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DESCRIPTIVE TITLE:

Producing the Magnum Opus: A Metaphor for Nephrology Nursing Expertise Acquisition.

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## ABSTRACT

**Background.** The use of metaphor is pervasive in everyday thought, language and action. It is an important means to the comprehension and management of everyday life; it enables access to the meaning of ineffable concepts through the application of different concepts which can be articulated. Metaphors are also pervasive in quantitative and qualitative research and for the same reason. In both everyday life and in research their use may be implicit or explicit.

**Aim.** To elucidate the nature of metaphor and the conditions necessary to its use as an analytic device in qualitative research, and to describe in detail how the use of metaphor assisted in the analytic processes of a grounded theory study into nephrology nursing expertise.

**Methods.** The study using grounded theory methodology, took place in one renal unit in New South Wales, Australia and involved 6 non-expert and 11 expert nurses. It involved simultaneous data collection and analysis using participant observation, semi-structured interviews and review of nursing documentation.

**Findings.** A three stage skills-acquisitive process was identified in which an orchestral metaphor was utilised to explain the relationship between each stage and to satisfactorily capture the data coded within each stage.

**Conclusion.** Metaphors create images, clarify and add depth to meanings and, if used appropriately and explicitly in qualitative research, can capture data at highly conceptual levels. Metaphors also assist in explaining the relationship between findings in a clearer and more coherent manner.

## KEYWORDS

Renal  
Expertise  
Grounded theory  
Nursing  
Australia

## SUMMARY STATEMENT

What is already known on this topic:

- Metaphors are used both implicitly and explicitly in everyday life and in qualitative and quantitative research.
- Patients have used metaphors to explain symptoms.

What this study adds:

- This is the first study to explore the acquisition of nephrology (renal) nursing expertise.
- A demonstration of how the conceptualisation of data can be usefully assisted and explicated with the explicit use of metaphor.

## INTRODUCTION

Metaphors are figures of speech in which one thing is compared to another to which it is not literally applicable, in order to suggest a resemblance; they have been used in everyday speech (Lakoff & Johnson 1980) and in literature throughout history (Kövecses 2002).

Ancient Greek literature, for instance, reveals that people in western civilisation have used many metaphors to shape our understanding and to make sense of the environment (Sapir 1977, Barker 1998). For example, Homer's poem "The Odyssey" tells of the journey undertaken by Odysseus. It is as a result of Odysseus' protracted journey to Ithaca that he acquires knowledge. Put briefly, Homer uses the metaphor of travel to explain how people acquire knowledge.

In modern society people utilise metaphors in a variety of ways to designate one thing as similar (or dissimilar) to another thing (Sapir 1977). As a kind of comparison between two concepts, in which some aspects of one are transferred to the other to highlight or assist in understanding its components (Ortony 1993), metaphors assist us to clarify and broaden our understandings. For instance, we use body parts as metaphors to represent clearly and succinctly the parts of other material objects: "leg of a table", "head of a pin", "eye of a needle" or "foot of a mountain". Nurses and nursing have also been a target for metaphors (Czechmeister 1994, Watson 1987, Wurzbach 1999). According to Fagin and Diers (1983), nursing is a metaphor for mothering as nursing incorporates nurturing, caring and comforting. It is also a metaphor for women's struggle for equality in a male dominated world (Wurzbach 1999); that is (female) nurses are struggling to be heard and recognised by the (male) medical world which predominates both in health care and society's understanding of it. In addition, Marck (2000) suggests that nurses are practicing in a metaphorically looming "ecological"

disaster due to the disparity between the increasing treatment options and the decreasing resources available to service them.

In this article we discuss the importance of metaphor as a conceptual aid to understanding the world we experience. This will be followed by an examination of the utility of metaphor in research. Lastly, we will present the metaphor, *producing the magnum opus*, which assisted in conceptualising the data and was used to explain the theoretical relationships between the categories that emerged during a grounded theory study into the acquisition of nephrology nursing expertise.

