School of Nursing

Process of Nurse-Patient Interaction in the Presence of Technology

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ABSTRACT

The purpose of this study was to develop a substantive theory or at least a set of theoretical propositions explaining the process of nurse-patient interaction in the presence of technology. This study was undertaken in Perth, Western Australia. The grounded theory method was chosen to undertake this research.

The study's informants consisted of nurses. Theoretical sampling led to the inclusion of patients and patients' relatives. Purposive and theoretical sampling were used to choose the informants. Data were obtained using field observations and formal and informal interviews with nurses and post-discharge patients. Data analysis was conducted using the constant comparative method (Glaser and Strauss, 1967), writing memos and drawing a schema. The Ethnograph software package (Seidel, 1988) was used to organize and manage the data.

The findings of the study indicated that nurses were stymied in their person-centered interactions with patients in the presence of technology. Nurses used the process of navigating the course of interaction to deal with this problem. The process of navigating the course of interaction consisted of three phases. These were the phases of embarking, steering and veering and disembarking. The action/interaction of the process occurred during the steering and veering phase and four specific strategies of interaction became evident in this research. These strategies of interaction were steadying, demurring, coasting and maximizing. The strategies of interaction used by nurses did not center on one type. There was rather a movement between strategies during and between interactions with patients in the presence of technology. This movement was termed oscillating connections. Conditions that modified the core process of navigating the course of interaction were also identified. The findings of the study provide an understanding of the problem encountered by nurses in their interaction with patients in the presence of technology and the process used by the nurses to deal with this problem.

CHAPTER 1

OVERVIEW OF THE STUDY

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> *It seems ... nothing less than tragic if nurses, in their concern for a kind of upward mobility, pride themselves on becoming increasingly scientific and analytic and doctor like in their relations to patients and far less human and far less compassionate as they relate themselves to the problems of their patients. Someone has to provide nourishment to the human spirit for those who are sick, and if nurses fail to do this then we shall have to invent a new profession.*
>
> (Vassiliki, 1981, p. 15)

There has been much discussion on the impact of technology on the delivery of nursing care and the advantages and disadvantages of technology in relation to nursing. Little is known however, on the process of nurse-patient interaction in the presence of technology in Western Australia. This chapter presents an overview of the study undertaken in the West Australian context. Within this context, the purpose of this study, the objectives and significance of this research are also explained.

PRELUDE TO THE STUDY

Descriptions of nursing have moved from a traditional cure concept of caring for ill individuals to include a holistic perspective that encompasses meeting the total health needs and not merely the physical aspects of ill health. This means that a patient is no longer viewed as an illness that needs to be treated but, the physical, psychological and social aspects are considered in helping the person reach and maintain an optimal health level (Doheny, Cook & Stopper, 1982; Fuller, 1978; Levine, 1969; Levine, 1971a). In order to meet these needs of the patient, the nurse should actively interact with patients in a manner reflective of holistic care.

Along with the acceptance of the holistic concept in nursing has come a changed environment as a result of the increasing use of technology. This change has brought concern that it could lead practitioners to function in an automatic, mechanical manner and thus prevent a holistic approach (Carper, 1979; Halm & Alpen, 1993;

Kelly, 1988; La Monica, 1979; Ray, 1987; Zanettou, 1980). Mitcham (1994) addressed such concerns by explaining technological optimism and technological romanticism. Technological optimism viewed technology as good for nursing and has seen it as an extension of nursing. Technological romanticism on the other hand incorporated the view that technology was disruptive and dangerous to nursing as it could result in a loss of care which is the essence of nursing practice (Downs, 1967). These opposing views of technology have been expressed by numerous authors over the years and particularly in the 1980s and 1990s where the contrast between high touch and high tech has often been highlighted (Sandelowski, 1997a). It therefore follows that the increasing use of sophisticated, electronic monitoring and diagnostic devices within hospitals, require an examination of the effects of technology on nursing practice. The following quote by Hamilton (1984) reflects this concern in an incident in a Sydney hospital:

> *...The classic story of the lonely small boy in hospital whose crying activated a remote call system and who on being asked by the invisible operator what the matter was, said after a short pause, "I want a drink of water, please wall..."*
> *(Hamilton, 1984, p. 43).*

Virginia Henderson (1980) suggested that certain kinds of practice would help preserve the essence of nursing in a technological age. One of her suggestions, which has been reflected on by others, was to base nursing care on a continuous process of assessing, planning (with patients and families), implementing plans, evaluating and modifying care for each person. This would ensure that effective and consistent care goals would be mutually acceptable to those who receive and those who give care (Henderson, 1980; Long, Phipps & Cassmeyer, 1993; Yura & Walsh, 1988). Hamilton (1984) remains uncertain on the ability of the nurse to combine technology with humanistic nursing care. The author asks whether the combination is possible in an intensive care unit (ICU) that has been described as an electronic supermarket (Hamilton, 1984).

IMPACT OF TECHNOLOGY ON NURSING

As early as 1988, Adams suggested that the art of nursing encompassed interpersonal, social and nurturing aspects. Technology was viewed as having a

supportive role but one which could present a real threat to the art of nursing. According to Adams (1988, p. 40), 'If nurses endeavour to overcome the barriers that technology presents to touch and meaningful human interactions, the patient's psychosocial needs may be met'. The pertinent issue raised by Adams (1988) ie. the threat of technology to the delivery of nursing care, was the genesis of this research. Being an intensive care nurse, my concern was on how nurses incorporated technology into their interactions with patients and how they viewed this as part of the caring process.

Farmer (1978) conducted a two-part study in Scotland that addressed a similar concern of technology in patient care. Data were collected by observation of 126 nurses over 954 hours from four ICUs and five general wards. Farmer's findings revealed that the average number of encounters with technology per hour was 2.6. The staff nurses had the greatest number of encounters with technology per hour, followed by charge nurses, student midwives and enrolled nurses. Thirty-one objects of technology were identified in the ICU and five objects of technology were identified in the general ward. The second part of the study was concerned with the charge nurses' role in the management of patient related technology. Farmer's study however, only examined the number of times nurses interacted with technology and the types of technology present. The study did not include patients or how nurses incorporated technology into their interactions.

Interrelationships of nursing practice and technological change was studied by Brewer (1983) in New South Wales, Australia. The study explored some of the principle issues emerging from the technology debate concerning the purpose of nursing in terms of its roles, skill functions and responsibilities. Brewer discovered that technology was one of the variables that played an important part in nursing. Seventy-one people were interviewed in three different areas: the ICU, Coronary Care Unit (CCU) and a medical ward. Fifty-six participants were nurses and fifteen comprised of medical directors, technicians, bio-medical engineers, a supply company executive and a scientific officer. The findings of the study revealed that if nurses were to participate in the technological process in the future, they needed to become more involved in decision making regarding the use of technology. It appeared that the level of technology influenced role expectation and the perception

of nursing practice. Nurses expressed an attitude which revealed a greater level of concern for the importance of nursing care than technology. The findings also demonstrated that nurses in a high technology environment found it difficult to cope without technical resources. Many of the nurses could not conceptualise what nursing practice was or what it would be like without technology.

The following studies have examined technology and nursing practice from various points of view. Pelletier (1992) conducted a study with 150 hospitalised patients to gauge their experience of technology. A positive patient response to the equipment and its management was found by sixty percent of the respondents. Forty percent found that the care they received was more technology-centred than patient-centred. Nearly a quarter of the respondents reported that they were not given an explanation of the intravenous control device or its purpose. Eight percent of the respondents were ascribed to a category of no difference in the nurses' focus. Pelletier's perception of this was that the respondents were unwilling to discriminate the focus. Technology however, in the survey consisted only of the use of intravenous infusion control devices.

Pelletier, Duffield, Mitten-Lewis, Nagy, and Crisp, (1998) conducted a study to determine the knowledge, skills and attitudes required of expert clinicians for practice in cardiac care. Nurse educators and cardiac nurse clinicians completed a questionnaire identifying the importance of 107 characteristics of expert cardiac practice for both the 'real' and 'ideal' worlds of nursing practice. Both groups of nurses believed that it was important to achieve an appropriate balance between nursing the patient and 'nursing' the equipment. Both groups however, disagreed on the demonstration of this balance in reality. Clinicians indicated that the reality was close to the ideal whilst educators highlighted the need for improvement in this area. The above study was conducted in Australia however, the focus was dissimilar to this study. The focus in Pelletier's was on expert cardiac nurses and their knowledge, skills and attitudes required for practice in cardiac care. This study on the other hand incorporated nurses' perceptions on the process of interaction with patients in the presence of varying amounts of technology and not just in the intensive care unit *per se.*

Concerned with the relationship of technology and nursing practice, Schultz and Daly (1989) investigated nurses' perceived differences of nursing in an ICU and non-ICU setting. Open-ended interviews were used with a convenience sample of sixteen nurses who had worked in both the ICU and the non-ICU wards. Ten nurses viewed ICU nursing as *technical*, nine saw it as a *curative process* and eight chose the word *dependent*. Despite the perceived differences in nursing practice none of the respondents strongly disagreed with the statement, 'aside from minor differences, nursing is much the same no matter where you practice'. This statement needed further investigation as was proposed in this study. Nurses' views needed to be explored and backed by other methods of data collection like field observations. This would allow a substantive theory of the process of nurse-patient interaction in the presence of technology to be developed.

Following a similar path of investigating the impact of technology on nursing practice, Cooper (1993) found that technology dehumanised and alienated patients because physical touching of the patient was very limited. Nurses equated caring with saving lives and they saw machines as fundamental to the care of patients. The findings of Cooper's (1993) study also revealed a deficiency in caring. This was identified as the subjective needs of the patient going unnoticed and an over emphasis on technology. The limitation of Cooper's (1993) study was that nurses' views were not corroborated by patients' views. Instead, nurses were asked about patients' responses and these were coupled to the investigator's observations. From this it was concluded that, unlike nurses, patients did not think that technology was a meaningful extension of themselves. This conclusion could be questioned in view of the fact that the patients were not directly interviewed. Nurses verbalised that patients and families, in the study, perceived the ICU nurse as a powerful superhuman figure because of the life-saving and clarifying features of technology and the nurse's competence in dealing with this technology. In this study the nurse-patient interaction was examined in other nursing contexts in addition to the ICU. Furthermore, information obtained from patient interviews have been incorporated in the findings.

Irurita (1993) conducted a study in Western Australia to explore and describe the patients' perspective of high quality care. The following two quotes from that research revealed what patients thought of intensive care nurses:

> *they were just like robots... They were there, probably monitoring what you were doing, but as far as anything you wanted, they didn't hear you...*   *(p. 44)*

> *It's very very obvious (when someone has compassion). They will come to you and want to know are you alright. They'll come and put their hand on your hand, just so that you know that you're not alone, especially when you're in intensive care.*   *(p. 56)*

Although the above study had a different purpose, such contrasting quotes revealed by patients further substantiated the need to explore related issues of nurse-patient interaction, in the presence of technology, in more depth and in nursing settings other than the ICU.

NURSING CARE

While the above studies have examined certain aspects of the influence of technology on nursing practice, the following studies have been included to highlight nurses' views on the components of caring, which is central to a holistic nursing approach in any setting. Morse, Solberg, Neander, Bottorff and Johnson (1990) examined the concept of caring in terms of its limitations and its applicability to the practice of nursing. This examination resulted in the development of five epistemological perspectives that is, "caring as a human state, caring as a moral imperative or ideal, caring as an affect, caring as an interpersonal relationship and caring as a nursing intervention". The outcomes of caring were identified as "caring as the subjective experience and as the physiologic responses in patients". These definitions of caring were further delineated and compared by the same authors (1991).

It was found that theorists who visualized caring as a human trait claimed that caring is a part of human nature and inherent in all people. It was thus an essential component of being human and necessary for human survival. Theorists who

considered caring to be a moral imperative were concerned about the good of the patient and the importance of maintaining the dignity and respect of patients as people. Theorists who believed that caring is an affect, considered caring to be emotional and that it must be present in nurses to enable them to care. Horner (1988), Knowlden (1988) and Weiss (1986) considered caring to be an interpersonal interaction. They visualized caring to be a mutual endeavour between the nurse and the patient, which meant that the nurse and patient were enriched following a caring interaction. A caring interaction was also seen to be different qualitatively than a non-caring interaction. Theorists who viewed caring as a therapeutic intervention stated that patients' goals were of utmost importance and nursing care was usually aimed at meeting these goals. Caring was therefore seen as being related to competencies and skill related to caring. Disagreement was found among nurse theorists regarding the uniqueness of caring in nursing. Horner (1988), Knowlden (1988) and Weiss (1986) concluded that caring was underdeveloped as a concept. It had not been clearly explained and that it lacked relevance for nursing practice.

All of the definitions of caring explained above seem to have relevance to this research. These definitions however, will need to be considered in terms of the context of nurse-patient interaction in the presence of technology. The studies cited below will give a broad overview of research being conducted in the area of caring and nursing practice and will highlight the meaning of caring from the perspective of various authors.

Proctor, Morse and Khonsari (1996) conducted a study to examine language that trauma center nurses directed to 67 distressed patients. Videotaped data were collected of care being delivered to patients in two level 1 trauma centers. The treatment room contained the videotape and microphones mounted on the wall. Taping began as soon as the patient entered the room until the patient was transferred from the room. It was observed that two or more nurses provided the care. While one nurse stayed with the patient, the other recorded patient signs, drugs given and passed equipment. The comforting role was assumed by the nurse who remained with the patient.

A unique set of linguistic features and intonation patterns characterizing comfort talk were identified. Descriptive data revealed that nurses reserved this type of talk for children. A restricted set of pragmatic functions in their verbal interaction, such as: helping patients to hold on, obtaining information that contributed to the assessment of the patient's condition, the giving and receiving of information about procedures and a verbal communication of a sense of caring to the patient were also identified from the data. The above research is invaluable in delineating interactional behaviours related to the concept of caring. The present research does not seek to identify only caring behaviours but the process that nurses use to interact with patients in the presence of technology. It is envisaged that during the process of conducting this research some caring characteristics will be identified in light of the purpose of this research.

Clarke and Wheeler (1992) considered 'caring' to be at the heart of nursing practice. A small-scale study of six practicing staff nurses, using a phenomenological approach explored the meaning of caring. A structure of caring that emerged incorporated four major categories described as *being supportive, communicating, pressure of caring and caring ability*. The findings revealed that the respondents were concerned more with the interpersonal aspects of caring rather than the tasks a nurse may perform. A similar study was conducted by Chipman (1991). From that study, three categories of nursing behaviours emerged as caring. These were *giving of self, meeting patients' needs in a timely fashion* and *providing comfort measures for patients and their families* (Chipman, 1991, p. 171). The author expressed the hope that the outcome would help to define and teach caring nurse behaviours.

In a similar vein, Morrison (1991) examined the meaning of caring by analysing two hundred verbal descriptions of caring. Seven categories emerged from the analysis. These were, *personal qualities, clinical work style, interpersonal approach, level of motivation, concern for others, use of time and attitudes* (Morrison, 1991, p. 3). The study revealed that there were very few constructs related to the physical aspects of care. These three studies together suggested that caring was independent of a technological context, but the work of Cooper (1993) is in direct contradiction, given that technological intervention was identified as an alienating barrier to care. These conflicting outcomes confirm the need for further exploration of the issue.

Nurse-patient interaction in the presence of technology has been of continual concern to the nursing profession (Hamilton, 1984; Kelly, 1988; Levine, 1971a; Ray, 1987). Is the interaction limited to the technology used in care or do nurses also find time to interact with patients? Is their interaction synonymous with that of being a technician or a doctor's assistant or can the nurse preserve the essence of caring in a technological environment? Does the nurse-patient interaction differ with an extensive or less use of technology? What are the differences in the conditions and contexts of the nurse-patient interactions in areas with varying use of technology? Do these affect the process of interaction? Are the nurse-patient interactions the same irrespective of the amount and type of technology or are there differences? These are questions that need to be addressed to shed more light on the phenomenon of the process of nurse-patient interaction in the presence of technology. Accordingly, the purpose of this study emerged.

PURPOSE OF THE STUDY

The purpose of the study was to develop a substantive theory explaining the process of nurse-patient interaction in the presence of technology.

RESEARCH OBJECTIVES

The following objectives were used to guide the research, which was conducted in nursing environments, in the metropolitan area of Western Australia.

1. To explore and describe nurses' perceptions of their interactions with patients in the presence of technology.

2. To observe and describe nurse-patient interactions in the presence of technology.

3. To identify the shared problem that nurses encounter in their attempt to interact with patients in the presence of technology.

4. To develop a substantive theory explaining the process of nurse-patient interaction in the presence of technology incorporating contexts and conditions that vary this process.

5.   To compare the developed theory to related theories and research findings of the influence of technology on nurse-patient interactions.

CONCEPTS PERTINENT TO THE STUDY

Humankind is on the threshold of great transformation in the entire civilization process. This is resulting in changes to the means of producing food, processing materials, constructing buildings, storing and retrieving information, transporting goods and people and performing significant medical feats (DeVore, 1980). This is all possible because of immense technological advancement. The study of how technology changes is called technological dynamics (Grifalco, 1991). It is concerned with the rate of change and the forces that compel this change. It is impossible to have a humane life without technology (DeVore, 1980). This is because technology is essential to provide a humane life. The problem occurs however, when the direction of technological movement is away from the human center. Macdonald, Lamberton and Mandeville (1983) concur with this perspective when they state that technology is not always embodied in a machine and needs people.

A problem often associated with the increase in technology is its consequence of dehumanization. This is particularly true of medical technology (Howard & Strauss, 1975). Howard and Strauss state that the work load of a health worker is increased as a result of an attempt to expedite their task of providing care via increasing technology. This causes the health worker to attend to specific tasks and not to the person. This results in dehumanization. The same authors contend that biological advances have become increasingly reductionist because of the tendency to look at minute details rather than the whole. Howard and Strauss (1975) have highlighted the positive aspects of technological increase but have also questioned its side effect of dehumanization. The very same issues of technology having its advantages and disadvantages for nursing care set the scene for this research but the issue that this research sets out to explain and deal with is that of the impact of technology on the process of nurse-patient interactions.

