care nurses would be able to cope best with this dynamic field, as reflective practitioners provide patient-specific care according to the unique needs of the patient, using a process of reflection that involves analysing and interpreting cues, weighing the evidence and only then making appropriate clinical decisions (Foster & Greenwood, 1998). Further, reflective practitioners are competent professionals who seek to improve their practice, adapt to different social contexts and take control of their professional practice. They acknowledge both what they are able to transform and what they cannot change, through a truly emancipatory process (Hillier, 2002).

## **Methodology**

As part of a comprehensive study to develop a model for education of reflective neonatal nurse practitioners, it became necessary to explore and describe the concept of reflective learning (Maree, 2007). The main research question guiding the entire study was: “How can neonatal critical care nurses be educated to become reflective practitioners?” The development of the model was based on the structural components (‘building blocks’) as described by Dickoff, James and

Wiedenbach (1968) and the process as described by Walker and Avant (1995). Among others, one of the objectives of the study was to analyse the concept and process of reflective learning.

A qualitative research approach involving an explorative, descriptive design within a particular context as suggested by Streubert Speziale and Carpenter (2003) was used to develop a model for the education of reflective neonatal critical care nurses in a South African context (Maree, 2007). The purpose of the first phase of the study was concept identification and clarification, and the identification of relationships between different concepts through non-empirical research.

Theoretical data were obtained through in-depth exploration of relevant literature to find authoritative arguments of previous researchers in which to anchor the research in literature. This was done to allow contextualisation while arguing a case, and to identify a niche to be occupied by this research (Henning, Van Rensburg & Smit, 2004).

The theoretical data were selected vigorously and purposively for the clarification of concepts, as well as for conceptual definitions, operational definitions, relational statements and existing ethico-legal frameworks, conceptual frameworks, models and theories to meet the particular objectives (Streubert Speziale & Carpenter, 2003).

Relevant literature was identified and obtained with the assistance of an information specialist at the Academic Information Service of the university by searching the databases (especially using the CINAHL and MEDLINE databases), following up significant authors and articles or books quoted repeatedly, and being on the lookout for other relevant literature encountered during the course of the study. Sources from the last 10 years were preferred, but older literature was included in cases of authoritative primary sources.

Conceptual analysis was used to identify relevant concepts in the data and to clarify, define, give meaning and make sense of these concepts and the relationships between them within a specific context through inductive and deductive reasoning (Denzin & Lincoln, 2000). During this analysis, all the ideas that could give a clear description of the concepts or the relationships between the concepts were recorded. These notes or memos were sorted and integrated with the description of the emerging conceptual framework (Streubert Speziale & Carpenter, 2003).

The strategies to enhance trustworthiness were based on those proposed by Lincoln and Guba (1985):

- *Credibility* or *truth value* in this study was enhanced by the researcher's and research supervisors' prolonged engagement in nursing practice and nursing education, and by evaluation done by experts.
- *Transferability* or *applicability* was not the main aim of the study, but rather an unlooked-for consequence of the thick description yielded by the research process and the validation of the results.
- The detailed description of this study's methodology offered and enhanced the *dependability* or *consistency* of the findings, because it made scrutiny possible.
- *Confirmability* or *neutrality* was enhanced by the description of a confirmable audit route and process.

The most important ethical consideration in this phase of the study was related to the recognition of authorship and the prevention of plagiarism (De Vos, Strydom, Fouché & Delpont, 2011). It was adhered to by referring to the authors as their works were quoted or used in the research report and by being true to what was presented in the literature.

### **Data exploration and analysis of reflective learning**

The concepts explored to understand the process of reflective learning included 'learning approaches', 'reflection', 'reflective thinking', 'reflective reasoning' and 'reflective learning'.

Various learning approaches were explored to clarify learning including behaviourist, cognitive-constructivist, humanistic, social and reflective approaches, each of which focuses on learning from a different angle. A reflexive approach, which is the main focus of this study, is based on the assumption that learning occurs best when it is founded in reflection.