## METAPHORICAL CONCEPTS

As indicated, above, a metaphor is a figure of speech in which a word or phrase ordinarily used for one thing is applied to something to which it is not literally applicable, in order to suggest a resemblance or to imply a comparison (Delbridge *et al.* 1991). A metaphor involves two concepts that are not the same but which assist our understanding of one conceptual domain in terms of another conceptual domain. Metaphor directs attention to covert or ineffable features of resemblance (Davidson 1979) which cannot be captured or captured adequately in words other than those of the metaphor itself. The figurative language of the metaphor assists in the comprehension of the non-figurative concept it is a metaphor for. The conceptual domain that we try to understand is called the target domain and the conceptual domain that we use for this purpose is the source domain (Kövecses 2002). Conceptual metaphors typically employ a more abstract concept as target (e.g. base [of mountain]) and a more concrete or physical concept as their source (e.g. *foot*). Our experiences with the physical world serve as a natural foundation for the comprehension of more abstract domains, thus the source and target domains are not reversible (Kövecses

2002). In addition, Czechmeister (1994) suggests that metaphors have both an expressive and instrumental function. The expressive function is invested with feeling and attitudes, adding of meaning (e.g. a *peach* of a day). The instrumental function permits the description of a phenomenon and its context (e.g. she is a *loose cannon* in committees). This explains why, in everyday life, metaphors are present not just in language but also in thought and action (Lakoff & Johnson 1980).

We use metaphors just as we use non-metaphoric concepts to help group together or categorise objects, entities and events into manageable chunks of information which are stored in memory. For instance, the current most common metaphor for the human mind is the computer (category). Consistent with this, memory (subcategory) is construed as retrieval from a stored symbolic database and problem-solving (subcategory) is construed as logical inference (Clark 1997) using both on-line and off-line processes (sub-subcategories).

According to Roth and Frisby (1986) and Smyth (1987), although such objects, entities and events are individually different, they are treated in thought and language as members of the same conceptual category. If individuals did not have the ability to categorise the world around them, they would be constantly bombarded with new information; they would be unable to recognise or make sense of objects, entities or events because they would not have a category to attach to them (Roth & Frisby 1986). The construction of concepts or conceptual categories is the means whereby individuals impose order on the world; they are mental representations of objects, entities and events, which enable agents to understand, remember, and communicate about such objects, entities and events (Baddeley 1990, Howard 1987, Roth & Frisby 1986). Conceptual categorisation, therefore, is central to all cognitive abilities (Roth & Frisby 1986) and concepts are the building blocks of thought (Garnham & Oakhill 1994).

What we perceive, how we act, and how we relate to objects, entities and events are frequently represented as metaphorical concepts (Wurzbach 1999) because some concepts may be better or even only understood through the use of metaphors (Howard 1987). For example, patients may have a better appreciation of the function of white blood cells when these are compared to soldiers who defend the body against invading foreign organisms.

This example highlights four important, if perhaps obvious points with respect to metaphor. Firstly, a metaphorical phrase or proposition “S is P” is uttered or written to convey or implicate a different proposition, “S is R” (Searle 1979). “White blood cells provide immunological competence” is literally quite different from “white blood cells are the soldiers of the body defending...” Secondly, and as this first point illustrates, the comprehension of the meaning of a metaphor is dependent upon the literal understanding of the words involved (Moran 1997). Thirdly, for a metaphor to be useful, both speaker/writer and audience must comprehend both literal and metaphorical meanings. It is this dual comprehension which adds depth to the meaning of the phenomenon in question (Kangas, Warren & Byrne 1998). Fourthly, the audience must appreciate that the speaker’s/writer’s use of metaphor is intentional (Grice 1975), that is, s/he is deliberately using a metaphor as a source concept to illuminate the meaning of its target. Fulfilment of these latter two conditions, in particular, is prerequisite to the efficacious use of metaphor as an analytic device in qualitative research.