This study's focus is on the presence of technology in nurse-patient interaction hence, there is a need to clarify the concept of technology in nursing practice. Brewer (1983) used the analogy of software, which drives the hardware to describe technology in nursing practice. She has defined software as the knowledge and procedures and hardware as the equipment. Along a similar vein, Farmer (1978, p. 18) operationally defined technology as 'the non-passive things of economic value which simulate a function or facilitate an action'. Farmer restricted her investigation to instruments and machines which interacted directly with the patient and 'with a power source other than human muscular effort'. The above two definitions are related to technology as tangible objects. Barnard (1996) however, proposed a more comprehensive and tiered definition of technology. This author has defined technology as having three layers of meaning. He argued that technology could be understood as physical objects, a form of knowledge in which, 'meaning is awarded to an object' and a set of complex human activities (technique). The third level includes politics, economics, organisational behaviour and human activity. Barnard considers the third level to be a holistic definition of technology.

Two of the several ways in which Heidegger (1962) explained technology were 'ready to hand' and 'present at hand'. Technology, as 'ready to hand' was explained as technology blending in and becoming a part of caring. Technology as 'present at hand' was explained as being conspicuous when it malfunctioned and being obtrusive when it had parts missing. Both these made technology opaque and could obstruct caring (Walters, 1995). Borgmann (1984) also explained the interaction between people and technology via two paradigms. He labelled these as 'focal things' and 'device things'. Walters (1995) however, believed that nurses could balance humanism and technical competence with a view to making these focal activities of the intensive care unit.

It was intended that no formal definition of technology in nursing practice would be used in this research as it was envisaged that nurse participants would explicate a definition of technology. This proved however, to be difficult because no consensus on the meaning of technology could be ascertained from West Australian nurses. Sandelowski (1997c) had also identified this inability of nurses to define technology. As the study progressed it became increasingly clear that for ease of conducting this

research a broad definition of technology in nursing practice was needed. For the purpose of this study therefore, the word technology was used to *incorporate equipment or devices connected to the patient or used directly in patient care by the nurse*. This definition encompassed Barnard's (1996) three layers of the meaning of technology. It alluded to technology as objects, knowledge of the use of technology and the nursing activity related to the use of technology. The term 'in the presence of technology' meant that the above definition was applicable in patient care situations of this study and used in data collection.

The term interaction also needs to be defined. According to Chamber's dictionary (1986) to interact means to act on one another. King (1981) postulates that interaction is the sequence of verbal and non-verbal goal directed behaviours between individuals. This implied that interaction was action oriented. Meleis (1991, p. 105) further explicated the components of interacting as *sensing, perceiving and validating of the patient's needs for help and the sharing of information*. This definition was deemed as an appropriate explanation of the concept of nurse-patient interaction and it was incorporated for use in this study. For the purpose of this study therefore, the concept of nurse-patient interaction was used to encompass *direct interaction described as verbal and non-verbal communication between the nurse and the patient and indirect interaction such as-"handling of equipment attached to the patient or used in patient care"*.

JUSTIFICATION OF THE STUDY

When the study began in 1994, few studies were found that specifically examined nurse-patient interaction in the presence of technology. Hence many unanswered questions still remained. For example, in today's technological climate does technology influence nurse-patient interaction? If so, is it an aid or hindrance in the delivery of care? Does it prevent nurses from focusing on the patient? Do nurses spend more time learning how to manage technology that becomes an all consuming task that could detract from humanistic nursing care? According to Mann (1992), there was very little in the literature that answered any of the above questions. Mann (1992, p. 59) expressed the concern that '...perhaps patients become ignored as they gradually disappear amongst the technology and merely become an extension of the

machinery'. This view was supported by the nurses in Cooper's study (1993) but was not corroborated by the patients' views. This study included nurses' perspectives, which were also corroborated by patients' views.

Nursing literature is dominated by opinions of scholars who seem to take extreme views of the impact of technology on nursing. Nursing and technology are often viewed as polarised concepts (Walters, 1995). There does not appear to be a consensus of how technology impinges on delivery of care. This study is seen to be a small step in clarifying this issue of the effect of technology on nursing practice. It was also decided to study another concern that was expressed by Schultz and Daly (1989) in whose study nurses described the ICU and non-ICU setting as different but they did not think that the nursing care delivered in these two areas was different. The concern was whether the impact of technology was different in an ICU setting as compared to a non-ICU setting? This study therefore, used various methods of data collection to explore the process of nurse-patient interaction in variety of nursing settings.

Thinking, feeling and doing interact in a dynamic manner in nursing practice (La Monica, 1979). Nurses, therefore, are more than technicians applying science to individuals (Carper, 1979). In the changing work world of the nurse, there is a need to know how nurses interact with patients in the presence of technology. This is necessary in order to discover the reality of the situation, to find out if patients' needs are being met and whether patients' are satisfied with their care. As medical technology increases, it is important that nurses are aware of its impact on the delivery of nursing care, especially in terms of nurse-patient interactions. This understanding and knowledge is needed in order for nurses to ensure that they retain the essence of caring in nursing and at the same time incorporate technology in their care for the patient's benefit.

The findings of this study should increase our understanding of this phenomenon and help clinical nurses to integrate technology into the holistic framework of nursing in a manner that is beneficial to patients. This may also help to prepare nursing students for their role in an increasing technological environment. This study aimed to develop new knowledge or expand existing knowledge of the process of nurse-

patient interaction in the presence of technology. This should help nurses to be cognisant of technology in their delivery of care. Finally, the justification of this study is that the developed theory or substantive theory can be tested, which in turn could further engender nursing research.

THE USE OF THE GROUNDED THEORY METHODOLOGY

Many authors have attempted to describe nursing as a process of interaction (Peplau, 1952; Orlando, 1961, Travelbee, 1966 & Wiedenbach, 1964). Following these attempts, emerging research on nurse-patient interaction has been classified as descriptive or correlational studies (Diers & Schmidt, 1977). Authors in the meanwhile were either borrowing frameworks (Conant, 1965) or designing instruments specifically to research nurse-patient interactions (Dier & Leonard, 1966). Results obtained from deductive methods were often discouraging (Bottorff & Morse, 1994). This was because research focused on single channels of communication or focused exclusively on verbal or non-verbal behaviour. It was therefore found that the study of nurse-patient interaction was not always easy. Tools that evaluate nurses' interpersonal competencies including interaction abilities are still to be constructed and tested (Ravert, Williams & Fosbinder, 1997).

Difficulties in studying nurse-patient interactions quantitatively arise from the fact that interaction is a complex concept influenced by personal characteristics of individuals and their communication with one another. The use of qualitative methodologies and inanimate objects such as video cameras are now frequently used to study nurse-patient interactions. These methods are advocated because of the non-interference with nursing activities and the influence on observations (Rundell, 1991). Researchers are now increasingly using audio tapes and ethnographic methods to study nurse-patient interactions. These methods of data collection have provided rich data for a variety of inductive investigations of nurse-patient interaction.

For the reasons mentioned above and in order to obtain data grounded in the context, it was decided to use the method of grounded theory to research the topic of nurse-patient interaction in the presence of technology. In keeping with the methodology

the behaviour of nurses and the context of nurse-patient interaction in the presence of technology was the focus of this study. Understanding and explicating the context was seen to be of utmost importance. Mishler (1979) supports this view. Through the application of this methodology and data collection methods such as participant observation and formal and informal interviews, I was able to identify the shared problem encountered by nurses in their interaction with patients in the presence of technology. The shared problem encountered by nurses in their interaction with patients in the presence of technology is explained in chapter three. This then led to the identification of the process of interaction used by nurses to deal with the problem. The core process of the phenomenon has been described in chapter four. Certain intervening conditions became evident in the research. These intervening conditions varied the core process and have been outlined in chapter five. A substantive theory on the process of nurse-patient interaction in the presence of technology was generated. This theory was then compared with other relevant theories and research. Chapter six contains an explanation of the theory and its comparison with other relevant research. Finally, recommendations for further research and implications for nursing have been provided in chapter seven.

CHAPTER TWO

METHODOLOGY

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METHODOLOGY

INTRODUCTION

The grounded theory design was used to develop a substantive theory on the process of nurse-patient interaction in the presence of technology. The design allowed a theory to emerge, be developed and verified through a systematic means of data collection and analysis pertaining to the phenomenon. This chapter on the methodology used, describes in detail, data collection and analysis so that when the theory is developed and portrayed the reciprocal relationship can be seen.

In describing the data collection and analysis methods used in this study, information on the informants will be included. As with all qualitative research methods, the issues of trustworthiness are raised as well as the means undertaken to protect the rights of informants who participated in the study.

RESEARCH DESIGN

The phenomenon of nurse-patient interaction in the presence of technology was studied using the grounded theory method. Strauss and Corbin (1990, p. 37) advocate this method because it '...uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon'. This method was developed by two sociologists, Barney Glaser and Anselm Strauss in 1967 when these researchers were at the School of Nursing, University of California, San Francisco (Stern, 1994). Though each came from different philosophical and research backgrounds, both their combined contributions were important to the development of grounded theory (Strauss & Corbin, 1990). Differences in the methodology proposed by the two authors became evident as time progressed and each further developed the methodology (Glaser, 1978, 1992; Strauss, 1987 and

Strauss & Corbin 1990, 1994). The method has continued to evolve as a result of ongoing debate and discussion (Denzin & Lincoln, 1994). The purpose of grounded theory is to build a theory that is pertinent to and highlights the area under investigation (Strauss & Corbin, 1990). Social processes present within human interactions are studied using grounded theory methodology which is a qualitative approach (Carpenter, 1995). This method assists in developing explanations of key social processes or structures grounded in data (Hutchinson, 1995). The use of this method enables exploration of rich and diverse human experiences thus contributing to the development of middle range theories (Carpenter, 1995). A grounded theory about a particular phenomenon is developed through the use of specific procedural steps (Stern, 1980, Strauss & Corbin, 1990). As the information pertinent to the emerging theory is derived from the data, the generated theory is therefore, grounded in the data (Glaser & Strauss, 1967; Stern, 1980; Strauss & Corbin, 1990). Grounded theory is a combination of both inductive and deductive methods (Glaser & Strauss, 1967; Stern, 1980; Strauss & Corbin, 1990). Inductively theory emerges from observations and the generated data. The use of deduction occurs during the process of analysis as hypotheses are developed and tested through subsequent data collection and analysis (Streubert & Carpenter, 1995).

According to Streubert and Carpenter (1995), the theory of symbolic interactionism (Mead, 1964; Blumer, 1969) is directly related to grounded theory methodology. Symbolic interactionism provides an explanation of the way people construct, judge and modify their social world and grounded theory seeks to explore basic social processes (Carpenter, 1995). Symbolic interactionism suggests that humans act and interact on the basis of the meanings they attach to symbols. Blumer (1969) explains this by stating that,

> *their "response" is not made directly to the actions of one another but instead is based on the meaning which they attach to such actions. Thus, human interaction is mediated by the use of symbols, by interpretation, or by ascertaining the meaning of another's action.* *(p. 145)*

The three basic assumptions that influence symbolic interactionism are that interacting individuals define their own situations and guide their own and others behaviour (Denzin, 1989). The discussion of the three assumptions on which symbolic interaction is based is explained using an example. The example is that of nurses caring for sleeping patients. When caring for a patient who was sleeping nurses tended not to wake the patient unless it was absolutely essential. Nurses thus defined the situation in which they were working by reducing the chances of interaction. They guided their own behaviour because of the situation they created. For example they tip-toed around the patient and in some instances they refrained from conducting procedures that could wake the patient. By not waking the patient they also guided the patient's behaviour as the patient would have reacted differently had he/she been awake. 'Research based on symbolic interactionism emphasises how people view their circumstances, how they interact and how these processes change' (Wilson & Hutchinson, 1991, p. 267). This was evidenced in the present research when nurses made decisions based on circumstances and these decisions and circumstances caused variations in the process of nurse-patient interaction in the presence of technology.

Rationale for Using Grounded Theory

The research design used in this study was one, which would enhance evolution and emergence of the process of dealing with the identified, shared problem encountered by the participants. The motivation to use this methodology was to generate a theory grounded in the data by using the constant comparative method of analysis that would explain the process of nurse-patient interaction in the presence of technology (Denzin & Lincoln, 1994; Glaser, 1978; Glaser & Strauss, 1967; Morse, 1994; Strauss, 1987). Nurse-patient interaction is considered a psychosocial process and the grounded theory methodology provided a way to study the interactions in the presence of technology using a symbolic interactionist perspective (Blumer, 1969; Mead, 1934).

The grounded theory methodology has been successfully used by various disciplines including nursing to explore and conceptualise interactional processes (Benoliel, 1967; Chenitz, 1983; Chenitz & Swanson, 1986; Hutchinson, 1986; Stern, 1980; Wilson, 1981). This was therefore, a springboard to the selection of this design. Grounded theory methodology provides the avenue to utilise strategies to design, conduct, analyse and theorise (Atkinson, 1995). This also allows the use of everyday behaviours to generate theory that is pertinent to the phenomenon from which the theory emerges (Morse, 1994). This method allowed for data to be collected from the nurses in their own natural setting which would enhance the development of a grounded theory that has relevance to the context in which nurse-patient interactions actually occur. Collection of data from nurses in their own setting was essential in the present research so that a theory explaining the process of nurses' interaction with patients in the presence of technology could be developed.

The aim of this approach is to develop theory from the data rather than bringing theory to the field to be verified. This method is therefore, particularly relevant to areas which have not been extensively researched. In relation to the focus of this study this was clearly the case. This research was concerned with developing a theory to describe the process inherent in nurse-patient interaction in the presence of technology. This therefore, lent itself to a grounded theory methodology. As the sample was a culturally cohesive group (nurses in the West Australian setting) the use of grounded theory assisted in producing a theory pertinent to this setting.

With limited information on the process of the nurse-patient interaction in a technological context, this method was deemed to be appropriate for developing a theory of nurse-patient interaction in the presence of technology. Even though nursing literature abounds with information and opinions related to technology and nursing, there was a paucity of literature that explained how nurses delivered care in the presence of technology. Chenitz and Swanson (1986) suggest that the grounded theory methodology is most useful in areas where little research is done. Another motive for selecting this method was that the method allowed the study to be conducted in various nursing environments, which was an aim of this research. The

comparison of nurse-patient interactions in various settings provided by informants and observed in day to day nursing practice provided the rich data for theory development.

Figure 1 below briefly explains the rationale for using the grounded theory methodology in this research.

Figure 1:   Rationale for Using Grounded Theory
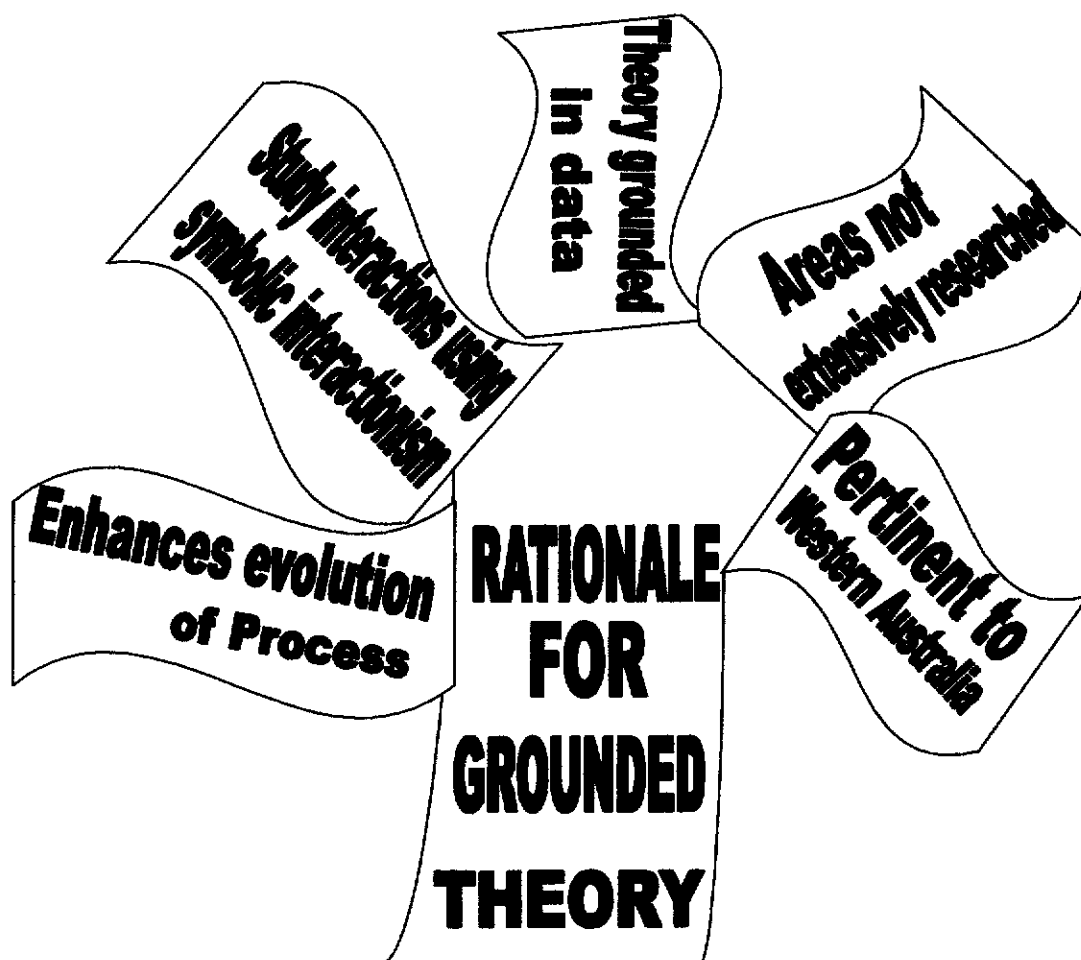
Depicted above are the five reasons why the grounded theory methodology was used in this research.

How the Grounded Theory Methodology Was Used

The first step in using this method was to select the informants to participate in the study and the setting for observance of interactions between nurses and patients in

the presence of technology. Since the study was from the perspective of nurses, the main informants were nurses. Details of nurse participants were as follows.