Reflection, reflexivity, reflectivity, reflective thinking, reflective reasoning and reflective learning are often used as synonyms by different authors. An in-depth exploration of definitions and descriptions of these concepts suggests implicitly or explicitly the involvement of *mental activities* about or being triggered by a situation or *experience* in a *specific context*, with a *changed perspective* as an outcome. This changed perspective often leads to *changed practice*. The changed perspective can be seen as an indication of learning ('development of the mind') in cognitive, affective and psychomotor dimensions.

Examples of words used to describe mental activities include "consciously examining" (Kim, 1999), "conscious and deliberate process of thinking" (Getliffe, 1996) and "knowledge production" (Chiu, 2006).

Descriptions to indicate that the mental activities are about to be triggered or are in fact triggered by a situation or experience in a specific context include “a situation in which obscurity, doubt, conflict, disturbance of some sort is experienced” (Dewey, 1933) and “is located within situational, institutional, cultural and historical contexts” (Chiu, 2006).

The outcome as a changed perspective are indicated by descriptions such as “transformation” (Dewey, 1933), “a changed conceptual perspective” (Atkins & Murphy, 1993) and “new experience, knowledge and insights” (Alsop, 2005).

Based on the above and given the educational nature of this study, the term ‘reflective learning’ is therefore used as the preferred concept to describe reflection, reflexivity, reflectivity, reflective reasoning and reflective thinking. In this way problems are reduced with consistent use of wording while drawing on the core similarity of all the definitions and descriptions in the literature.

Also illuminating are comments on what reflective learning is *not*. It is not just thoughts and feelings about a topic (Alsop, 2005), mulling over a topic (Burton, 2000) or passive acceptance of existing knowledge or practice (Driscoll & Teh, 2001). It is not working on ‘auto-pilot’ or following automatic and routine activities (Driscoll & Teh, 2001) or unproblematic everyday practice (Alsop, 2005) without a purpose (Burton, 2000). Reflective learning is not an academic exercise or a new set of rules or detailed instructions on how to carry out practice (Driscoll & Teh, 2001). It is not accidental problem solving (Foster & Greenwood, 1998). Reflection or reflective learning is not limited to specific categories of staff in clinical practice, but it can also not be forced on any person (Driscoll & Teh, 2001). It is not an easy solution to improve quality care and requires commitment of time and intellectual effort (Alsop, 2005). Reflective learning as referred to in this article is understood in light of these statements.

Literature was then further explored to formulate a definition of reflective learning that includes the underlying processes, as reflective learning involves activities that create change, and therefore implies the presence of active processes.

The common theme of descriptions in literature is that the underlying processes of reflective learning occurs either as different steps in a cyclical sequence, or as a hierarchical process occurring at different levels of complexity, to change the conceptual framework of the individual, establish an empowered response to the environment and circumstances, and as a result contribute to changed practice.

Examples of descriptions that indicate the underlying process as occurring in a sequence or at different levels of complexity include that “reflection has three stages ... awareness ... critical analysis of the situation ... developing a new

perspective ...” (Atkins & Murphy, 1993), that “levels of reflection are ... descriptive phase ... reflective phase ... critical / emancipatory phase ...” (Kim, 1999) and that it is a “process of reflection ...description ... analysis ... proposed actions ...” (Driscoll & Teh, 2001).

Descriptions of various authors indicate the change in the individual with consequential change in behaviour resulting in changed practice. Examples thereof include: “engagement in emancipatory and change processes” (Kim, 1999) and “[it] results in deliberate action” (Van Aswegen, Brink & Steyn, 2000).

As the abovementioned concepts were clarified, and relations between concepts were drawn, a comprehensive definition and explanation of reflective learning was developed, which is discussed in the following section.

## Discussion

The definition of reflective learning that has been derived is as follows:

*“Reflective learning is described 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 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”* (Maree 2007: 91).