## METAPHOR AND RESEARCH

The use of metaphor is pervasive in both quantitative and qualitative research because metaphors reflect or reinforce particular, usually dominant socio-political views or values (Sandelowski 1998). In both types of research, their use may be implicit or explicit. An



example of their implicit use is the importation of cultural sex-role values into the ‘personalities’ of gametes (Martin 1991). This is illustrative of the effects of the importation of implicit gender metaphors into science more generally. Such metaphors work in two directions. Firstly, they import social expectations into our representations of nature, and secondly, by so doing, simultaneously serve to reify or naturalise cultural beliefs and practices (Fox Keller 1995). According to this gender metaphor, sperm cells are deposited as “active”, “forceful” and “self propelled”; all qualities which enable them to “penetrate” the egg and “activate the developmental programme”. In contrast, egg cells are “swept” or merely “drift” along the fallopian tube until they are “penetrated” and fertilised by sperm (Martin 1991 p.489-490). More recent work into the nature of gametes, which shows the ovum as, at the very least, an equal and active participant in fertilisation (Fox Keller 2001) demonstrates clearly how the use of inappropriate implicit metaphors can lead to serious misinterpretations of data.

The explicit but careful and strategic use of metaphor, however, can be an important and useful analytic device (Miles & Huberman 1994, Richardson 1994). In the analytical processes undertaken during qualitative research metaphors provide assistance in several ways (Aita, McIlvain, Susman & Crabtree 2003, Burns & Grove 2001, Miles & Huberman 1994, Miller & Fredericks 2000). Firstly, metaphors can assist in moving from raw data to more generalised concepts, thereby reducing the amount of data. Secondly, metaphors assist in identifying patterns in data by placing them into larger contexts; they also stimulate researchers to connect the findings to a theory. Finally, metaphors provide an external validating focus to the substantive area of the study (Richardson 1994); they lend “truth-value” to findings because they belong to another domain (Richardson 1994). We illustrate these points in our discussion, below.

As already indicated, however, Miles and Huberman (1994) and Richardson (1994) also warn of the possible problems of relying too heavily on metaphors in qualitative research analysis and recommend several strategies to avoid this. These strategies include resisting the search for overarching metaphors too early and not trying to force a metaphor on the data. They cite the metaphor of an oasis as an example which now includes camels, camel drivers, a bazaar and a howling storm (Miles & Huberman 1994). Incomplete, fixed or mixed metaphors that do not adequately fit the data should also be avoided (Sandelowski 1998). Instead, metaphors once explained should readily fit the data and illuminate the study.

## THE STUDY

The purpose of this grounded theory study was to discover the structure and process of expertise acquisition and its exercise by nephrology nurses. It also sought to reveal the characteristics of expert nephrology nursing practice as well as the differences between expert practice and less expert practice. The study took place in one renal unit in New South Wales, Australia. Following ethics approval by both the Area Health Service and University Human Ethics Committees, nurses who worked permanently in each of these areas were invited to participate in this study. A panel of senior nurses in the renal unit assisted us in the process of classifying a nurse as either an expert or a non-expert. Guided by existing literature (Benner 1984, Jasper 1994, Dunn *et al.* 2000), we devised specific criteria which consisted of several attributes. These included completion of formal nephrology nursing postgraduate qualification, length of nephrology nursing experience, personal characteristics, and level of practice. Expert nurses were required to meet all of the criteria. If one criterion was not met, the nurse was classified as a non-expert. When a nurse agreed to participate in the study, s/he was informed whether s/he had been classified as an expert or a non-expert. Sampling was

purposive then theoretical; it consisted of 6 non-expert nurses and 11 expert nurses. Data consisted of a total thirty-two episodes (103 hours) of participant observation, thirty-seven (24 hours) of interviews, and ten episodes of nursing documentation (report writing and charting), and was collected over a nine-month period during 1999-2000. Field notes were recorded during all observational episodes. Interviews followed every observational episode and information was sought from participants to clarify the focus of their nursing actions and, more importantly, their rationales for these actions. Interviews were tape recorded and transcribed verbatim.