Informants

No attempt was made to finalise the number of informants that would be involved in this research. Initially participants who could contribute to the study of the phenomenon of nurse-patient interaction in the presence of technology were chosen. These informants indicated the areas that should be used for observations. The final number of informants was determined by theoretical sampling as data was generated and the theory emerged.

Nurse Informants

My first informant was a clinical nurse studying part-time in a nursing program at Curtin University. This informant had eight years of work experience in an ICU. After an initial approach she consented to take part in my study. The only criterion for inclusion was that nurses should be working in the current place of employment for a minimum period of three months. This inclusion criterion was decided upon because three months was considered a reasonable time for nurses to become comfortable and familiar with their work environment. The aim was to allow nurses to be comfortable in their interaction in the particular setting. My colleagues referred the second and third informants to me as these informants had work experience in the ICU and surgical wards. Since this study examined nurse-patient interaction in the presence of technology, it was decided that nurses working in various areas would be included in the initial phases of data collection. This was to allow interaction with varying degrees of technology to be part of the study. The sample therefore, was a non-probability type (purposive sample). In keeping with grounded theory research this initial data collection/analysis provided direction to areas that needed to be further accessed for observations.

Profile of Nurse Informants

Twenty-one nurse informants working in various areas of nursing participated in this study. The positions of the informants ranged from junior registered nurses (level 1) to senior registered nurses in managerial positions (level 3). These informants were working in both public and private hospitals. The areas the informants represented ranged from an aged care center, medical wards, surgical wards (cardio-thoracic and orthopaedic wards) and ICUs. Four nurses worked on medical wards (including aged care), six nurses represented the surgical areas and eleven nurses worked in ICUs. These nurses worked in the various areas of nursing in different hospitals.

Out of the twenty-one nurses who took part in the study, twenty nurses were female and one nurse was male. This could be attributed to the fact that the nursing profession in Australia is still predominantly female. The male nurse was included in the study to determine whether male nurses experienced a variation of the phenomenon under study. Eleven of these informants worked in a public hospital while eight nurses worked in a private teaching hospital. Two of the nurses worked for a nursing agency (an employing agency from where nurses can be hired to work in different areas). The education levels of the nurses consisted of thirteen graduates from a hospital based nursing course and eight were from tertiary educational institutions. A further breakdown of education levels revealed that ten had completed the hospital certificate, one had a diploma from a college of nursing, two a non-nursing bachelor's degree, five a bachelor's degree in nursing, two a master's degree and one a diploma in applied science. Two nurses had completed a post-basic midwifery course while seven informants had completed a critical care post-basic course. The overall range of nursing experience was from a year and a half to thirty-seven years. Twelve informants currently worked in ICU/CCU, five nurses worked in the surgical areas and four nurses worked in the medical wards. Years of experience for the nurses in the current area of work ranged from three months to eighteen years. All the nurses had experience in areas other than their current areas of work. The following table represents the profile of nurse informants.

Table 1: Profile Of Nurse Informants (n=21)

VARIABLES		NUMBER	PERCENTAGE
Age:	20-30	5	23.81
	30-40	8	38.1
	>40	8	38.1
Gender:	Male	1	4.76
	Female	20	95.23
Basic Nursing Education:			
Hospital based		13	61.9
Tertiary institution		8	38.1
Highest qualification:			
Hospital certificate		10	47.61
Diploma in nursing		1	4.77
Degree		7	33.33
Graduate diploma		1	4.77
Master of Science		2	9.52
Type of work area:			
Medical		4	19.04
Surgical		5	23.81
Intensive Care Unit		10	47.61
Agency		2	9.52
Experience in present area of work:			
3-12 months		7	23.81
>12 months		14	66.67

Patient Informants

Interaction is a two way process and an interaction between nurses and patient includes both types of participants. Even though this study was conducted from the nurse's perspective, a decision to include patient informants was made because there

appeared to be gaps in the information provided by nurses regarding their interaction with patients. Some nurses also referred to the fact that the interaction was dependent on the responsiveness of the patient and the personality of the patient. In order to complete the picture of nurse-patient interaction and substantiate information obtained from nurses it was decided to include data from patients in this research.

Initially patient informants were obtained through acquaintances. I knew of people whose relatives or friends had been admitted to hospital. Again, because of the nature of this research, it was decided that patient informants whose care occurred in the presence of varying amounts of technology should be interviewed after being discharged from hospital. These informants were phoned after being discharged from hospital and an appointment was made to interview them at home at a convenient time within one to three weeks of discharge from hospital.

Once field observations commenced, I approached the coordinator of the ward being observed and asked for patients about to go home to be identified. The coordinator then introduced me to potential informants. I explained the study to each patient and upon agreement to participate, I requested a telephone number so I could call them when they got home. All the informants approached in this way agreed to take part in the interview. In the public and one of the private hospitals I was required to take permission from each of the patients' medical consultants before I could interview them. All the consultants agreed for their patients to be interviewed. Some patients were observed and interviewed. These were P#7, P#9, P#10 and P#12. These patients were observed being cared for in medical wards, surgical wards and ICU. It was these observations that led them to be interviewed at a later period upon discharge from hospital.

Profile of Patient Informants

Six out of the thirteen patient informants were male while seven informants were female. Eight patient informants were in the sixty plus age group, two were in the forty to sixty age group and three were in the twenty to forty age group. Total

number of previous hospital admissions for the informants ranged from one to six. Length of hospital stay during the current hospitalisation ranged from two days to seventeen days. Eleven of the informants had elective admissions while two were emergency admissions. The time lapse between discharge and the time of interview was on an average from one to four weeks. One patient with a three-year time lapse after admission was interviewed as she indicated that her experiences would be pertinent to the study. During the interview she did not demonstrate any sign of forgetting her experience as an in-patient in the hospital. The following table represents the profile of patient informants. Even though this study was not undertaken from the patient's perspective, it was decided to include a profile of patient informants because theoretical sampling led to the interviewing of 13 patients.

Table 2:   **Profile Of Patient Informants**

VARIABLES		NUMBER	PERCENTAGE
Age:	20-40	3	23.07
	40-60	2	15.38
	>60	8	61.54
Gender:	Male	6	46.15
	Female	7	53.85
Previous admissions:		5	38.46
1-2		5	38.46
3-4		3	23.07
>5			
Length of stay:			
<3days		1	7.69
>3 days		12	92.30
Area in which nursed:			
Medical		2	15.38
Surgical		8	61.54
ICU/Surgical		4	30.77

Profile of patient informants where n=13

DATA COLLECTION

Strategies used to collect and analyse data are explained separately in the next two sections. It was thought best to explain the intricacies involved in each of these separately to help in the understanding of the procedures involved. It must be stressed however, that data collection and analysis occurred simultaneously throughout this research. This section portrays the strategies used to collect data, the interviewing and observation techniques that were used and the characteristics of participants.

Data were collected from formal and informal interviews and participant observations. A personal diary of thoughts and feelings encountered during the research process was maintained throughout the period of the research. The personal diary was like a friend and contained frustration's, tears, joys and the elation encountered during the research process. It also helped me to keep 'on track' on my study's focus.

The Setting and Procedure

The setting of a study is located in the context of the phenomenon. Strauss and Corbin (1990, p. 101) define context as 'the specific set of properties that pertain to a phenomenon'. These may also be the set of conditions within which the action/interaction strategies are carried out. In this section the physical location of the scene of this research will be explained. The broader meaning of the context ie. the conditions within which the action/interaction strategies take place is explained in chapter three.

The setting is part of the context of this study. As this research intended to discover the process of nurse-patient interaction in the presence of technology and because technology is currently not just reserved in the acute setting, a decision to include various areas of nursing practice was made. These areas were a nursing home, medical wards, surgical wards and ICUs. It is imperative that the setting be carefully chosen particularly if it is part of the context of the phenomenon so that meaning can

be shared and the phenomenon can be understood (Hinds, Chaves & Cypess, 1992). The following is a description of the setting of this study.

This study was conducted in both public and private hospitals in Perth, Western Australia. Data were obtained using field observations, in-depth interviews with nurses and post-discharge patients. To further explore all aspects of the nurse-patient interaction from the nurses' perspective, it was thought to be necessary to examine nursing documentation and team conferences for references to the nurse-patient interaction and also the focus of care. After attending a couple of team conferences it was decided not to include this method of data collection because it was too cryptic in explanation and did not reveal the personal perspectives of the nurses. It however, did provide me with an insight into the nurses contribution to team conferences. Initially it was decided to include nursing documentation in the data collection methods. Most nursing documentation however focused on the physical complaints of the patient and hence was of little value to my interaction research. The following are examples of a series of nursing documentation about the same patient:

Night Shift

Slept only short intervals. C/O (complaints of) back pain. Given Panadol ii with some pain relief. BP unchanged. S/L (sublingual) Nifedipine given. B.P (blood pressure) 140/90.

Morning Shift

Feeling unwell today. C/O stomach and back pain. Has slept all morning. B.P. stable.

Afternoon Shift

Slept well with no complaints. B.P stable.

Next Morning

RIB (rest in bed) all shift. Given sponge with assistance. B.P stable today.

After reviewing such nursing documentation it was decided not to include this method of data collection because it provided no information about the process of interaction between nurses and patients.

Data were therefore, obtained from a combination of semi-structured formal interviews, informal interviews with nurses, patients and their relatives in intensive care units (ICUs), participant observations of interaction between nurses and patients in various areas of nursing, demographic questionnaires and literature. The major sources of the data were formal and informal interviews with and participant observations of nurses and patients. Limited informal interviews were conducted with ward clerks and orderlies regarding structure of the ward, environmental issues and orderly rounds particularly in the ICU.

Self-Interview

Even before commencing data collection, a self-interview was conducted. The self-interview helped in the verbalisation and confrontation of biases that I had as a researcher. It helped me become aware of these biases that could impinge on my data and thought processes. This assisted when conducting interviews because I could refrain from imposing my opinion on the information being provided by the informant.

Period of Data Collection

Data were collected over an extended period of 24 months. Interviews began in August 1994 and the first round of interviews extended into a twelve-month period. Informants completed the demographic questionnaire at the time of the interview. Participant observation began in December 1994 and extended to August 1996. During the period of data collection, codes and memos were written and discussed with other grounded theorists in Australia and overseas. This process helped in reducing researcher bias and in focusing the research.

Methods of Data Collection

Interviews

Nurse Interviews

All the informants were approached personally by the researcher. Initially, the study was explained and informants were invited to participate in the study. Except for one nurse all other informants approached in this way agreed to participate in the study. This one nurse agreed to be interviewed over the telephone, rather than take part in a face to face interview. An appointment was then made to conduct the interview at a mutually agreed upon time and place. The majority of the nurse interviews (16) took place in a quiet empty room on the wards, in the tearoom or the grounds of the hospital. Most of the nurses either came early to work or stayed back after work or gave up their lunch break to take part in the interview. Three nurse interviews took place in empty offices and one interview took place in the nurses' staff development office. One nurse interview as stated before was conducted over the phone and one interview was conducted in an empty conference room at an international conference.

Patient Interviews

Most of the patient interviews were conducted at the participants' homes. The participants were contacted at home by telephone after approximately a week of their discharge from hospital. The time for the interview was made at that time. Appointments were confirmed with the participants about one day before the interview. One interview was conducted in the empty office of a mutual friend and one interview was conducted in the participant's office. One patient interview was conducted in the hospital. This occurred because I encountered this patient who was going to be discharged from hospital during one of my field visits for observations. He did not have a fixed address and was going to be staying with a friend in the country for a week. He consented to be interviewed in the hospital. As I had not obtained permission to conduct patient interviews in the hospital I approached the

Clinical Nurse Manager who granted me the permission. I drew the curtains around the patient's bed and conducted the interview at the bedside. There were three other patients in the room, one of whom had gone for a shower, one was asleep and a nurse was attending to the third patient. I informed the nurse looking after the informant that the interview would take approximately 30 minutes. She agreed not to disturb us during the time.

All except the telephone interviews were tape-recorded and all informants gave permission for the interviews to be taped. Before conducting the telephone interview I wrote down the questions on sheets of paper with space left in between each question for the answers. I asked the informant the question and while the informant was answering I took notes. Additional questions that arose as a result of the information being obtained were written at the back of the sheet and the informant was asked to elaborate on the answers at the end of the interview.

The first round interviews consisted of open-ended questions. The informants were allowed to talk without interruptions. During the first two interviews I found that I was leading the informants with my questioning technique. My supervisors kept saying that in order to explore ideas I needed to write down points during the interview. These could be used later when I wanted the informant to elaborate upon a previously mentioned topic. I found that difficult to do because when I looked down to write I lost eye contact and felt I was not paying enough attention to the interview. I then tried writing while looking at the informant, but when I looked at the paper to explore the issue I found that I couldn't understand what I had written. I overcame the problem by remembering new concepts that were mentioned in the interview. I asked them to explain these concepts when they finished speaking.

At the end of the interview I went through my interview guide and added questions that I may have missed. Permission was also obtained at the end of the interview, to conduct follow up interviews either by telephone and/or follow up visits. All informants agreed to be interviewed again. If I missed any information I rang them up after going through the interview transcript. These interviews were therefore,

semi-structured. No order was used in asking the questions. These were therefore, asked in a way that seemed most appropriate during the interview. The initial interviews began with a general question 'tell me how you would start caring for your patients on a particular shift'. Other probes were used depending on the informant's answer to the question.

Most of the informants appeared quite at ease during the interviews however, there were times and moments of unease on the part of the informants. For example one nurse lowered her voice whenever she spoke of a controversial issue. Another patient was being cared for at home by a volunteer from a local private hospital. I found communication from this informant not very forthcoming at times even though I used a repertoire of encouraging interviewing skills.

Following the interviews, several informants said that the interviews benefited them. Nurses felt that it "helped me actually think of interacting with patients". Patients expressed a feeling that it allowed them to get "it off my chest". One informant rang me at home to prepone the interview so that she could talk about her experiences and feel "unburdened". One patient felt that I should tell the hospital management "to give more advice about pushing the heavy bathroom door after cardiac surgery and to take religious sects into consideration".

Another aspect of the interview particularly with patients was that I assumed an educational role on issues such as wound healing, diet, blood tests etc. in response to patient/family inquiries. This did not interfere with the interview as it occurred prior to the interview in relation to inquiries of health status or after the interview when patients elaborated on their illness outcomes.

Later in the study theoretical sampling was used to include other informants in the study. Here the questions became more focused and specific. During these interviews specific questions regarding emerging categories and questions to clarify issues were asked depending on the stage of the research. A total of six rounds of interviews were conducted as the study progressed (see Appendix 1). For example

the question of 'what factors impede your interaction with patients?' This question from the first interview guide was subsequently changed. Questions were directed to those that emerged from the data to include impeding factors. For example, 'how do you overcome the problem when the patient does not respond to you?' 'How do you deal with a lack of time?' or 'how do you feel about technology in your area of work?' These latter rounds of interviews were much shorter than the initial interviews. These however, continued to be tape recorded and transcribed. Repeat interviews occurred with five nurses and three patients and were conducted on the telephone. These were not tape-recorded but detailed notes were kept.

Initial interviews spanned from 20 minutes to 2 hours with an average interview lasting about 50 minutes. The recorded interviews were transcribed on a word processor. Each interview was given a code number, with the venue, date and time of the interview being recorded in a code book and on the interview transcript. The code book contained the code number of the informant, the name of the informant, the address and a contact telephone number. This book was kept locked and was only accessible to me. The interviews were transcribed verbatim with pauses and emphases being indicated on the transcripts. The interviews were typed in the Ethnograph format, which allowed for a hanging indent for speaker identifier and a wide right hand margin for coding. The alphabet 'I' was the speaker identifier used for informants and 'R' was the speaker identifier used for researcher. Most of the interviews were transcribed by a typist. The typist was instructed to transcribe verbatim and was also told about the confidential nature of the data. Tapes were listened to along with typed transcripts upon completion of transcription. This helped me to get familiar and close to the data and assisted me in making connections early in the analysis phase. Copies on discs and hard copies of the transcripts were made and kept locked in two different locations to which I had easy access.

Questionnaires

In addition to conducting interviews and performing observations, each of the twenty-one nurses, thirteen patients and three relatives were asked to complete a biographical data sheet following the first interview (see appendix 2). Sometimes the informants chose to complete the questionnaire themselves whilst others preferred me to do so. These questionnaires were designed for the purpose of the research. The response rate for this instrument was 100 percent.

The questionnaire used for nurses had ten items. Personal background data about the informants' sex and age were obtained from items one and two. The type of organisation in which the informant worked was asked in item three. Items four, five and six addressed nurses' educational background. The questions asked were basic nurse education, highest level of education completed and post-basic courses completed. Professional experience was assessed using items seven, eight, nine and ten. These questions addressed, total number of years in nursing, present area of work, length of experience in the present area of work and other areas of nursing experience and length of time worked in other areas of nursing previous to present area of work (See Appendix 2). The time taken by the informants to complete the questionnaire ranged from 5-15 minutes.

All the informants were invited to contact me if they wished to discuss further aspects of the research when asked to complete the consent form (see appendix 3). None of the informants responded to this invitation. The questionnaires were coded with the same code as the interview transcripts. These informants were however; very willing to discuss findings when contacted by phone.

Participant Observations

The purposes of participant observation as outlined by Spradley (1980) are to engage in activities appropriate to the situation and to observe the activities, people and physical aspects of the situation. McCall and Simmons (1969) state that participant observation is a mixture of techniques utilised to study participants in their 'natural

environment'. These techniques include observing of events, formal and informal interviews and consulting documentation. Ashworth (1995) indicates that participant observation permits accessing data that is not easily approached by using other methods. Participant observation as a method of data collection can be used to verify between espoused behaviour and actual behaviour or to examine implicit or unconscious behaviours (Field & Morse, 1985). These authors contend that observations may help identify behaviours in the setting that are not obvious through interviews or behaviours not included in the participants' information. Participant observation was therefore undertaken in this research to further explore and substantiate information provided by informants and to verify espoused behaviour.