The individual meanings of the various parts of the definition are discussed in more detail. It is illustrated by means of an example of how the neonatal nursing student can learn more about neonatal resuscitation, which is a common occurrence in neonatal nursing practice. Even if it is a common occurrence, the person might not yet have mastered all the related competencies.

“A *process*” implies a series of actions or progress that takes place. In this example the process refers to the progress of learning regarding neonatal resuscitation (Maree 2007:91).

“*Conscious and intentional examination by an individual*” refers to deliberate mental activities and efforts made by the person to explore purposively. These activities can take place internally (cognition), or in dialogue with (an) other person(s). It can for example take place as a deliberately planned or scheduled

session of reflection after an incident of resuscitation, attended by all multidisciplinary team members with the purpose of reflecting on the incident. It can also be a discussion during a class contact session that focuses on the incident (Maree 2007:92).

*“A learning experience, in terms of thoughts, feelings and/or actions”* implies a situation or incident that takes place, or an experience that the person has, that involves ideas or thinking, emotions and/or response(s) in that particular situation, that trigger the conscious and intentional examination by the individual. This situation often triggers an awareness of inner discomfort, or a situation of self-examination. The student can be guided by asking structured questions such as “What happened?”, “What did you experience during the incident?”, “What was done by whom and how was it done?”, “What made a significant impact on you?” (Maree 2007:92).

*“Compared with underlying beliefs, assumptions, knowledge and the particular context”* stresses that this conscious and intentional examination does not take place in isolation, but that the person involved bases this examination on his/her own value system, preconceived ideas and perceptions, existing or new information available to and understood by him/her, and additional factors (the ‘bigger picture’) known in and relevant to that particular situation or incident. This part of the reflective process can continue to be directed by the use of structured questions, such as those described later under the ‘descriptive phase’ (Maree 2007:92).

*“It can occur as reflection-before-action, reflection-in-action and reflection-on-action”* describes the timing of the reflective activities in relation to the particular situation or incident. Reflection-before-action is the deliberate anticipation or prediction of a situation, and the planning of actions accordingly; reflection-in-action is the deliberate examination that occurs while the situation is in progress; and reflection-on-action is the retrospective examination of the situation after it has taken place. In the case of an incident such as neonatal resuscitation, it will be difficult for a lecturer to be exactly on time for the resuscitation due to the unpredictability thereof, which makes it difficult for a lecturer to make use of reflection-in-action through structured questions (Maree 2007:92).

*“A hierarchy of levels of complexity”* and *“a descriptive phase, reflective phase and critical/emancipatory phase”* imply that different phases are involved in reflective learning with various degrees of difficulty (Maree 2007:92).

The *descriptive phase* involves description of a situation or incident and examination of this description for genuineness and comprehensiveness without attaching interpretations to them. It requires relatively low-level cognitive skills

to gain knowledge of the facts (observe and memorise facts and figures to reproduce them); gain comprehension or insight into the content (understand, interpret, explain and summarise it, emphasise the essentials of the content and anticipate the implications or results of action); give meaning and create one's own perception of what is observed; and use appropriate language and cognitive and linguistic abilities to communicate it (Duan, 2006). Structured questions that can be used include questions to determine the facts of what happened, as well as questions such as the following: "Why do you think it happened the way it did?"; "What is your opinion about it, and why?"; "What contextual factors influenced the situation?"; "How should it be done and why?"; "What evidence exist that can guide you in the management of such a situation?". Reflective learning can be further enhanced by discussion of related evidence-based literature as soon as possible after the incident / situation.

The second level is the *reflective phase*, which entails reflective learning as defined earlier in this article. The main focus during this phase is on the 'why' and not the 'how' of a particular topic, situation or incident as suggested by Van Aswegen *et al.* (2000). Meaning, coherence, consistency, inconsistency, disparities, commonalities, uniqueness, intentions, application, usefulness and need for change or learning are sought (Kim, 1999). It entails reflective analysis against espoused theories (scientific, ethical or aesthetic), reflective analysis of the situation and of intentions against actual practice. Examples of structured questions that can be used during this phase are: "What are the motivation/reasons for the actions taken during the incident/situation?"; "What new knowledge did you gain from this incident?"; "What will you do differently in a similar situation?"; "How can practice be improved using your new knowledge?"