Consistent with grounded theory methodology, analysis of data followed each data collection episode using the processes of substantive and theoretical coding (Glaser & Strauss 1967, Glaser 1978, 2001). Initially a line-by-line analysis of the data was undertaken and this generated many codes. Gradually, as more data were collected and analysed, properties and dimensions (Strauss & Corbin 1998) of each category began to emerge.

The properties of the core category, (e.g. 'using multiple sources of knowledge', 'confident practice', 'keeping a close eye on') emerged in the early stages of analysis. However, labelling of the core category was problematic; we found that ordinary language failed to provide a label for the core category, that is, one which would adequately subsume the sub-categories, properties and dimensions as well as explain the theoretical relationships between them. We struggled to find one conceptual 'label' adequate to the complexity of the phenomenon we had uncovered. We recognised that the complexity was a function of the mixture of activities in which expert renal nurses engaged that were, in turn, underpinned by a variety of technical, interpersonal and creative skills. 'Providing holistic care', 'leading the clinical team', and 'coordinating patient centred care' were among the core categories

suggested and rejected. As categories, they simply did not subsume the range of subcategories that had already been identified in the data, that is, they did not fit.

In addition, although we had early identified the 3-stage nature of expertise acquisition from the data, we again struggled to find category labels adequate to the complexity of the activities engaged in by renal nurses at each stage and how they practiced. In addition, these labels did not adequately capture the process of movement from one stage to the next.

Eventually, several months later, during a grounded theory supervision group meeting, an orchestral metaphor of expertise acquisition and exercise emerged, which compared the process of expertise acquisition and exercise to an orchestral metaphor in which the expert is the composer ('using multiple sources of knowledge'), conductor ('keeping a close eye on') and player of a major piece of music ('confident practice'), the magnum opus (see Czechmeister 1994, Fine, Pollio & Simpkinson 1973, Kangas, Warren & Byrne 1998, Sapir 1977). The core category or source metaphor of *producing the magnum opus* reduced all of the data into one overarching theory to explain the highly complex target process of expertise acquisition and exercise. The orchestral metaphor encapsulated and accounted for most of the data and was both exciting and a relief to discover.

## PRODUCING THE MAGNUM OPUS

The data revealed a three stage process of expertise acquisition, namely, non-expert, experienced non-expert and expert stages (Bonner 2001). Each stage consisted of four characteristics which described how the nurse practiced. These characteristics were knowledge, experience, skill and focus. As already noted, difficulty arose during analysis in providing a conceptual label for each of these stages which sufficiently explained not only

their relationship to each other but also which satisfactorily captured the data coded at each stage. An orchestral metaphor was selected to assist in explaining and linking the findings. The metaphor, which adequately fits the data and illuminates it, includes three movements which describe the different stages that nephrology nurses pass through as they acquire expertise. These movements were called: firstly, *learning to play in the orchestra*; secondly, *playing better, learning to compose and conduct music*; and thirdly, *producing the magnum opus*. Thus, the use of an overarching orchestral metaphor assisted us to reduce the data, to identify patterns in them and to connect our findings to a theory (see above).

#### First Movement: Learning To Play In The Orchestra

When an individual begins to learn to play, for instance, a violin, the early lessons consist of learning how to play some basic notes (e.g., “C”) and how to read these simple notes printed on paper (i.e., staves). As the violin lessons progress, students will learn more notes, how to link them together, play simple tunes and understand that notes have different lengths (e.g., quavers, crotchets). After each lesson, students are required to practice what they have learnt through ongoing rehearsal. Students will practice drawing the bow across the strings in order to produce a cleaner sound. Other purposes of practising are to increase their ability to play more fluently and to read the music with greater ease. Students need to concentrate on mastering individual notes then on short sequences of notes, as they attend effortfully to reading the music. Students gradually progress in their violin studies and some will eventually, after many years of education and practice, join an orchestra (i.e. graduate from violin school).