Access to six private and public hospital settings was negotiated for field observations. These hospitals had their own research protocol guidelines for obtaining permission. Three hospitals refused access on the grounds that the hospitals were too small for "research of this magnitude" and "the hospital was saturated with research projects". Permission however, to conduct the study was obtained from two private and one public hospital. In order to gain access to the hospital I was interviewed by the members of the hospital research panel. When granting permission, the hospital authorities specified the ward areas where the research could be conducted. In the public hospital permission was given to conduct the study in the ICU, the cardio-thoracic ward and a medical ward. One private hospital permitted the research to be conducted in the ICU, the orthopaedic ward, the respiratory medicine ward and an aged and extended care ward. The other private hospital permitted the study in the ICU and surgical wards. Once field observations commenced, nurses from the areas being observed were approached individually and asked if they would be willing to take part in the study. Most of these nurses agreed. Only one nurse refused to be interviewed.

Procedure

Participant observations were conducted over approximately 200 hours over a two-year period from 1994-1996. I first started observations in the private hospital for the

simple reason that consent was first given by the hospital. As the areas allowed for observations would have varying levels of technology it was decided to observe all of these areas. Before commencing formal observations, I met as many staff of each of these areas as possible. The purpose was to inform the nursing staff of my study and the reason for my presence on the wards during the next few weeks. I also placed a one-page summary of the study in the staff room with a contact phone number. None of the staff objected to the observations being conducted. A few of them also expressed their willingness to be interviewed at a later date. I spent two days on each of the wards before commencing formal observations. The purpose of spending this time was to allow staff to get used to my presence. It assisted me to refine my observation technique and to decide on the best way to conduct field observations. The strategies I used were following a nurse around, observing nurse-patient interaction from a vantage place on the ward, sitting in a cubicle with four beds and conducting the observations while standing at the nurses station. I found that I could use all these techniques depending on the situation that presented at the time. I carried a small notebook with me to record my observations and note various ways to perfect my recording system. Observations were conducted in a nursing home, medical wards, surgical wards and ICUs of both hospitals. Observations in all these areas were not conducted simultaneously. Each area was observed for a month during different shifts. Gradually the hours spent in each area were reduced before observation in the next area commenced. I even visited these areas even after completion of data collection to keep in contact with the nurses who had kindly permitted participant observations to be conducted.

I found the 'spot observation technique' (Rogoff, 1978) most useful. This technique was used by visiting the area being observed at any time during the day. No prior appointment was made with the staff members to conduct observations. As permission to conduct observations were obtained previously, I went to the area being observed at any time during the different shifts and conducted the observations. Observations were conducted at different times on different days. This gave me the freedom to conduct observations at a time that I considered was necessary. When I observed a particular interaction between patient and nurse, I

wrote key words down on the book. I numbered each of these incidents. I stopped observations every two hours and elaborated on these notes. I tried elaborating these notes on a tape recorder, but found it difficult to transcribe these notes from the tape. I then used written notes to describe observations in detail and found that this technique was more favourable because it was easier and quicker to transcribe hand written notes.

There were times when writing key words in the presence of the nurse was not considered appropriate. This caused nurses to be conscious of being observed and therefore, their behaviour was stilted. The problem was overcome by writing key words as soon as possible when I moved away from the bedside. This however, did not prevent nurses from asking me questions and passing comments like, 'is it my turn to be observed?' 'We better be on our best behaviour' and 'who are you going to follow around today?' As time passed the staff and patients seemed to be comfortable with my presence. I began to be invited out to ward teas, asked to contribute to the Christmas hamper and generally made to feel welcome. I was also allocated an office to use for data recording. During the first few days of observations on the wards I began to trial the clothes that I would wear whilst conducting observations. I found that I was most comfortable and inconspicuous in a white blouse with dark coloured skirt or trousers. I wore a name badge that indicated that I was a research student. I refrained from wearing any make up and wore rubber-soled shoes in an attempt to be inconspicuous.

Observations in the Private Hospital

I began formal observations approximately 25 hours after first visiting the ward. Field observations were undertaken mainly during the morning and afternoon shifts. Night shifts were observed on a couple of occasions in the first hospital which was the private hospital included in this study. Sometimes I started observing during the morning shift at 7.30am. Nurses quickly commenced their morning routines, which provided rich information on how nurses and patients interacted during the morning medication rounds and when the hygienic needs of patients were met. This was

different to the ICU where monitoring vital signs, checking equipment manually, reinforcing stock at the bedside and preparing the patient for portable x-rays seemed to be the routine for every shift. If the patient in the ICU could eat then individual nurses would assist their patients. Late mornings on the wards was spent in doing dressings and other treatments and checking vital signs. After the initial morning rush, the nursing staff in the ICU settled down to observing vital signs hourly, turning patients, doing treatments and documenting. This is akin to observer-as-participant (Field & Morse, 1985) that allows the researcher free time to observe and interview participants with minimal participation in the work role. Field and Morse (1985) argue that the disadvantage of this method can be that the researcher is not trusted. This was however, not experienced in this research.

The surgical and extended care wards of the private hospital were long wards with three horizontal partitions separating the ward into three sections. As a result of this layout I utilised the strategy of following nurses around on these wards. The medical ward of the private hospital had a long corridor along side the ward, which made unobtrusive observations easy. Observations were made even easier in the ICU because the beds here surrounded the nurses' station; therefore almost all observations here could be performed by standing at the nurses' station. In all of the areas mentioned above, if the nurse was going to perform a procedure behind drawn curtains, I sought permission from both the nurses and patients to conduct the observation from within the curtains. Everyone who was approached to be observed in this way consented to be part of the observations.

I started observations by documenting everything about the interaction between nurses and patients at the bedside. Concurrent analysis of data assisted in identifying areas for further observations or more focused observations. These foci included time and rationales of the nurses' bedside visits, how they knew that they were needed and the relationship between these and the amount of technology at the bedside. Other foci that were included were the manner in which nurses were summoned to the bedside, what happened once they arrived there, the verbal and non-verbal communication that occurred between nurse, patient and technology, the

length of stay of the nurse and inclusion of other participants in the interaction. If other staff or relatives were present then the variation in the process of interaction in the presence of technology was also observed.

Observations in the Public Hospital

As the above data pertained only to the private hospital it was decided to commence observations in the public hospital. The areas chosen to observe in the public hospital were the ICU, the cardio-thoracic ward (with a step-down intensive care area) and a medical ward. The same observation format, which was used in the private hospital, was employed in the public hospital. I first commenced observations in the ICU of the public hospital. In the beginning I felt a reluctance on the part of the nurses to be observed compared to nurses in the private hospital. Education sessions for nurses were a regular part of the routine for nurses in this hospital. These sessions were conducted either when nurses had completed their shift or before nurses commenced a shift. I spent many hours during the education sessions to explain the study. I also made myself available to discuss my study and/or data collection methods. Nearly a week was spent to allow staff to get used to my presence in the ICU. After this I felt more comfortable as nurses began to approach and talk to me about other topics not related to the research. I felt accepted when nurses invited me to visit their tearoom and join them during lunch. Similar to observations in the private hospital data were collected during all three shifts. In this hospital data were collected in the medical ward, cardio-thoracic ward and the ICU.

When interviewed, nurses talked about the increasing amounts of technology being used in aged care facilities. Following further analysis of data and theoretical sampling it was decided to observe nurse-patient interaction in an aged care facility. Permission was therefore, obtained from the Director of Nursing of an aged care facility who readily consented. The assistant director of nursing oriented me to the nursing home and introduced me to a few nurses who agreed to being observed. Observations then commenced in the nursing home. These observations were

conducted over a period of two weeks. Only morning and afternoon shifts were observed in the nursing home.

Clarification of concepts was performed by visiting both the hospitals again over a period of four weeks and conducting very specific observations. Researcher participation in the care of patients throughout participant observation was kept to a minimum and always in unison with ward staff. This comprised of assistance with client lifting, positioning and/or assisting with dressings.

Informal Interviews

Participant observations were also used to conduct informal interviews with nurses, patients, relatives, ward clerks and orderlies. Whenever an interaction took place and I needed to clarify the rationale behind what was said or done or to explore how nurses and patients felt after a particular interaction, informal interviewing was undertaken. Nurses were approached after they left the bedside and patients were approached after the nurse departed from the patient. For example, I observed a nurse helping a patient with his breakfast. This patient was connected to a cardiac monitor. She was shouting loudly about how to open a cereal box. The patient just kept looking at her. After she had left the bedside, I asked her what kind of communication problems she encountered on the ward. She explained that communication with patients on that particular ward was challenging, because a few of the elderly patients had a hearing deficit and she had to shout to make them hear. Whilst explaining, the nurse pointed to the patient she had been helping to indicate an example.

Another example was a nurse in the ICU caring for a patient with an oxygen mask, which he was trying to detach. Two alarms on monitors at the bedside were beeping. The nurse looked particularly harassed. Later in the shift, when the situation had calmed down, I deliberately followed her as she walked to the nurses' station and asked her about the kind of day she had been having. I was also able to ask her how she felt about all the technology in the ICU. She spoke at length about how

technology was given too much credence and about how nurses were relying too much on technology. This information provided me with an insight into how some nurses viewed technology. I spoke to some ward clerks who gave me information about how individual nurses interacted and they also described some of the nurses' usual demeanour. Orderlies spoke about patient positioning routines particularly in the ICU. Other examples of informal interviews I conducted included the instance when the patient said to the nurse who could not adjust the bed, "I suppose you will now take your anger out on me". Upon the nurse's departure the patient was asked what he meant by that and he explained. Another example of an informal interview is of when the patient's hair was ripped off with the sticking plaster and the patient said, "this is your opportunity to take revenge". The patient was asked why he thought nurses took revenge. Another patient example of an informal interview was the patient was asked what he thought when his intravenous line was filled with blood because he had held the iv bag at a lower level and the nurse said laughingly, "I am glad it is your blood and not mine". I found informal interviews an invaluable source of data. I conducted approximately 30 informal interviews during the course of field observations.

Use of Literature in Grounded Theory

The use of literature in grounded theory is often a topic of discussion. The amount of literature reviewed prior to conducting the research seems to be the issue of contention. Strauss and Corbin (1990) indicate how technical literature (professional and disciplinary writing) can be used in grounded theory. It can be used to enhance theoretical sensitivity about the phenomenon by permitting comparison of concepts identified in literature against actual data. Literature can help to interpret data, be used as a secondary source of data, stimulate questions, direct theoretical sampling, and be used to validate theory after it is developed. These authors however, also caution against the overuse of literature in grounded theory. Some of the disadvantages outlined are that literature might deter the discovery of a theory, lead to incorrect analysis of information and impede creativity. Chenitz and Swanson

(1986) reiterate the same warning and state that the caution should be heeded particularly in the early stages of the research.

Theoretical sensitivity has been explained by Glaser (1978) as the researcher being sensitive to the data as it emerges. To enhance theoretical sensitivity Glaser (1978) suggests that the researcher enter the setting with as few predetermined ideas as possible. This is not possible when research is conducted in an area of research known to the researcher as it was in my case. I found that the self-interview that I conducted before commencing this research was a strategy to enhance my theoretical sensitivity as the interview highlighted my preconceived ideas and made me aware of them.

In this study, literature searches were undertaken on an ongoing basis as themes and conceptual categories became apparent as a result of data analysis. Literature was considered an important supplement to the data accessed through interviews and observations. Data obtained through literature assisted with verifying data from informants. Literature also helped with theoretical sampling and further data collection. For example, this research revealed that cues were sometimes ignored by nurses. A literature search revealed that some researchers referred to this as "missed or ignored patient cues" (Bottorff & Varcoe, 1995). As this finding was substantiated by literature, this concept was explored following a few nurse interviews. A thorough literature review was undertaken after the theory had been identified and documented. The purpose of this review was to compare the theory of the study to other similar and/or relevant theories of interaction between nurses and patients in the presence of technology.

DATA ANALYSIS

In keeping with the grounded theory approach, the collection of data, analysis and memo writing were undertaken simultaneously throughout the period of the study. The story line in this research emerged from data provided by the informants and glimpses of the interaction process surfaced through the observation windows of

nursing practice. The main story that emerged highlighted the shared problem that nurses encountered in their interaction with patients in the presence of technology and the process that they used to deal with this problem.

The method of constant comparative analysis described by Glaser and Strauss (1967) was followed in this research accompanied by the procedures such as theoretical sampling and the continuous writing of memos. Memos were written to record insights and relationship between categories. The entire process was one of moving backwards and forwards so that a careful and systematic way was used to develop emerging concepts and the theory (see figure 2). There was also a constant return to the data to verify and compare emerging categories and their properties.

The grounded theory methodology with the underlying philosophy of symbolic interactionism not only assisted in understanding the process of nurse-patient interaction in the presence of technology but it also allowed an interpretation of meanings to emerge from informants' words and researcher's observations. By using grounded theory, a researcher seeks to identify patterns and relationships in order to explain models of human behaviour, which are grounded in data (Glaser, 1978, 1992). Figure 2 sets out how the various procedures inherent in grounded theory methodology were used in the analysis of data.

Figure 2: **Process of Data Collection and Data Analysis**

Constant comparative analysis

Constant Comparative Analysis

Data collection
Round one

Formal interviews
Participant observation
Informal interviews

Transcription
of data

Analysis

Open coding
Memo writing

Data
management

Code words
Marking codes
common to
informants and
observations.

Develop next set of
questions and
observation foci

Preparing for theoretical
sampling by marking nurse
questions with stars, patients
with hearts and observations
with red dots.

Data collection
Round two

Analysis
using memos,
schemas and
flow-charts

Discussion
with peers

Analysis
with memos

Open coding
Axial coding
Revisiting transcripts
Schemas, mind maps, memos
Code words

Theoretical
sampling

Data collection
Round three

Analysis with
memos

Category development
With properties and
Dimensions.
Drawing of schemas
Revisiting all previous data

Discussion
with peers and
informants

Developing hypotheses and
clarifying relationships

THEORY DEVELOPMENT

Constant comparative analysis

Figure 3: Tenets of Grounded Theory Methodology
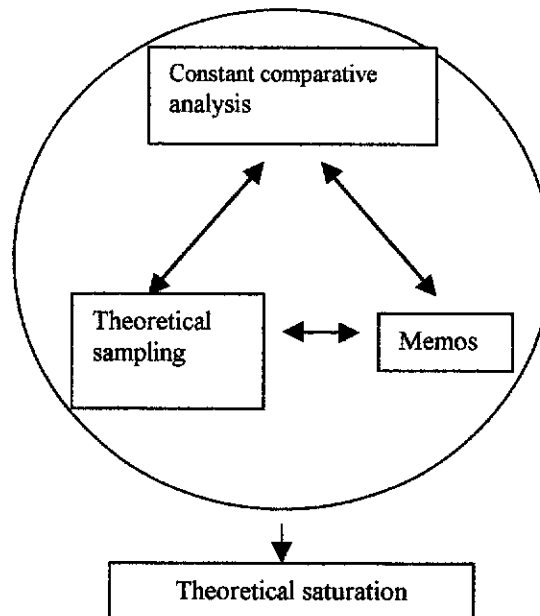
Constant comparative analysis, theoretical sampling and writing memos occur simultaneously and assist in building an integrated theory.

Constant Comparative Analysis

One of the tenets of grounded theory methodology is the *constant comparative method of analysis* (Glaser & Strauss, 1967). This method of analysis permits theory to be generated systematically. The concept of constant comparative method of analysis has been defined by Streubert and Carpenter (1995) as "a form of qualitative data analysis wherein the researcher makes sense of textual data by categorising units of meaning through a process of comparing new units with previously identified units" (p. 314). Strategies identified by Glaser and Strauss (1967) to utilise a constant comparative method of analysis include comparing incidents in the same category, memoing ideas on coding while analysing data and as coding continues, comparing incidents with properties of categories rather than just the incidents.

The core problem, core process and resulting theory were generated from data and analysed by utilising this process. This process involved concurrent collection,

coding and analysis of data by comparing every piece of datum with every other piece. Memos were written constantly as the subcategories and categories became identifiable. As coding continued, emerging concepts were compared with properties of categories. For example, certain deterrents to interactions became clear very early in the analysis of the data. Every emerging piece of data was checked for deterrents to interaction. Memos that totalled scores of pages were written on this emerging concept of deterrents to interaction in the presence of technology. Properties of these were clarified in the data. These were then grouped together and finally were narrowed down to seven subcategories of a major category, which represented deterrents to interaction (see Appendix-4). These deterrents was later renamed as the causes of 'being stymied in person centred interactions in the presence of technology' which emerged as the core problem for informants in this study.

Theoretical Sampling

Theoretical sampling was used as the study progressed (Glaser, 1978, 1992). Becker (1993) asserts that theoretical sampling is an ongoing process of data collection and cannot be predetermined because it is determined by the emerging theory. Theoretical sampling is defined as "sampling on the basis of concepts that have proven theoretical relevance to the evolving theory" (Strauss & Corbin, 1990, p.176) This procedure is directed by the findings of data analysis and permits seeking variation of the process and new dimensions of emerging categories. Simultaneous data collection, coding and analysis directed where data needed to be collected next. This meant that subsequent data collection after the initial phase was collected according to emerging concepts. The aim was to focus the collection of data for the development of a theory. In this way a theory emerges from the data (Morse & Field, 1996). This procedure was used as a systematic guide to theory development in which data collection and theory generation are seen as parts of the same process (Glaser, 1992; Strauss & Corbin, 1990). Glaser and Strauss (1967) suggest that the constant comparative analysis and theoretical sampling have to be conducted jointly. These authors outline the advantage of the concurrent use of both concepts for the emergence of an integrated theory.

As a result of constant comparative analysis and theoretical sampling it was decided to include patients' views to substantiate nurses' perspective of the phenomenon of nurse patient interaction in the presence of technology. Patients were able to bridge the gap or extend concepts in the data. Theoretical sampling also directed the inclusion of a nursing home for observations in this study. This occurred as a result of nurses mentioning that technology in the nursing home was on the increase and this was having an impact on nurse-patient interaction. Similarly, it was decided to include theoretical sampling of the relatives of patients in this study. A further focus for data collection was highlighted in the preceding memos by star stickers (nurse data), hearts (patient data) and dots (observational data). For an example see Appendix-5.