The abilities that underlie the reflective phase include analysis (the ability to analyse a situation into its different components and indicate the interrelationship among them); application (the ability to explain a relationship between facts or concepts and to generalise the knowledge) and the manipulation or utilisation of knowledge (the use of knowledge or skills in new or other situations) (Duan, 2006). Synthesis starts in this phase and continues into the critical or emancipatory phase of reflective learning. The main outcome of the reflective phase contributes to the phrase of the definition "*resulting in a changed perspective*". This changed perspective is the change in mind, the development or learning that takes place in the individual relative to his/her original perception of the situation or incident, the point of departure prior to the process of reflective learning, and the emancipation of the individual as a result. The individual who experienced learning during the reflective phase would be able to indicate and verbalise their changed perspective during a discussion.



The third and most complex phase of reflective learning is the *critical/emancipatory phase*. In this phase the individual's perspective changes, and consequently so does his/her practice, depending on the nature of the theory-practice connection (Hillier, 2002). The aim of the phase is to explain the nature and meaning of practice to practitioners, to correct and improve any sub-optimal or ineffective practice through self-reflection and criticism, and to generate models of good practice and theories of application through reflection and critique of actual occurrences. The desired outcome is self-emancipation and an emancipatory culture in clinical settings (Kim, 1999; Kuiper & Pesut, 2004). This is what is referred to in the last phrase of the definition as "*consequent changes in practice*". It includes the actual or potential differences in the nurse's practice arising from his/her changed perspective. These differences can include a different approach to a situation, or different behaviour and execution of actions. In the example used thus far to illustrate the meaning and application of the definition of reflective learning, the consequent changes in practice might include the development of a new policy or guidelines on resuscitation of a neonatal patient. Other potential changes may include the implementation of a specific format for incident reporting, implementation of a quality improvement project, and more to enhance neonatal resuscitation.

### **Barriers to reflective learning**

The down-side of reflective learning though is that it is not without problems or barriers. They can be grouped into those associated with the individuals involved, with the particular circumstances and with the programme (Maree, 2007). It is therefore proposed that the value of reflective learning should be acknowledged rather than disputed as a learning tool to educate reflective practitioners. However, the complexity of this concept in integration of theory, practice and human experiential learning requiring critique, is recognised.

### **Conclusion**

The researchers agree with Hillier (2002) that a person needs prior learning and low-level cognitive abilities to understand and communicate facts and figures, but reflection to develop from a novice to a competent professional and critical reflection to develop from a competent professional to an expert and change agent.

Through a process of inductive and deductive reasoning the term 'reflective learning' was chosen as the representative concept of different terms used in the literature to describe the process of learning through reflection. The meaning of reflective learning was explored and a new definition was formulated, namely:

*Reflective learning is described 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 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, reflective phase and critical/emancipatory phase.*

The need for an expansive concept clarification and practice of reflection is evident (Jordi, 2011). The authors propose that by applying this definition of reflective learning, educators can facilitate the process of developing reflective practitioners.

The findings of the study show that reflective learning in higher education (nursing education) contributes to the development from a novice to a competent professional and from a competent professional to an expert and change agent. Using reflective learning to address the critical outcome of education of neonatal nurses creates an opportunity to prepare these nurses for their role in caring for high risk and critically ill neonates. Neonatal reflective nurses provide patient-specific care according to the unique needs of the neonate, using a process of reflection that involves analysing and interpreting cues, weighing the evidence and only then making appropriate clinical decisions. By having the ability to reflect about patients, and about themselves and their experiences, nurses in high-risk environments are able to improve practice, adapt to different social contexts and take control of the professional practice.

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