In nursing a similar sequence occurs. Student nurses are learning the practice of nursing at nursing school. Following graduation, non-expert nurses, when they become members of the

nephrology ward, are joining a renal unit which comprises other nurses, doctors, allied health staff and patients. Nurses, doctors, allied health staff and patients comprise the nephrology “orchestra.”

Non-expert nephrology nurses, when they first join the renal unit, are lacking in specialised knowledge and experience. Since they only have partial knowledge about what it is to be a nephrology nurse and how to practice nephrology nursing gained through their general nurse preparation, they must attend effortfully to what others are doing and how/why they are doing it. In effect, non-expert nephrology nurses are learning to play someone else’s score as they are frequently guided, prompted or instructed by more experienced nurses in how they should provide nursing care. It is during this stage that non-expert nephrology nurses are gaining both knowledge and experience about the common patient problems which arise, as well as the typical ward routines.

The length of time spent in the first stage of expertise acquisition was dependent on a range of factors such as the richness of knowledge and experience, intellectual ability, motivation and attitude to nephrology nursing. These factors tended to influence the transition or movement of the nurse into the next stage. The first factor which enabled non-expert nurses to progress into the next stage of expertise acquisition was the possession of a greater depth of specialised knowledge to underpin nephrology nursing actions. There are several methods of acquiring this knowledge such as on-the-job learning, informal education (e.g., worksheets, inservice) and further formal education.

The second factor is related to the length of time (i.e., experience) spent in this field of nursing. The longer nurses spend providing nursing care to patients with renal dysfunction,

the easier and more fluently they are able to perform the necessary psychomotor skills. Repeated practice of routines (e.g., fistula cannulation) also provides non-expert nephrology nurses with a mechanism for eliciting increasing amounts of feedback from their actions/interactions with patients, other nurses and equipment which, in turn, facilitates the development of increasingly refined scripts (cf. 'scores'). Routines, therefore, become easier because of increased proceduralisation of knowledge. Repeated practice and increased time spent "doing" the daily routine activities of nephrology nursing invariably assisted most non-expert nurses into the next stage of expertise acquisition.

Non-expert nephrology nurses progress into the next stage in which their practice reflects a sound grasp of the routine requirements of nephrology nursing. They have gradually acquired the necessary knowledge and skills which will enable them to develop their own nursing style. This is the beginning of them being able to compose their own musical score and the beginning of the next stage (i.e., second movement) of expertise acquisition.

#### Second Movement: Playing Better, Learning To Conduct And Compose Music

During the second movement, violinists have gained experience as orchestral members, playing many different composers' music (e.g., Mozart, Beethoven) and following several conductors (e.g., de Waart). The increased number, variety and complexity of performances given by experienced violinists have, over time, strengthened their position within the orchestra; that is, non-expert violinists are "playing better." In addition, in the second movement (or stage of expertise acquisition), experienced violinists may begin to compose their own score. They will have enough theoretical and practical knowledge to be able to orchestrate short, non-complex pieces.

Similarly, in the second stage of the acquisition of nephrology nursing expertise, the non-expert nurse has acquired sufficient knowledge through practice (i.e., experience) and feedback relating to most of the basic or routine nursing skills required of this specialty area. The nephrology nurse is now identified as the experienced non-expert nurse. Experienced non-experts' routine nursing practice has now become fluid, rapid and automatic. Routine nursing care has become easier because most tasks are very familiar, demanding less concentration to perform.

It was during the second stage of expertise acquisition that experienced non-expert nurses were clearly demonstrating personal preferences in the manner in which they practiced. Nurses were able to recognise that they were developing their own style of nephrology nursing (cf. learning to compose).

Not all violinists move into the third and final stage of expertise acquisition; it is only those violinists demonstrating extraordinary talent at playing who get promoted to first violinist or soloist. Promotion to first violinists is a function of a number of preconditions or factors. These are: being recognised by others as an expert; demonstrating intelligent and extremely capable violin playing; having developed a professional obligation towards other members of the orchestra; being positively motivated to continue to improve; and, having a constant desire to succeed.