Other examples of the use of theoretical sampling in this study included the incorporation of nurses with more years of experience, nurses working for nursing agencies; nurses employed in a nursing home, a male nurse and the inclusion of younger patients. The incorporation of all the above was decided upon after the initial findings of data analysis. The inclusion of a variety of viewpoints in the study, helped new properties of categories to emerge, new issues to be pursued and new lines of thinking to be followed. This added to the completeness of the substantive theory being developed. The data collection process was therefore, influenced by the outcomes of the emerging analysis.

This method of targeting also permitted the collection of data from pertinent sources of information (Silverman, 1990). In this study therefore, some of the interviews had to be conducted after field observations were begun. Data from observations and initial interviews were used to select the sample for subsequent interviews. It was theoretical sampling that led to the repeat interviews of both nurses and patients. The purpose of these repeat interviews was to clarify concepts, verify information, elaborate on emerging ideas from the first round of interviews. Theoretical sampling involved moving back and forth between data. It was not a unidirectional movement of moving forward (Glaser, 1978). Theoretical sampling was conducted until there was no new information forthcoming on emerging categories.

Saturation

Morse (1995) defines saturation as, 'data adequacy' (p. 147). Saturation involves not just repetitive data but the richness of data (Morse, 1995). This author also asserts that saturation of data permits the development of a 'comprehensive and convincing theory' (Morse, 1995, p. 148). Morse (1995) contends that selecting a cohesive sample, using theoretical sampling and sampling all variations in the data assists saturation.

Saturation determined when sampling and data collection ceased. In keeping with this concept particular to grounded theory, this study collected and analysed data simultaneously and continued this procedure until theoretical saturation was reached (Strauss & Corbin, 1990). The strategies that enhanced theoretical saturation in this research were the use of nurses from various areas of nursing, the use of theoretical sampling, utilising various nursing settings, asking questions of data and following up on leads. Theoretical saturation occurred when no additional data were found to develop new categories, expand existing categories and 'an exhaustive exploration of the phenomenon' had been completed (Leininger, 1994, p. 106; Glaser, 1978; Glaser & Strauss, 1967).

Memos

A memo is a written documentation of facts the researcher wants to remember (Catanzaro, 1988). Catanzaro states that the advantages of writing memos include the researcher maintaining a control over experiences, possessing working documents of the research and maintaining the researcher's sanity. I certainly experienced these advantages in doing this research and writing memos. The three types of memos identified by Schatzman & Strauss (1973) were methodological, observational and theoretical. Methodological memos address concerns about strategies used in the research. Observational memos refer to accounts of events observed or experienced. The theoretical memo contains attempts to derive meaning from data (Schatzman & Strauss, 1973). Methodological and theoretical memos

from data (Schatzman & Strauss, 1973). Methodological and theoretical memos were maintained during this research. Observational memos were not maintained as data obtained through observations were transcribed along with impressions developed during observations. For example, the following memo was written when I first started conducting observations in 1994. I had begun observations on a medical ward about two days previously. On that particular day I had commenced observing at 7.30am. I made notes of the first two hours of observation. I wrote my impression of the first two hours as follows:

> *What I have observed so far is that half the nurses give out medications while the other half help patients with Breakfast, like buttering toast etc. Some nurses then make themselves a cup of tea and others start making the beds.*

Memos were written, new foci of data collection were developed and further data collection was conducted. Questions and possibilities arising from comparative analyses were explored. Memos directed further examination and verification of data. The following is an example of two memos related to the category of frequency of nurses' visits to the bedside. These memos were written in 1995 and were titled 'conditions affecting interactions'.

> *(7) Frequency of visits is affected by nurse's workload. Less the workload, more frequent the visits therefore, more the interactions. But again this may not be true because P#8 said that nurses stand and talk at the nurses station while P#6 said that nurses have to do a lot of writing. So even if nurses have time they probably don't utilise it properly. Therefore, frequency of visits could be a separate condition affecting interactions, that could be subsumed under workload. I will know after further observations* (indicated with a red dot).

> *(10) The hypothesis that nurses visit more frequently in the immediate post-op period or when there is more technology at the bedside is proving true. When the patient became well the frequency of visits reduced. Frequency of visits is indirectly related to patient's condition. The more serious the patient's condition the more the visits. This would explain the continuous presence of the nurse in the ICU. But what relevance does frequency have to interaction? More the presence of the nurse at the bedside the more the opportunities for interaction. There is*

also the safety aspect tied into this. The more critically ill the patient the more the safety risk and probably therefore more the presence of the nurse at the bedside. This is quite apparent.

The importance and significance of writing memos became very apparent in the latter part of this study. Memos were written consistently throughout this study, from the analysis of the very first transcript up to the writing of the theory. Memos were written on developing categories, sub-categories, relationships between categories, and thoughts on emerging concepts. Initially I began writing memos in four different books but I found it difficult to integrate previous information with the present information. I found writing memos on A4 sheets of paper very useful. Memos were written whilst transcripts were analysed and intermittently whenever thoughts occurred. Initial memos were structured with informant code, page number of the transcript, date and title of memo. Later on memos were written with questions arising about relationships and connections that had to be verified. As memos on the same topics kept increasing these were filed together with pages being added when required (see appendix 6).

Memos also contained the story line, diagrams of relationships and developing paradigms. The story line helped clarify the relationships of categories with the central phenomenon. First a descriptive account of the story line was written followed by analytical accounts of how the categories were connected. The following is an example of part of a story line that was written about half way through the research:

The data are revealing several things to me. Nurses and patients interact in several ways. A lot of the interaction is dependent on the personalities of both nurses and patients. The condition of the patient is also quite important. An interaction may start with the nurse visiting the bedside because of the routines, the nurse may also visit the bedside because of the technology that they hear or see. Most nurses tread carefully with patients at first until they 'sus' the patient out. Therefore, prior knowledge of how the patient interacts helps subsequent interactions. Not only knowledge of patient interaction but also knowledge of the patient helps the nurse's interaction with the patient.

Chapter 2 - Methodology

A personal journal was used to document feelings of emotions, tears, frustrations, elation and happiness as and when they occurred. Documenting feelings subjectively enabled me to face negative feelings and convert these into positive action. I used feelings of achievement as reinforcement that 'things were falling into place'.

Grounded theory methodology is not linear. The process therefore, included moving forwards through new data, backwards through previously collected data and sideways whilst data were coded, categorised and as patterns in the data became evident. This method required simultaneous data collection, coding, memoing, recycling of earlier steps in terms of the core category, sorting of memos and fitting all pieces together to describe the emerging theory. This process was represented throughout the stages of the research process.

Analysis of Transcripts

Each interview was about 15-35 pages long. A master copy of each transcript was kept on disks together with a hard copy. Copies were made of each transcript for analysis. Transcripts were also made of data recorded through participant observations. Initial interviews were transcribed by a typist to whom I explained the significance of the confidential nature of the data. As the interviews became shorter, I transcribed these myself. Fortunately, I was familiar with touch-typing and the task did not prove to be difficult. Furthermore, this helped me to get closer to the data and to detect emerging categories early. Once the taped interviews were transcribed, the tape was listened to whilst the transcripts were read. This was to check for omissions. The tone of voice, emphasis on words and pauses were also noted. The tapes were kept in safe storage. Transcripts were then formatted and coded in keeping with the Ethnograph software package (Seidel, 1988).

Data were first open coded manually line by line on the hard copies of transcribed data. These codes with their starting line and finishing line on the transcripts were fed into the Ethnograph software package. This was possible because data typed in the Ethnograph format have numbers at the sides of all lines (see Appendix-7). Hard copies of the coded segments were obtained by using the search command. The

availability of coded segments assisted in following the constant comparative method of analysis as each code was compared with another code and all examples occurring under the same code could also be compared with each other.

The Ethnograph provided all instances of code words across the data (see appendix-8). This enhanced the ability to detect saturation of data and also helped to identify negative cases within the data. Easy retrieval of coded segments assisted with re-coding the data and thus helped in developing and condensing categories. Codes could be retrieved as single or multiple codes. Codes could also be retrieved by linking code words with "and" or "not" statements. Face sheets assisted with attaching biographic data to each data file. Details of coding procedures are presented in the next section.

Open Coding

Open coding of the data began soon after data collection. Open coding has been defined as 'the process of breaking down, examining, comparing, conceptualising and categorising data (Strauss & Corbin, 1990; p. 61). Glaser (1978) defined open coding as 'fracturing of data into analytic pieces which can then be raised to a conceptual level'. The use of open coding allowed the data to be examined in minute detail. During open coding, questions such as "what is this data a study of?" "What does the incident indicate" and "what is happening in the data" were used. According to Glaser (1978) asking these questions prevents the analyst from getting lost in the data and assists the researcher in developing a theory grounded in data.

Data were examined word by word, line by line and sentence by sentence to identify codes that described the meaning of what was happening. Sometimes informants' own words were used as code words for that particular line or paragraph. Multiple codes were assigned to phrases and sentences if they were found to have multiple meanings. Code words were written in pencil on the right hand side of the page along side the corresponding line or paragraph. The following are examples of open coding from this research.

Table 3a: Example Of Open Coding

Interview Transcript	Open Coding	
Even if the patient is unconscious and muscle relaxed, even if they've just died, even if they are brain dead, before we turn them off, we talk to them we tell them what we are doing	Unconscious Muscle relaxed, died Brain dead Verbal interaction with patient, Physical interaction	Condition of patient

Table 3b: Example of open coding

Interview Transcript	Open Coding
Sometimes we look at it (equipment) and not the patient. At different times we are more concerned with what the equipment is saying and doing and fixing it.	Look at it (equipment), non-verbal interaction-human qualities Not patient, patient secondary Concerned with equipment human Saying and doing qualities.

Open coding started out as a painstaking task but as codes began to saturate, the task became easier. Memos were written incessantly during the phase of open coding. This helped to reveal linkages, characteristics and relationships between emerging concepts. In excess of 100 codes were identified as a result of the initial coding process. This number was reduced as the procedure of constant comparative analysis provided for concurrent analysis of data. Glaser (1978) confirms that open coding verifies and saturates individual codes and stresses the importance of codes needing correction and trimming. Codes were modified, discarded or subsumed under broader code words, which better reflected the meaning of the data. All the code words along with the definition of the code word and the abbreviated version of the word were documented in a book. I found this an easy way to start my analysis because it helped me generate questions, which directed me to the next step of data collection. This process helped to condense the theory. The urge to formulate definite categories prior to saturation was resisted because it was felt that this would

result in premature closure of the study. Extensive amounts of notes and memos were kept including diagrams and mind maps of emerging concepts.

Axial Coding
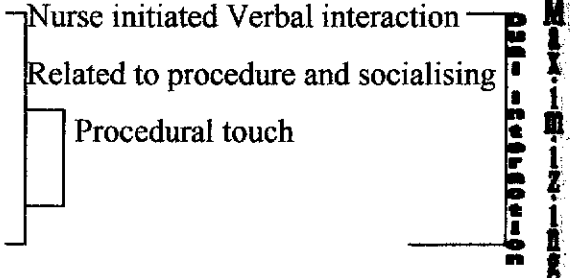
Strauss and Corbin (1990) define axial coding as a 'set of procedures whereby data are put back together in new ways after open coding by making connections between categories' (p. 96). These authors further explain that axial coding promotes assembling of the fractured data by 'making connections between a category and its subcategories' (p. 97).

Accordingly, in this study data that were fractured by the procedure of open coding were put together again by means of axial coding. This permitted the exploration of the connections between categories and subcategories. The linkages between categories were achieved by constant questioning of the data and the constant comparison between previous and new data. The first few transcripts were re-visited again to compare previous data. Categories were developed in terms of their properties and dimensions. Code words with related concepts were checked. Hypotheses were developed regarding the patterns and relationships between categories and subcategories. The following are examples of axial coding:

Table 4a: Example Of Axial Coding

Interview Transcript	Axial Coding	
I think you have to show concern for them, listen to them, listen to their needs. Give them time to talk, let them know that they are individuals and that we are there to care for their individual needs.	Show concern ——————— be Listen to them, needs — attentive Allow time- maintain presence Treat as individuals ———————	Maximisation

Table 4b: Example Of Axial Coding Of Observation Transcript

Observation Transcript	Axial Coding
N2 brings a kidney dish to the bedside. She asks if the patient is comfortable and talks briefly to the patient. She empties the colostomy bag and talks to the patient all the time. The patient nods.	Nurse initiated Verbal interaction — Related to procedure and socialising — Procedural touch

The properties of each sub-category of *maximizing* that was discovered were compared to the established properties to identify variations. The condition under which *maximising* was used was also noted. Impromptu follow-up interviews occurred whenever possible. These further extended the concept of *maximising* in the presence of technology. The piecing together of such anecdotes and incidents provided the threads to weave the fabric of a concept.

The process of axial coding helped to uncover as much variation as possible of the theory. Linkages between categories and subcategories and between two or more categories were defined and identified as explained above. This was crucial as it is the 'heart of grounded theory' (Strauss & Corbin, 1990, p. 111). Comparisons and questioning of the data is the crux of axial coding. Accordingly, additional properties of each category became evident as the categories emerged.

Selective Coding

Strauss and Corbin (1990) have defined selective coding as, 'the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development' (p. 116). The focus of selective coding is an integration of the theory at a higher level of abstraction (Strauss & Corbin, 1990). Glaser (1978) refers to selective coding as theoretical coding. The function of theoretical codes is to conceptualise the relationship of substantive codes (open coding and axial coding) to each other, which would achieve integration into the theory (Glaser, 1978). Strauss and Corbin (1990) have explicated that selective coding is conducted via paradigms. Glaser

(1978) on the other hand has suggested 18 coding families that assist in the development of theoretical codes that explain relationships between categories.

No particular coding family or paradigm was used in this research to identify the core category. The core category emerged in the form of a process that nurses employed to deal with the core problem that they encountered in interacting with patients in the presence of technology. Integration of the theory in this study was achieved by writing memos, which included the story line and drawing schematic representations of the story line with the relationships of the categories. These assisted in identifying the central phenomenon of the study also called the core category. The core category is one around which all the categories are linked. Further details are provided in chapter four on the basic social psychological process.

Selective coding was enhanced by commencement of the process of writing the thesis. Once the categories were identified and developed, data were visited again to check for obvious relationships between categories and to uncover others that needed further clarification of concepts. I had two huge boards in my study. One was a corkboard and the other was a white board. Onto the corkboard I pinned one schema that was first identified. On the white board I had the same schema drawn but changed it as the concepts and relationships between them became clearer. This enabled me to compare where I had started from and the picture that was evolving. The importance of continuing to write memos and detailed meanings of concepts was emphasised to me more than once by my supervisor. Once the picture emerged and when it appeared relatively clearly, I then approached nurse informants in the study and discussed the emerging overall picture with them. Most informants added to the picture with more examples or asked questions that sent me back to the data to further clarify the concept. All of the informants who were involved in the final phase of the data collection agreed with the overall theory that emerged.

Relationships between categories were exposed using schematic representations of the emerging data. Categories were arranged and rearranged in terms of relationships

to fit the story line as supported by the data. An example of how this helped selective coding was when the core problem of *being stymied* was identified. All the causes of this problem were drawn around the core problem. Data were checked again to see if this information could be verified. More sub-categories that were related to this category were identified and added to the schemata. It was then decided that some of the sub-categories could be grouped together and re-arranged. Continued questioning of the data and using constant comparative analysis again was crucial to the process of selective coding. These procedures allowed the formation of dense connections between categories, validation of the data and the development of a substantive theory.

Stern (1994) recommended good mentoring and supervision of students undertaking grounded theory research. Supervisors who were subject specialists and methodology specialists provided supervision for this research. Throughout the period of data collection and data analysis, emerging categories were discussed with peers who analysed slices of data. The peers were undertaking grounded theory studies and were well versed with the methodology. The categories developed by this process were compared with the categories that I had developed. Interpretations were thus verified using these external mechanisms of review. Data collection continued until categories were saturated. Participants and non-participants of the study reviewed the findings.

The Ethnograph Software Package

Data collected by interviews and observations were transcribed in the Ethnograph format. Doing this enhanced the management of the data using the Ethnograph software package. The software package contains a set of interactive, menu driven commands which are designed to assist the qualitative researcher with some of the mechanical aspects of data analysis (Seidel, Kjolseth & Seymour, 1988). The Ethnograph software package (Seidel, 1988) was crucial to conducting axial coding. Code words described in open coding were entered into the computer and coded

segments were printed (see appendix 9). It was thus possible to identify related categories and subcategories from the coded segments.

Categories appearing in coded segments were then written on sheets of paper. Properties and dimensions of categories from the data were grouped together and colour coded. For example, all the subcategories evident in the coded segments of conditions for interaction were colour coded purple across all the transcripts. It was thus possible to identify all the properties of the category conditions for interaction at once and subsume some of the subcategories under different more appropriate labels. All the hypothesised relationships were then verified in the data and more direct information was obtained through theoretical sampling to fill in the gaps evident in the theory.

The Ethnograph package also helped to locate examples of data easily. This required a code word to be typed in at the prompt. The package then searched through all the transcripts saved in the program and provided a list of all the examples with that particular code word. This assisted in saving time because if this was not available every transcript would need to be scanned to find appropriate and relevant examples.

Theory Generation

By using the grounded theory approach all relevant variables in the process of nurse-patient interaction in the presence of technology were identified in the data. In this way the research was able to capture the behaviours of the participants in their natural settings as well as a reflection of the meaning that these behaviours held for participants. The inclusion of interviews in data collection helped to develop an insight into the congruence between what the participants thought they should do and what they actually did in terms of interaction. The theory developed, thus, embraced all facets of the phenomenon under study. This methodology therefore, enhanced theory generation from the data rather than trying to fit data to preconceived theories or ideas. Data were sought guided by the emerging theory and this enabled the discovery of concepts, and assisted the generation and verification of hypotheses. These were subsequently tested against further data. The use of

grounded theory therefore, helped to explore the phenomenon of nurse-patient interaction in the presence of technology from the perspective of the nurses in their particular setting.