Recognition of expertise (Bonner 2003), having an obligation and commitment, and motivation for and enjoyment of nephrology nursing were all preconditions or factors which were necessary to progress to the expert nephrology nursing stage. Data from expert nurses in this study could be coded easily into all of these sub-categories, whereas experienced non-



expert data could only be coded in a limited way. Data relating to non-expert nurses did not reveal any of these preconditions or factors.

### Third Movement: Producing The Magnum Opus

The third and final stage in the acquisition and exercise of nephrology nursing expertise was conceptualised as *producing the magnum opus*. Expert nurses' focus on achieving high quality patient care for people with renal dysfunction. They are able to achieve this because they have extensive knowledge and experience, and are able to utilise a number of strategies and resources to direct their practice.

Returning to the orchestral metaphor, the magnum opus is only produced when the violinist has mastered the triple roles of: 1) primary or key orchestra member, 2) conductor and 3) composer of a major piece of work. Only a very gifted and talented violin player is able to produce the quality of sound needed to do justice to a composer's major work. These violinists have frequently been promoted to the position of first violinist which is the primary position within an orchestra, that is, they are in the highest violinist position/role in an orchestra. The second role of the expert violinist is that of leader and coordinator of others around them. Conducting is the art of directing instrumentalists or singers in the performance of a musical work (Delbridge *et al.* 1991). Conductors normally employ silent manual gestures, using the right hand to indicate the meter (number of beats per measure) and tempo, and the left hand both to signal entries of the different instruments and to communicate aspects of musical interpretation such as increases in volume.

The modern conductor is responsible for total musical interpretation but, in earlier times, the conductor was often one of the performers. Originally, in opera orchestras, the first violinist

(cf. expert nurse), or concertmaster, assumed the function of director, tapping the violin bow or using hand signals as necessary (Morehead & MacNeil 1992). Today, strength of personality, as well as musical knowledge and technical skill, are all ingredients in a conductor's effectiveness. Conducting provides invaluable experience with effective instrumental combinations which, in addition, can be augmented by careful analysis of musical scores (Morehead & MacNeil 1992).

Orchestration (i.e., composing in this study) is the art of combining musical instruments in orchestral compositions. Composers require knowledge of the range and idiosyncrasies of the instruments to be used (i.e. 'using multiple sources of knowledge'). Although such information can be obtained from books, it is most thoroughly learned by working closely with players. There are many people who are able to compose good music but few who can produce a great musical score (i.e., magnum opus). For instance, Mozart was and still is considered a genius. Mozart not only produced a wide variation of scores (e.g., piano concertos, symphonies, operas) but he also orchestrated (i.e., conducted and played) many of them as well.

In nephrology nursing, expert nurses also have these three interwoven roles. They make a major "hands-on" contribution in the health care team. They are able to demonstrate exemplary practical nursing abilities (cf. first violinist) and they are the most skilful nurses in the nephrology health care team (cf. orchestra). Expert nurses are also clinical leaders who provide direction and guidance (cf. conductor) to all members, including patients, of the health care team. The outcome of the conductor's ability to drive the orchestra is the quality of the music that is produced, that is, the quality of health care provided to people with renal dysfunction.

In addition, conducting is related to the other two expert roles of playing and composing the magnum opus. In order for expert nephrology nurses to conduct the orchestra (i.e., lead the nephrology nursing team) they must be recognised as having expertise by the orchestra members (Bonner 2003); other nurses, patients and doctors must trust their judgements. As conductor, the expert nurse gets the orchestra to play cohesively. A major part of the conductor's role, therefore, is to act as a conduit between members of the health care team and patients, passing on information to ensure that the quality of the production, that is, renal health care is maintained. As a conductor, the expert nephrology nurse is also able to understand and deal with more challenging or complex situations or patients (cf. musical scores). The conductor is also able to recognise their own abilities in conducting: they fully accept responsibility for their actions and recognise their own and others' limitations. They are able to produce results of quality nursing care for people with renal disorders.

Lastly, and very importantly, the way expert nurses have composed (i.e., developed) their own score makes it easier for the entire orchestra to play that score and to manage the workload. In other words, expert nurses make things easier for themselves, for other nurses, for medical staff and, of course, for patients.

The composer has a far greater responsibility than any other single person in the orchestra. S/he must know and understand the role and capabilities of all the instruments and their players in the orchestra; similarly, expert nurses must know who can do what in the team to enable them to coordinate nursing care (i.e. 'using multiple sources of knowledge'). Expert nurses have developed their own standard of care, and their style of nursing care also directly and indirectly influences other members, particularly nurses, within the health care team.

Nephrology nurses can only *produce a magnum opus* when they play an integral role in its production. In nursing, it is crucial that expert nurses are not merely directing other nurses but that they are also maestros of nephrology nursing practice. Expert nephrology nurses, therefore, are composers, conductors and players of nursing activities, the production of which results in the magnum opus (i.e., quality health care for people with renal dysfunction).

## DISCUSSION

Metaphor is a means by which people can think about and interpret their world. Metaphorical language used by research participants within the interpretative or qualitative paradigm to describe their experiences has been previously studied. In nursing, for example, Jairath (1999) and Jenny and Logan (1996) examined the use of patients' metaphorical language to deal with life-threatening events in critical care settings. Others, including Froggatt (1998), who explored the importance of metaphors used by nurses in palliative care settings and McAllister and McLaughlin (1996), who sought to understand the metaphors undergraduate student nurses' use, found metaphorical language was a common tool used by nurses to grasp difficult concepts or situations. More recently, Goodman (2001) identified that district nurses, general practitioners and community nurse managers all utilised similar metaphors to explain the dimensions of district nursing.

To date, the use of metaphor as an analytical strategy in nursing qualitative or interpretative studies to illuminate findings has been limited (see for example, Goodman 2001, Hanneman 1996, Montgomery 1994, Nystrom & Segesten 1996, Smith 1992) but, in the studies conducted, a metaphor facilitated the emergence of the core category or major theme. The use of a metaphor provided a clear and succinct summary of the study and also gave

additional meaning and explanation to the findings. Interestingly, and as we discovered during terminal literature review, an orchestral metaphor has also been useful in two other qualitative studies. In the first, Cook, Giacomini, Johnson and Willms (1999) compared the many instruments (i.e., life-support equipment) in the intensive care unit which are coordinated by “composers” and “conductors” (health-care professionals) to provide health care to critically ill people. In the second, Fryer-Keene and Simpson (1997) compared the new roles of nurses in a dialysis unit to that of members of an orchestra in which the nurse manager became the conductor of the team. The use of an orchestral metaphor in both of these previous studies provides additional truth-value (Richardson 1994) for the findings of this study with respect to the acquisition and exercise of nephrology nursing expertise.

## SUMMARY

Metaphors create images, clarify and add depth to meanings and, if used appropriately in qualitative research, can capture data at highly conceptual levels. Metaphors also assist in explaining the relationship between findings in a clearer and more coherent manner. This was the case in the present study. An orchestral metaphor was used to illuminate the differences between the practices of non-expert, experienced non-expert and expert nephrology nurses. The metaphor compared the renal unit to that of an orchestra in which the different instruments represented the components (i.e., nurses, doctors, other health-care professionals, patients, dialysis equipment) found within the unit. Nephrology nurses were compared to violinists who were initially *learning to play in the orchestra* (i.e., non-expert nurses) and then *playing better, learning to conduct and compose music* (i.e., experienced non-expert nurses). Expert nephrology nurses were compared simultaneously to the first violinist, the conductor and the composer, and were able to *produce the magnum opus*. These nurses were

the most skilful clinicians, leaders and developers of nephrology nursing practice within the renal unit.

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