In keeping with the methodology the aim of this research was to discover a central interaction process that explained and clarified the process of interaction between the individuals under study in the presence of technology and to describe this process with the inclusion of conditions that affected the process.

Role of Researcher

As a nurse my initial preparation was at a university that led to a comprehensive degree in nursing. This degree prepared me to work in any setting as a beginning level practitioner. Before completing my Master's degree in Nursing, I practiced in several settings ranging from low to high technology. For example, medical wards to aged care facilities to coronary care and intensive care units. I have also had experience working with the elderly in a nursing home. From here I moved to a university as a clinical teacher. This experience led me to work in medical areas, general surgical areas, orthopaedic nursing wards and oncology wards.

As a result of exposure to all these areas of nursing I found it difficult to remove myself from the phenomenon under study. Nevertheless, I was able to bring my repertoire of nursing experiences to enhance an understanding of the problem and the strategies used to overcome the problem. The grounded theory methodology therefore suited me well because here the researcher is an integral part of the investigation. The conducting of the self-interview played an important role in helping me "step back and critically analyse situations" (Strauss & Corbin, 1990, p. 18). It assisted me to be sensitive to incoming data and prevented me from entering situations with preconceived ideas. My nursing experiences allowed me to draw on my previous experiences to recognise and interpret what I observed and what I was told. My experience also afforded me a sensitivity to both nurses and patients as they encountered each other in a variety of situations.

Trustworthiness of the Findings

Like other qualitative studies, grounded theory uses an interpretive approach based upon the interaction between the researcher, sample and setting (Hutchinson, 1986). The criteria of credibility, applicability, auditability and confirmability can be used to assess the rigour of qualitative research. These have been described by Lincoln and Guba (1985) and Sandelowski (1986). The trustworthiness of the findings of this research using the four criteria of credibility, applicability, auditability and confirmability are explained below.

Credibility

Credibility is akin to truth-value in quantitative studies. According to Leininger (1994), credibility is established through prolonged observations or participation with informants. Credibility was enhanced in this study by using various methods of data collection, which demonstrated commonality of findings across the various methods (Field & Morse, 1985). The various methods of data collection used were formal and informal interviews, and field observations. Field observations were conducted during approximately 200 hours. Data were collected from nurses, patients, relatives, ward clerks and orderlies. Congruence among these multiple methods and informants was examined. A diary was kept to record feelings and preconceptions about the phenomenon in order to focus on nurses' perspectives of nurse-patient interactions in the presence of technology.

Fittingness

Applicability is evaluated by the 'fittingness' of qualitative information. Fittingness was ensured by conducting the study in an uncontrolled naturalistic setting. The data in this research was representative of the informants and is from their perspective. The broad context of nursing in the presence of technology was similar across all the areas of nursing included in the study. Only technology varied in amount and type. The sampling process ensured that rich descriptions of data related to the

phenomenon were available for analysis. If the findings can fit contexts other than the one described in this research then the study can be considered to be fitting. This is also known as transferability (Leininger, 1994). This can contribute to extending knowledge of a similar phenomenon.

Auditability

This criterion was met by providing detailed explanations of the procedures used for data collection, analyses and interpretation of the data and the contextual factors of the study in the research report (Goetz & LeCompte, 1984) and the rigorous application of the grounded theory method. These techniques will enable subsequent researchers to examine and follow the sequence of events.

Confirmability

Confirmability of a study refers to 'repeated direct participatory and documented evidence observed or obtained from primary informant sources' (Leininger, 1994, p. 105). A way in which confirmability was ensured was by verifying facts and my interpretations of the analysed data by having informants comment on the schema and emerging theory during and on completion of research. The reality of the phenomenon was thus defined by the informants rather than by me as the researcher. Other nurse researchers conducting grounded theory studies examined slices of data for coding decisions periodically during coding until the final categories were developed. Consultations with them and participants in this research have confirmed the 'decision trail' (Lincoln & Guba, 1985; Sandelowski, 1986). Comparisons with recent literature and research findings from other similar studies have also ensured auditability. Maintaining a diary in which I recorded information related to myself and my perceptions of the data also ensured confirmability. In addition to a diary, methodological and theoretical memos were recorded and maintained.

Other Strategies Employed

Attendance at two international qualitative research conferences, networking with other researchers undertaking grounded theory methodology and liaising with other doctoral students locally has helped this research process immensely. Questions and concerns related to the analysis have been addressed by attendance at a grounded theory workshop (Hutchinson & Wilson, 1995). Presentations and discussions at ongoing workshops and seminars conducted locally for doctoral students undertaking grounded theory. This provided a forum for clarifying doubts, sharing references and reinforcing knowledge related to grounded theory methodology.

Means Undertaken to Protect Informants

The research proposal was submitted and accepted by the Human Research Ethics Committee of Curtin University (see appendix 10). This approval was reviewed each year. Following initial approval, the proposal was submitted to the ethics committees of three metropolitan hospitals in Perth, Western Australia. Two of the hospitals required their own ethics forms to be completed. One of the hospitals requested a formal interview before ethics approval was granted. Conditions laid down by the hospitals were complied with before approval from these hospitals was obtained (see appendix 11). I was assured that the areas from which I envisaged collecting data would be informed of my potential visit.

Informants who participated in this study exercised their free choice to do so. I individually approached all the informants. A letter explaining the purpose of my study was used to seek consent from all participants at the time of initial contact (see appendix 3). Participants were informed of the voluntary nature of their participation and that they had the freedom to withdraw at any time without fear of repercussions. Permission to tape record the interviews was also obtained prior to commencement of interviews. Participants were informed that the tape recording could cease at any

time they wished. Two copies of the consent form were made. One copy was given to the informant while I kept the other copy.

Anonymity of the participants was ensured by excluding name identifying data from the transcripts. The typist was advised of the confidential nature of the data. A code book was used to record identification information. This information corresponded with code numbers given to each informant. The code book was kept locked and was separate from all other data and its location was known only to me. Data were kept in hard copies and on disks. These were kept locked in a secure place that only I could access. No one else was aware of the location of the data. Permission was obtained from informants to use quotes in the final report. They were informed that the source of quotes would not be identified in any way in the written thesis.

CONCLUSION

The grounded theory methodology of qualitative research was used in this study. The data collection methods included formal interviews with twenty-one nurses and thirteen patients, 200 hours of field observations, informal interviews with nurses, patients, relatives, ward clerks and orderlies, questionnaires and literature. The Ethnograph software package was used to manage the data. This helped in coding and sorting data and obtaining coded segments across the data. Measures were taken to ensure credibility and transferability of findings and also to protect informants in this study.

PERSONAL NOTES

Even though fulfilling the tenets of this methodology proved taxing at times, it was with immense excitement that I commenced this journey of uncovering the hidden concepts and discovering the core problem, core process and intervening conditions that proved to be building blocks of the substantive theory. Data collection was the most fascinating part of this research. Even after having worked in the clinical setting for several years, I was observing the phenomenon through a researcher's

eyes. It was amazing to note how instances normally taken for granted need a rationale for why it happened or why it was conducted in a certain way. I found it enjoyable to write memos and listen to tapes. Analysis was not always a pleasant task though because sometimes the boundaries between categories appeared blurred or the relationship between concepts was unclear. Nevertheless, support from my supervisors and peers ensured that I never wavered from the task of maintaining the tenets of this methodology.

Chapter 2 - Methodology

CHAPTER THREE

BEING STYMIED IN PERSON-CENTERED INTERACTIONS IN THE PRESENCE OF TECHNOLOGY- BASIC PSYCHOSOCIAL PROBLEM

CHAPTER THREE

BEING STYMIED IN PERSON-CENTERED INTERACTIONS-BASIC PSYCHOSOCIAL PROBLEM

INTRODUCTION

A basic assumption which underlines grounded theory is that the actors in relation to a phenomenon share a specific psychosocial problem that is not necessarily articulated. This fundamental problem is dealt with by means of social psychological processes (Hutchinson, 1986). The aim of grounded theory is to develop a theory that explains the pattern of behaviour that is relevant to and the aspects of which pose problems for those involved (Glaser, 1978). Glaser further elaborates that this methodology helps the researcher "look for the main concern or problem for the people in the setting" before finding strategies to deal with the problem (Glaser, 1978, p. 94). This chapter deals with the basic psychosocial problem that nurses faced in the process of interacting with patients in the presence of technology. The basic psychosocial problem occurred within the context of nursing in Western Australia. Within this context the psychosocial problem is revealed from the nurses' perspective. To facilitate an understanding of the psychosocial problem of this study, the context in which it occurred is dealt with concurrently.

Quotes from the transcripts have been used throughout this thesis to illustrate emerging concepts and the relationship to the developing theory. Furthermore, quotes represent rich density of data obtained. When displaying quotes brackets have been used to identify my additions to the transcripts or to clarify abbreviations that are part of the nursing culture in Western Australia. The source of the quote is indicated in brackets at the beginning of the quote.

TECHNOLOGY AND NURSING PRACTICE

The indispensability of medical technology in health care is a well-known fact but health care consists of much more than equipment and medical techniques (Locsin, 1995). There is a need to retain quality care in spite of increasing technology. The quality of patient care however cannot be taken for granted with the introduction of sophisticated technology (McConnell & Murphy, 1990). The consistent increase of technology in health care has the potential to override nurses' ability to act holistically within such a context. How then can nurses overcome the detrimental potential to quality care? How can nurses move to a person-to-person contact, which Lian (1985) believes is the catalyst to quality care? Perhaps, too much is being made of the adverse impact of technology on nursing care. According to Hawthorne and Yurkovich (1995) science and technology have been overemphasised by professionals who are in awe of science and technology and who are therefore, unable to care.

Similarly Sinclair (1988) believes there are possibilities for holistic nursing practice in a technological environment. It is a question of tempering the 'high tech' world of health care with 'high touch'. According to this author high touch implies personalised care, empathy and compassion. This he feels is possible and would counterbalance a highly mechanised nursing environment. Focusing on only one aspect could lead to fragmentation of care. To prevent fragmentation, nurses should focus on the body, mind and spirit of the patient (Sinclair, 1988). This will personalise care, which can be delivered via the art of nursing.

The art of nursing consists of the nurse creating an environment of caring for individuals experiencing physical and/or emotional stress. In the art of nursing it is the nurse who assumes the primary responsibility for nursing interventions that reflect holistic care with a genuine liking for patients. The science of nursing in this study is drawn from Rogers' (1970) science of unitary human beings integral with their environment. Considering the technological environment in which the nurse delivers care, the science of nursing in this study pertains to the ability and skillful

use of technology to attain the best possible state of health for the patient. Do nurses endeavour to consider the needs of their patients as a whole? How can nurses maintain an equilibrium of care whilst dealing with the impact of technology? How do nurses interact with patients in the presence of technology in the Australian context? These questions led to the genesis of this study of the process of interaction in the presence of technology.

The impact of technology on nursing practice has been a concern for many researchers. Wichowski (1994) conducted a study on the feelings of nurses about medical technology and its impact on practice. The nurses in the study stated that "technology detracted from ministering to the patient as a person with needs other than physical ones" (Wichowski, 1994, p. 65). In a similar vein, Ray (1987) studied the human caring experience in a critical care unit. This researcher described technological caring as the process used by nurses to deliver care. She further stated that critical care nursing involved both human caring and science. Is this the general trend? Can nurses use the advantage of technology to assist them to interact more meaningfully with their patients? Does technology, even though an aid, pose a problem to nurse-patient interaction? This study from observations of nurse-patient interactions, nurse interviews and patient interviews combines data to present the ways that nurses conducted their interactions with patients in the presence of technology.

There is little doubt that technology can be used to enhance the practice of nursing. Postman (1993) asserts the positive and negative aspects of technology by stating that technology is invaluable to further human endeavours but it also destroys vital sources of humanity. There is a need to clarify whether technology has the potential to be a threat, a barrier or a detractor to the delivery of holistic care. Within this context other important questions arise such as what really occurs in the interaction between the nurse and the patient in the presence of technology? Is the interaction limited to the technology used in care or do nurses also find time to interact with patients in a meaningful way?

These questions were posed and comparisons made whilst examining the interview and observation data together with the field notes and memos. The aim was to 'elicit from the data new insights into the phenomenon' (Strauss & Corbin, 1990, p. 31) particularly as it appeared in the selected environment and in relationship to the actors involved. Glaser (1978) also emphasises this idea of combining the setting and people involved when viewing a phenomenon. He maintains that the aim of using the grounded theory method is that theory development accounts for a pattern of behaviour in relationship to the setting and the common problem experienced by the people in that particular setting. Accordingly, interpretation of the main concern or the problem faced by nurses in their interaction in Western Australian hospitals in the presence of technology was made. The core problem has been labelled as *being stymied in person-centered interactions in the presence of technology*. The presence of technology appeared to be a hindrance that stymied nurses from conducting person-centered interactions. The following sections of this chapter will focus on the problem faced by nurses in the process of interacting with patients in the presence of technology.

BEING STYMIED IN PERSON-CENTERED INTERACTIONS IN THE PRESENCE OF TECHNOLOGY- THE CORE PROBLEM

Early data analysis revealed that nurses were hindered in their person-centered interactions with patients in the presence of technology. With further questioning of the data and endless comparisons of pieces of data, the core or shared problem emerged. This was labeled as *being stymied in person-centered interactions in the presence of technology*. It refers to the inability to undertake particular actions as a result of certain factors. Stymie is also a golfing term which means a situation on the putting green in which an opponent's ball blocks the way to the hole. This analogy could be applied to nurse-patient interactions wherein nurses could be hindered for various reasons in their interaction with patients. According to the Chamber's 20th Century Dictionary (1984), stymie means to frustrate, thwart, prevent, and stop. These terms found parallel meaning in the data that conjured up an image of a nurse *being stymied in person-centered interactions in the presence of technology.*

In this study the problem of *being stymied* means that nurses were thwarted by various factors in their *person-centered interactions* with patients in the presence of technology. As this study deals with interaction in the presence of technology, the causes that have technological implications will be highlighted. Other causes that have an indirect influence on the nurse-patient interaction and technology will be discussed as intervening conditions. (See chapter five on intervening conditions). The sources that tended to hinder nurses' interactions will be explained in detail in the section on causal conditions. The core problem does not have to be necessarily articulated (Hutchinson, 1986). In this study therefore, the nurses explained as well as it was observed that the shared problem of nurses was that they were obstructed in their humanistic interactions with patients. The labels person–centered interactions and humanistic interactions were used interchangeably in this research. This was in reference to interactions that took into account the patient as a person or individual. Within this frame of reference, two nurses stated the following in relation to being obstructed in their interaction.

> *(N#9) When we have obstructions, I feel like I am not giving my 100%. I feel the need to overcome the obstruction. Technology can be a definite obstruction it could be only a disconnection but that can obstruct you.*

> *(N#8) I feel pressured when I can't deal with the obstructions. I try to remove the obstructions.*

When asked how she interacted when she could not get rid of the obstruction this nurse said:

> *(N#8) ...then I can't go the extra mile and I don't.*

Along similar lines the following nurse implied *being stymied* by saying:

> *(N#14) and if we have to do something in a hurry or we have to change lines or give different drugs or you know, carry out doctor's orders, then I mean we...I don't like to think that we are task oriented but obviously we are, so you just have to just do that first and come back to the patients*

The following nurse seemed to agree with this line of thinking. She stated:

(N#6) sometimes you are just so busy doing clinical things to them all the time.

The nurse below is more explicit of how nurses are stymied in their interactions with patients. She said:

(N#1) the technology often takes precedence over us caring for the patient primarily because of the time situation, because we just don't have the time.

The following two observations also indicate the behaviour of nurses when they are *being stymied* in their person-centered interactions.

(Obs2#1f) The patient has equipment such as intravenous pumps and a monitor at the bedside. A nurse visits the bedside and checks the equipment. The patient is lying with his eyes open and looking at the nurse. She puts a stethoscope on his chest and listens. She moves the patient's arm to fix the blood pressure cuff on it. The patient moves his arm. She says, "I am just checking your blood pressure, Bob". When she finishes checking, she documents and leaves the bedside.

Another such scenario that was observed also indicates the nurse *being stymied* in their person-centered interactions in the presence of technology.

(Obs2#1d) Two nurses are at the patient's bedside. This patient is connected to a monitor. The nurses are talking among themselves. The patient is looking up at them and moves to face them directly. The nurses turn and glance at him. One nurse then reinforces the chest lead with tape while the other adjusts the monitor.

It is appropriate to ask at this point why is it important for nurses to interact humanistically with patients? What difference does it make to nursing care if nurses are obstructed or are *being stymied in their person-centered interactions with patients in the presence of technology?* Both historically and contemporarily it is believed that nursing is an art and a science. Conceptually the art of nursing has been described by scholars as consisting of the nurse as a person and professional, the nurse's knowledge of the patient and the context within which nursing occurs (Appleton, 1993). The art of nursing in this study is considered to be the creative

approach taken to person-centered interactions. If the technological context and the use of technology is aligned to the science of nursing then the question that begs answering is how is the art of nursing conducted in this technological context? As mentioned above the problem identified in this study was that of nurses *being stymied in person-centered interactions in the presence of technology*. This essentially means that nurses were stymied in initiating and/or maintaining the art of nursing. When this occurred, the type of interaction between nurses and patients tended to be of a technological kind. It is important at this point to explain these two extremes of nurse-patient interactions.

Nurse-Patient Interactions

For the purpose of this study nurse-patient interaction in the presence of technology is described as two types. These are *person-centered interactions* and *technology-centered interactions*.

Person-Centered Interactions

Person-centered interactions are defined as interactions directed to the patient. These include verbal interactions as in the use of small talk, humour and nurses sharing personal information and non-verbal interactions. Examples of person-centered interactions include the use of touch for non-technical purposes, smiling and maintaining a close proximity with the patient when not performing a task. *Person-centered interactions* are those interactions that encompass the patient as a person taking into account not just tasks and technical needs but the humanistic needs of the patient. Such interactions also incorporate nurses connecting with patients in a humane way. This implies the reaching out of one human being to another to form a human bond. Humanistic connections are apparent in the nurses' verbal and non-verbal communication with the patient.

Technology-Centered Interactions

Technology-centered interactions in this study are defined as interactions that have technology as the central and perhaps the only focus. Patients when included are a secondary consideration. Their inclusion is of an indirect nature or when patient inclusion does occur it is of the barest necessity. Technology-centered interactions include the use of verbal interactions for technical purposes such as explaining a procedure or talking about procedural topics and non-verbal interactions such as touching a patient when performing a procedure to indicate that a procedure is in progress or to be started. It could also mean maintaining a silent vigil at the bedside because technology warrants a nurse's presence. The nurse's connection with the patient in technology-centered interaction hangs on the barest of humanistic threads; the bond is stronger with technology than with the patient.

There were certain conditions that caused nurses to *be stymied in person-centered interactions*. It was these conditional factors that detracted nurses from maintaining the art of nursing in their interactions. Being detracted equates to the idea of being hindered. What were the nurses hindered by? It appeared obvious from data analysis in this study that nurses were hindered in the presence of technology. The concept of being hindered in the presence of technology refers to the constraints that technology placed on nurse-patient interaction. It was this concept of being hindered that caused nurses to *be stymied in person-centered interactions in the presence of technology*. Technology was the restraint that was instrumental in deterring the nurses' movement towards humanistic interaction. The manner by which nurses were hindered in the presence of technology emerged as two major categories that were labelled as *technology awareness* and *technology prominence*. Gradually an outline of related codes and linkages appeared after numerous sorting of the categories. These are represented in the figure below (figure 4) that depicts the major theoretical codes of the study.

Figure 4: Core Problem Of *Being stymied in the presence of technology*
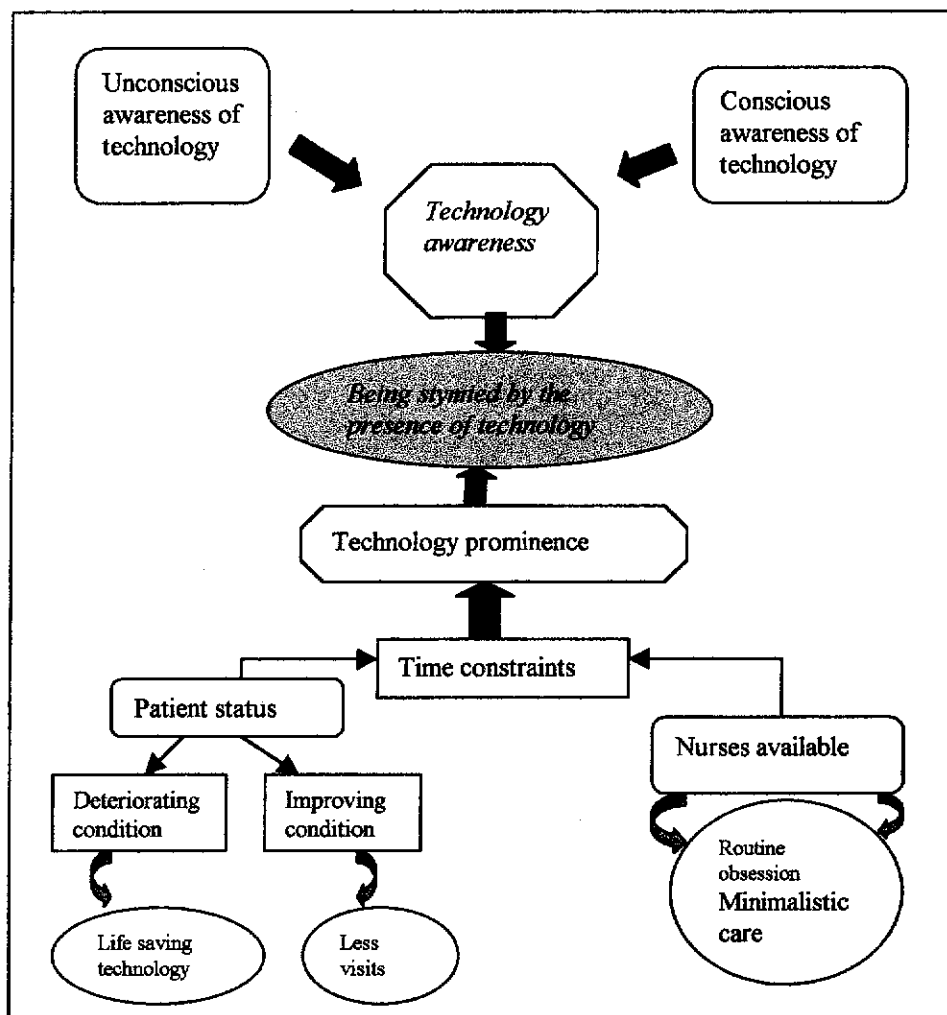
The shared problem encountered by the nurses in this study depicted along with the causal conditions that caused nurses to *be stymied in the presence of technology*. The presence of technology made nurses give technology prominence and made them more aware of technology.

Causal Conditions of *Being Stymied in Person-Centered Interactions in the Presence of Technology*

Explanation of the context of a study is crucial and significant when using grounded theory. This is so because human actions and experience can only be understood within a context (Mishler, 1979). Similarly, Field and Morse (1985) highlight the importance of describing the context because an exact meaning of the phenomenon can be conveyed to others. Finally, since this study is designed to develop a substantive theory, the context related to the 'specific and circumscribed area of

inquiry' is necessary (Wilson, 1982). As the findings of the study are pertinent to the context within which the study was conducted it is important that the context of the study is made apparent in order that relationships between concepts are clearly understood. The context has been explained by interweaving it with the causal conditions of the study. Where appropriate contextual conditions are included with intervening conditions (see chapter five).

There appeared to be two major conditions that led to the problem of nurses *being stymied* in their interactions with patients. In this West Australian study these were labelled as *technology prominence* and *technology awareness*. The latter appeared to be inherent in the interaction of every nurse who participated in this study. As shown in figure 4 above these two major categories had other sub-categories that emerged as contributors to the major categories. *Technology prominence* was linked to two sub-categories *patient status* and the *nurses available* which was strongly linked to time constraints. The other major category that was a hindrance to humanistic interaction due to the presence of technology was that of *technology awareness*. Again two sub-categories were found that were linked to *technology awareness*. These were labelled *conscious awareness* and *unconscious awareness*. The two major categories of *giving technology prominence* and *technology awareness* that led to *nurses being stymied in their person-centered interactions in the presence of technology* were contextual in nature. To better understand these causal conditions, an attempt will be made at this point to explain these causal conditions in the West Australian nursing context. This means portraying to the reader the 'environment or setting where the behaviour occurs' (Hutchinson, 1986).

Being stymied

HELD BACK BY THE BOULDERS OF TECHNOLOGY

ART BY ELIZABETH JAMES

Technology Prominence

Technology prominence refers to the fact that nurses gave technology an importance. Technological care or technical oriented care was given priority by the nurses. The main reason for giving technology an importance in this study was its link to the obstacle of time constraints. The lack of time led to a minimalist nursing approach. This meant that an attention to technology, which was an absolute necessity was dealt with in the limited time available. A similar view has been supported by a number of authors. VanCott (1993) has attributed ineffective time management skills to nurse shortages and multiple technical tasks. This in turn reduced the time available to develop effective communication with patients. From a patient's view-point, it was stated in a study by Harrison and Cameron-Traub (1994) that nurses appeared to be constantly busy and hence had no time to talk to their patients. Similar findings were found in Wichowski's (1994) study. Since *technology prominence* featured prominently in the study as a contributing factor to nurses *being stymied* in person-centered interactions, the data were further searched to find the causative factors. Two distinct categories appeared as a link to *technology prominence*. These were labelled as *patient status* and *nurses available*. Both of these conditions imposed time constraints on nurses.

Patient status had two connecting sub-categories that have been labeled deteriorating condition and improving condition. Before explaining the impact of the deteriorating and improving patient's condition on nurses *being stymied* it is essential to explain the context of the impact of patient's status on nurse-patient interaction in the West Australian context.

Patient's Status

The patient's status is defined as the patient's physical condition that contributes to nurse-patient interaction. There were two properties of the category of patient's status, which affected the nurse-patient interaction. The two properties were the improving patient's condition and the deteriorating patient's condition. The trend of increasing technology at the bedside of a seriously ill patient was seen in all areas of

nursing in this study. A related factor that was specific to the patient's deteriorating condition was the placement of that particular patient in relation to other patients on the ward. In the critical care unit patients were nursed in separate cubicles whereas on the wards the most serious patients were nursed in single rooms close to the nurses' station. In keeping with this observation therefore, it was noticed that patient's who were 'on the mend' were placed furthest away from the nurses' station and were nursed in rooms with multiple beds. This was the same in both the public and private hospitals. The impact of the range of patient's status, that is the deteriorating patient's condition and improving patient's condition, on *technology prominence* is explained below.

Deteriorating Patient's Condition

This is a causal condition because the patient's status changed the whole focus of the interaction and therefore, it altered the process of nurse-patient interaction. If the patient's condition suddenly deteriorated then it caused the nurse to be stymied in person-centered interactions because then the focus of the nurse was on stabilizing the patient's life and in most cases this was with the aid of technology. This is an extract of an interview from a nurse who worked on a surgical ward:

> *(N#3) If I have a narcotic that is going off its face then I might say (to the patient) how are you going and I'll go straight to the machinery because I want to know why it is going off. I mean it could be pumping huge amounts of something into this person and I need to make sure that it is not but once it is settled before I reset it or anything I'll make sure that they are okay. Safety first.*

> *If they are in a cardiac arrest of course I will attend to their arrest first before I attend to their talking. So safety first then the patient, then the machine and then the patient again, so they are the first and the last thing before you leave the room.*

An experienced ICU nurse explains:

> *(N#6) ...if the patient is say terribly confused or you know very irritated very aggressive, if he is trashing around the*

bed and you had four people hold him down while you are trying to give him some sedation. I wouldn't be standing there going, "now I am just going to give you a bit of sedation which is sort of going to calm you down (changing tone of voice and laughing). You go "I'm going to give you a needle now" (speaking fast). You are just talking so quick I don't think they are going to be listening to what you are saying.

The seriousness of the patient's condition warranted the continuous or the frequent presence of the nurse at the patient's bedside. This was essential in order to save the life of the patient in some instances. The emphasis in this case was on life saving technology. This, within a time constraint scenario, tended to absorb more time from an already limited availability of time. Furthermore, when the patient's condition was serious there tended to be more equipment in use. This called for a greater presence of the nurse to monitor the patient's condition and to handle the technology. As a consequence little time was left for the nurse to interact with the patient whose condition was serious, as well as to manage the allocated workload. This is how one nurse explained the situation:

(N#3) If somebody has got drains and drips and catheters and things like that then you have more documentation to do with that so you are physically in that room checking that more so they get more attention in that respect.

Deterioration in the patient's condition on a medical or surgical ward was dealt with similarly as in an ICU. The nurse visited the patient's bedside frequently because of the increased amount of monitoring that was required. Interaction with the patient however was not a priority. Thus a deteriorating patient's condition caused a nurse to *be stymied* in interacting with the patient as explained in the following examples:

(N#1) If the patient is very sick and intubated or ventilated or clinically dead or chemically paralysed, then there is hardly any interaction. If the patient is that sick then very often we do just concentrate mainly on machines.

(N#7) Sometimes you have to override the fact that you haven't got the time or these things are not really important or that the patient has deteriorated and you are just doing things so fast, giving drugs, doing that sort of thing and they might just sort of

be losing consciousness obviously and you just can't explain anything you are just sort of doing things required at that time.

Another nurse explained this situation:

> *(N#12) If say patients are quite seriously ill there are a lot of observations to be made like neuro obs, cardiovascular obs, continually giving drugs, continually charting different things. Doctors are yelling at you to do this and do that. You just sort of do things.*

Deteriorating patient's condition also included mental deterioration and the use of chemical and physical restraints. These were considered to be technology by some nurses. A clinical nurse of a nursing home reiterated the impact of a resident's deteriorating condition and the availability of time. This is how she explained it:

> *(N#11) There can never be any sort of a plan here. Everything is ad hoc. Things can happen at any time and if the resident's behavioural problems surface then that takes priority over everything else.*

Initially when most patients are in ICU they are unable to respond to nurses' interaction because they are unconscious or are intubated or are just too sick to interact with nurses. Nurses have said that for an interaction to be humanistic, it was essential that the patient be able to respond. This is what one of the nurses had to say:

> *(N#8) ...if you've never spoken to them you just don't ever have that rapport with them. You just have to know them as a person and sometimes in intensive care you don't know them as a person...*

In the ICU some nurses felt that they were tired of hearing their own voices every time and therefore, they tended not to interact verbally with the patient particularly when there was no response from the patient. This tended to lead to an interaction being stymied.

(N#15) ...if you are just talking and talking and talking all day long, in the end it is just nice to have peace and that includes not saying too much yourself. ...depends on what response you get from your patient.

This finding was supported by Norrie (1995) who stated that concentration on physiological functions and not being able to receive a response from a deeply sedated or obtunded patient may prevent a nurse from treating a patient as a human being. A sub-category of deteriorating patient's condition was the patient's inability to communicate as a result of communication difficulties. This has been explained below.

Communicating Difficulties in the Patient

Any communication difficulties like hearing impairments, visual impairments, presence of tracheostomy tubes or endotracheal tubes also stymied a nurse's person centered interaction. Nurses felt that they were wasting time trying to interact with patients with communication problems and therefore, kept their interaction with these patients to a minimum.

(N#12) I mean if they can't talk. ...if they are deaf and those kinds of communication problems they impede the interaction.

One ICU nurse described it as such:

(N#1) If they have a tracheostomy and they are mouthing words, its difficult to know what they are saying so they get very frustrated ...and you also get frustrated and angry that you can't understand them. ...in the end sometimes nurses will say we have to come to that later.

Jablonski (1994) who conducted a study on the experiences of patients who required mechanical ventilation supports this finding. Informants in that study utilized communication methods like mouthing words, gestures and writing messages. It was revealed that when these patients were unable to communicate or when they were not understood, they experienced panic, apprehension, frustration, anger, fear and

anxiety. This, according to the nurses in that study, started the vicious cycle of nurses not understanding patients and therefore being reluctant to interact with them.

Improving Patient's Condition

Opposed to a patient whose condition was deteriorating with an increased amount of technology at the bedside was the patient whose condition was improving. There appeared to be a technological dichotomy for nurses caring for patients whose condition was deteriorating and patients whose condition was improving. The dichotomy was that the nurses' presence was more frequent at the bedside of a patient who was seriously ill and who had more technology. Thus the seriousness of the patient's condition prevented the nurse from interacting holistically with the patient. Conversely it would be expected that nurses would have a more humanistic interaction with a patient who was not as seriously ill. It was found however, that a patient whose condition was improving did not have much technology at the bedside and was therefore, less frequently visited by the nurse. This meant that when the technology connected to the patient decreased the nurses' priorities changed and the nurse did not visit that patient frequently. It followed that the fewer the nurses' visits to the bedside the opportunity to interact became less and therefore the nurses interaction was stymied in such a situation. The following quotes explain the situation:

> *(N#1) If they have a drip running we are going to be checking them more regularly. ...if they are not too well we are going to check them more regularly.*

> *(N#18) The sicker they are they get more attention definitely.*

> *(N#7) ...if they need the monitor they need me. Once the monitor comes off they don't need me as much. If you have a monitored patient and one non-monitored patient, you are going to keep your eye on the monitored one more.*

In the ICU when the patient's condition improved the patient was immediately transferred to another ward. The nurses' interaction with the patient in the ICU was limited to tactile interaction and minimal verbal interaction as required in the

delivery of nursing care. The patient's improving condition therefore, as shown below, stymied the nurses' humanistic interaction with the patient:

(N#1) Eventually they are better when they have all their tubes out of their mouth and they are functioning better but then we don't tend to get to converse with them very much after that because they tend to be transferred to the ward because they are not sick enough to be in ICU.

When a patient's condition improved whether in the ICU, surgical ward or medical ward it had the potential to affect an interaction. On the medical and surgical wards, as the patient's condition improved the nurse's visit to the patient's bedside reduced because there were other serious patients that needed the nurse's attention. The fewer the nurses' visits to the bedside the opportunity to interact became less and therefore the nurse's interaction was stymied in such a situation. The impact of an improving patient condition is explained as follows:

(N#15) When patients start to get well ...it (interaction) is really different when you've got a patient who is sitting up and talking and eating.

The nurse-patient ratio was different in the ICU and the step down unit of the cardio-thoracic ward. The ratio of nurses to patients in this area ranged from 1:1 to 1:4. This low nurse-patient ratio was compensated for by an increasing amount of technology and unstable patient condition. These factors did not provide the nurses with the time required to interact with the patient. In the other areas included in this study the patient's condition was not serious but each nurse had to care for more patients. This resulted in a greater concentration on getting physical tasks completed. These tasks tended to be technology related such as maintaining and monitoring drips, oxygen administration, drainage etc. Here again the nurse-patient interaction in the presence of technology was stymied.

In addition to *patient status* with its linkages impinging on a nurse's limited time and causing nurses to give *technology prominence*, other factors contributed to this concept of *technology prominence*. These were grouped together as *nurses available*. The linkage effects were as follows.

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Nurses Available to nurse in the Hospitals

During the period of this study, the newspapers in Western Australia abounded with articles of nurse shortages. Within a span of six months there were more than 30 articles published in the newspapers that discussed the issue of nurse shortages in Western Australian (See Appendix 12). The consequence of nurse shortages impacted on the kind of care given by nurses in the light of reduced numbers. This was labelled as 'minimalistic care' ie. doing only that which was absolutely necessary which was 'attending to the technology' installed as monitoring devices or for medical therapy or to assist patient functioning. In order to understand the gravity of the nursing shortage in Western Australia it is important to explain the factors that led to *nurses available* in the hospitals. (For background of nurses available in hospitals see appendix 13).

The concept of nurses being available to nurse relates to the availability of nurses on the ward. One important condition for the number of nurses available to nurse was nursing shortages in Western Australia at the time of the study (1994-1998). This shortage impacted on the nurse's ability to interact holistically with the patient because in light of these shortages nurses focused on completing the technical care in an attempt to fulfil at least the necessary requirements of patient care. The minimal amount of staff rostered for a given shift resulted in greater attention being

paid to technology that tended to stymie the humanistic interactions of nurses. These factors stood out like boulders in the course of interaction and led nurses to *be stymied in their person-centered interactions* with patients. The consequence of nurse shortages was a *routine obsession* by the staff working that particular shift.

Routine Obsession

With a few nurses available for each shift, time was at a premium. This meant a 'minimalistic' approach to care. In other words doing only that which was absolutely necessary. This is where routines come into play. The nurse was observed moving hurriedly like a robot performing those technical tasks that needed to be completed. A routine of tasks like attending to drips, dressings, suction, oxygen administration or checking vital signs was mechanistically carried out for each shift. Everything else played second fiddle to completion of routines, hence the label of *routine obsession.*

If there was a shortage of nurses it led nurses to complete the essential tasks first which led to a minimalist caring approach. Routines are thus related to the number of nurses available and to the prioritising of care. As stated previously routines were related to procedures involving technology and the completion of these routines were seen as a must for nurses. The constant awareness that certain routines were a necessary requirement according to hospital policy and protocols tended to stymie nurse-patient interaction, particularly when there were fewer nurses available. It was observed that nurses did not encourage interaction while performing a routine task. In some cases nurses cut short a patient initiated interaction so as not to disrupt the completion of a routine. The following is an example of how the obsession with routines affected nurse-patient interaction.

> *(obs1a#1a) One of the nurses went around checking patients' vital signs. She went to the first patient. The patient asked her the date. She told him the date, put the thermometer in his mouth, fixed the blood pressure cuff and checked the blood pressure. She documented. She then went to the next patient who was sleeping. She called him by name and put the thermometer in his*

mouth. She said to him, "I'll check your blood pressure later, I'll check my other man in the shower". She later came back and went to the patient on the next bed. She checked his blood pressure, asked about his bowel movements. The patient made a joke about not having a stomach, the nurse continued to document without replying and walked away.

The following example is from a field observation on a surgical ward. It indicates how nurses focused on routines and its completion in a mechanistic way with almost disregard to the patient:

(obs2b#2j) The nurse went into the patient's room to check his vital signs. She went in with a tympanic thermometer. She inserted the thermometer in the patient's ear, checked the temperature and documented. She then went in with a stethoscope, took the cuff out and said, "I am just checking your B/P okay, just relax". She then checked the blood pressure, removed the cuff from the arm, put it back and came outside the room and documented. She then went in with the oxy-meter and fixed it on the patient's finger, checked the oxygen saturation came back out and documented. She then went and placed the charts in the patient's room and came out again.

The next example also shows the mechanistic interaction when completing routines. The patient was conscious and was lying with eyes open. The nurse begins her work in a non-communicative way as shown in the following observation.

(obs2d#3f) A nurse brings a thermometer and checks the patient's axillary temperature and discards the thermometer. She then documents. She then checks the ventilator and humidifier and documents. She watches the monitor and documents. She looks at the pumps and documents. She calculates the drugs, checks drainage and documents.

This was like a silent movie of a nurse in robotic action. When nurses had less time there was a tendency to attend to technological routines and tasks in a quick and hurried manner that left 'no time' for humanistic interaction. If interaction did occur it generally was in the form of responding to patients' questions, explaining routines being performed or a quick pat to indicate that 'there that's all that is needed now'. The following is another example that indicates how the lack of time stymies the

nurse's interaction with the patient in the presence of technology. This incident occurred in the ICU. The patient (PS4) is conscious. N2 is the nurse caring for PS4.

> *(obs2b#1h) N2 starts suctioning PS4's mouth. (PS4 is intubated, has lacerations on the face, eyes are swollen, he is restrained, has two monitors connected to him, he has splints on both arms, has iv cannulae on both arms and has a central venous line-e with four intravenous solutions running simultaneously). When the suctioning was going on the patient raises his hand, the nurse tells him to put his hand down and tries to push his hand down with her hand while still suctioning with the other. The nurse tells the patient to relax and settle down otherwise she can't do what she needs to do. The alarm on one of the monitors beeps. She turns the alarm off without turning around (N2 appears flustered). She then looks for a ventilator connection, finds one and says, "this is the wrong one but it will do". She then connects the patient to CPAP. When the patient attempts to say something she says, "you can't talk at this time". The x-ray technician moves towards PS4. At the same time the ward clerk announces on the intercom that N2 is needed to answer a relatives enquiry. The ward clerk announces the message again. N2 says, "yes, yes I'm coming". She answers the call hurriedly and goes back to the PS4's bedside.*

The emphasis placed on the completion of routines was evident even in the policies of the hospital. These policies encouraged nurses to focus on routines and on the completion of physical tasks. Two hospital policies came to light during this study that appeared to contribute to the nurse '*being stymied*'. One was an unwritten, unstated policy that if a nurse had completed the so-called 'routines' there was an obligation to help other nurses who were busier. Thus, the overall emphasis of nursing care was the completion of technical tasks. This, therefore, did not allow nurses *per se* to interact with patients because they felt obligated to help other nurses. There was also an expectation by busy nurses to be assisted not only by those who were not busy but also by those in a higher administrative position. The following quote by a nurse explains such a situation.

> *(N#1) It just depends on how busy every one else is and once again it is an individual thing how often the nurse next to you or across from you is willing to give you help. Our clinical nurse specialists become involved if we ask them. It's a case of asking them though rather than volunteering and we often have one*

person who is sort of floating around and primarily their job is to
help anybody who needs it.

The following observation on a surgical ward also shows the unwritten policy of a less busy nurse lending a hand.

> *(obs2c#3d) A patient had just come from ICU. He was connected*
> *to a monitor and had two intravenous lines going. N3 is looking*
> *after this patient...N2 enters the room. N2 announces W's vital*
> *signs loudly while N3 writes these down.*

A similar scenario was observed during field observations of nurses maintaining the unwritten policy of assisting when they had completed their so-called 'routines'

> *(obs2c#4d) N2 goes to P2 and asks N3 to give her a hand to lift*
> *P2 up. P2 has a heparin drip going and appears to be sedated.*

The second hospital policy that was often encouraged by nursing management that made *routine obsession* visible on the ward was that senior nurses who were 'free' had to update and review ward policies and complete other ward requirements. This finding came to light in a private hospital and is explained by a senior nurse as follows.

> *(N#16) Nowadays we don't have that much of spare time. Quite*
> *often we have to give inservices, and we have to catch up with*
> *our readings and journals and that is a good time to prepare for*
> *our inservices and we have to update our policies and*
> *procedures. But that spare time we don't get very much nowadays*

The obsession with routines filtered down to some of the strategies used to deal with the shortage of nurses. One of the strategies commonly used to combat this problem of nurse shortage was the hiring or allocation of temporary staff (ie. staff hired from nursing agencies for the shift and/or staff from other areas of the hospital) to the ward. It would appear that temporary staff who were unfamiliar with the area and the patients were hired specifically to complete at least the routine care. One cannot help wondering if completion of routines is considered to be caring for patients. Rostering of temporary staff however, did not prove to be a solution and in fact often

hindered both permanent and temporary nurses in their interactions with patients. The following explanation will indicate how this strategy influenced nurse-patient interaction through the time available to nurses and ultimately how this led to nurses giving *technology prominence*. Staff employed by nursing agencies were nursing staff who register themselves with a nursing agency (pool nursing) and are hired out on a casual basis from hospital to hospital. The other category of temporary staff are nurses from other areas of the same hospital. McConnell and Fletcher (1995) are of the view that shortage of registered nurses have led hospitals to employ agency nurses to fill vacant staff positions.

In both the private and public hospital there was a policy that if certain areas had a lighter load of patients, then nurses from that area were transferred to another area for that particular shift. Most permanent staff (staff who generally work on the same ward) saw temporary staff as contributing to their *being stymied*. This occurred as temporary staff had to be oriented to the ward and consequently this detracted from the time available for patient care. In the final analysis all that was possible with few nurses available was the attention to technology. Permanent staff and patients felt that agency staff were also stymied in their interaction because they did not know the patients well. One patient on a surgical ward found this difficult. She said:

> *(P#6) I found it isn't the same nurse two days running because she was allocated here from one to six and the next day she'd be allotted somewhere else. You didn't see the same sister everyday. It was a new one everyday.*

Another patient perceiving that a new nurse unfamiliar with her work environment tended to be 'off putting'. This patient spoke how such a nurse rudely attended to her needs. This is what she had to say:

> *(P#4) I just felt that she was busy and getting the chair out and putting me on it would take a lot longer...My own perception was she was probably sent there to relieve. A new floor, new people, she just didn't look happy.*

Another patient also commenting on the difficulties encountered by nurses working in a new ward made the following comment:

> *(P#7) The thing not that it used to irritate me, but I used to think if I was working in a new hospital I would find it difficult was that they didn't know where everything was so they had to be shown by nurses handing over and sometimes they would ask patients, "I don't know where this is can you tell me where this is?"*

Obviously, patients too picked up on the impact of having temporary staff on the ward. A temporary staff member also agreed with permanent staff and patients to a certain degree as the following quote shows:

> *(N#3) Sometimes I am not always familiar with the procedure . It is just the lack of information. This sometimes means that I have to really go and I have to leave them without answering their question and find the answer and come back. It doesn't impede it but it is certainly not a smooth interaction.*

This availability of limited time in turn stymied ward nurses and forced them to focus on routines and tasks. Consequently, this lack of time led to more hurried and interrupted interactions and a race to complete tasks rather than interact with patients. The focus of nurses in times of shortages was on the completion of routines. Routines therefore affected nurse-patient interaction in the presence of technology. The following quote is from an agency nurse who worked in different hospitals from day to day. This is what she had to say:

> *(N#3) When I come on some hospitals give me full handover some hospitals don't. You have the patient's name and diagnosis and that's all. They don't bother telling you the whole lot. They will give you just your section. They set you up with keys and beepers. I then take their files out with me and have a quick look through them. Then I usually write the room number and write when I have something to do with that patient.*

The focusing on routines linked to equipment, stymied nurses interaction with patients. This appeared to be a common trend among nurses who participated in this study and the path that nurses chose when there were less *nurses available.*

All nurses participating in this study seemed to be imbued in *technology awareness*. This concept along with *giving technology prominence* appeared to cause the nurse to be stymied in the person-centered interactions with patients in the presence of technology. Before explaining the *technology awareness* of nurses it is important to explain the context of the technology available at the patient's bedside.

Technology Available at the Bedside

The presence of technology at the patient's bedside was the constant factor in all areas of nursing that were included in this research. The amount of technology varied in the different areas nevertheless, it was present. Nursing homes contained dynamaps (electronic blood pressure monitoring equipment), other vital sign monitoring devices, wound care equipment and parenteral feeding equipment. The amount and complexity of technology increased depending on the medical condition of patients nursed in a particular area. The surgical and medical wards consisted of all of the same equipment but in larger amounts and these areas also contained complex infusion administration devices.

Most obvious was the complex and large amount of technology used in the intensive care unit. Here the technology ranged from monitoring devices such as temperature probes, pressure monitors, and heart rhythm monitors to treatment devices such as dialysis machines, ventilators to infusion pumps. In the ICU it was observed that the infusion drips at the patients bedside ranged from two to six in number depending on the severity of the patient's condition. Nurses' knowledge of the dangers of not monitoring technology was also evident. It was this anxiety coupled with the need to complete task related routines that heightened the *technology awareness* of nurses. This concept is explained below.

Technology awareness of nurses

The concept of *technology awareness* refers to the nurse being acutely aware of the presence of technology. Nurses seemed to be aware not only of the physical presence of technology but also of the cues that emanated from these devices. Consciously or

unconsciously there appeared to be a magnetism that veered nurses towards technology. The technological attraction was aptly explained by a nurse who said that it was like 'being seduced by technology'. This pertinent quote will be explored further in examining the conscious and unconscious awareness of technology.

Conscious Awareness of Technology

Conscious awareness of technology was caused by technological cues. It was observed that when the interaction cue originated from technology the nurses responded quickly and often the interaction was restricted only to technology. These were cues that occurred as a result of infusion pumps, monitors and ventilators at the bedside. As the cue originated from the equipment at the bedside the tendency of the nurse was to attend to the beeping equipment and then leave the bedside. This was observed in all areas of the study. It was as if the audible cue coming from the equipment pierced the consciousness of the nurse and drew the nurse very quickly to the bedside of the patient. There was a tendency for such behaviour to occur even in the intensive care unit. If any equipment beeped then nurses would look up from whatever they were doing to see if the patient was all right. This was probably because technological cues are the first indication of the physiological status of the patient, or perhaps it is the over reliance that nurses place on technology (Sinclair 1988). Nurses, nevertheless, were drawn towards technology and maintained their focus on technology. This was observed when nurses implemented procedures such as shown in the following examples:

(obs2c#4a) The alarm from the monitor connected to the patient in the Step down unit goes off. The nurse switches the alarm off and goes to the next patient. Here she puts the thermometer in the patient's mouth and fixes the pulse oxymeter on the finger while the patient looks on with the thermometer in his mouth. She then leaves the bedside.

(obs2c#3e) I noticed one of the nurses touching the patient's CVL (central venous line). She cleaned around the line and then left the room with the wash bowl. There was no verbal interaction with the patient at all.

(obs2c#3f) The central monitor starts beeping. N1 walked to it and switched the alarm off and discontinued the patient's tracing.

Being conscious of technology, appeared to develop a 'mind set' with West Australian nurses in all settings. The following example that occurred in a Nursing Home reflects this notion. I observed a nurse one day seated at the nurses' station quietly attending to some book work. Then !

(obs4#4d) Suddenly an alarm rang and L looked at the indicator board to see where it was coming from. She then ran down the corridor.

Similarly, in an acute care setting, the awareness of and response to technology appears to be of prime importance to nurses. The patient, the recipient of technology seems to be the forgotten one as an experienced nurse commented about patients in intensive care units:

(N#5) The patient is ventilated and is just there sedated and is not telling you anything. So you obviously don't remember that the patient might have some kind of psychological need.

The awareness of technology, however, seemed to be present even when there were no cues to initiate a response. This has been termed as the unconscious awareness of technology.

Unconscious Awareness of Technology

Unconscious awareness of technology is defined as nurses being conscious of technology even when there were no visual or audible cues to initiate a response. This concept is related to the spatial presence of technology at the bedside. As a result of equipment occupying space at the bedside or being utilised in the care of the patient nurses are always aware of it. Such a notion is supported by Riemen (1986) who asserts that due to the increasing amount of technology nurses tend to become attuned to machines. Patients thus become a secondary concern. Nurses in this study have talked about times when they have had to force themselves to think

about the patient when they were surrounded by technology. Nurses commented that whenever they entered a patient's room for whatever reason attention was first paid to technology. Technology was first attended to and only then was the patient checked. The mere presence of technology therefore, led a nurse to *being stymied* in interacting with patients. The following example explains this view:

> *(obs3c#5e) A patient's pump starts beeping. After 15 beeps the nurse goes in and shuts it off. She then removes the empty iv bag, documents and comes out of the room. The patient is lying awake on the bed.*

An experienced intensive care nurse mentioned the following about being aware of technology:

> *(N#6) It is just one of those things that comes with being continuously bombarded with that you probably don't notice it and you learn to skip over lines or not to trip over things or you are aware of different lines that need to be looked after if your patient turns. So you learn to be unconsciously aware of them.*

When asked how technology affected the nurses interaction an experienced ICU nurse echoed sentiments expressed by other nurses. This is what she had to say:

> *(N#2)...sometimes we look at it and not at the patient you know so we are more concerned with what the equipment is saying and doing. ... Its a large focus in the ICU because it takes up so much SPACE (Emphasis) at the bedside that we cannot help but notice it so often our focus is taken off the patient by the machinery...*

Another example of nurses being unconsciously aware of technology was observed in the ICU. This incident involved patient PS3. There were three nurses standing around this bedside.

> *(obs2c#5h)PS3 is trying to get up from the bed. The three nurses do not notice. The alarm goes, one nurse fixes the oxy-meter but does not look at the patient. This nurse continues to talk to the other nurses. One of the nurses then adjusts the equipment. The second nurse checks the reading on monitors and documents the reading. The third nurse continues talking.*

The tendency of the nurse to be consciously or unconsciously aware of technology led to a concentration on equipment at the bedside and on interaction with technology. The technological context within which nurse-patient interaction occurred therefore depended on the amount of technology at the patient's bedside, which was invariably related to the patient's condition and vice versa. These factors coupled with *technology prominence* affecting nurses determined the context of this study. Both the factors of *technology prominence* and *technology awareness* can be attributed to the *presence of technology. The presence of technology is* directly related to nurses being obstructed in their humanistic interactions with patients and are therefore the causal conditions of the core problem of this study.

CONCLUSION

In this chapter a discussion of the context of technology in nursing along with the basic psychosocial problem of *being stymied* in person-centered interactions has been presented with the causal conditions. From the discussion it becomes apparent that this was a shared problem for nurses in this study. This problem has many facets. Not all nurses felt stymied by the same factors. Sometimes it was a combination of factors that caused the nurse to be stymied in the presence of technology. Certain factors within the context of nursing in Western Australia were the major contributing factors for nurses *being stymied in person-centered interactions in the presence of technology.* These factors were the *condition of the patient and nurses available to nurse.* Both these factors led to time constraints which in turn led to nurses giving technology prominence.

PERSONAL NOTES

Personally determining the core problem was not a simple task for me. The image of the problem became clear fairly early in the study. It was finding the right words to describe the problem that proved to be difficult. Should the problem be phrased positively or negatively? Could a problem that is stated negatively have a positive outcome? Would stating the problem negatively exclude some of the informants?

These were just some of the questions that I had to grapple with as a researcher. I experimented with several labels for the core problem. I endeavoured to be as creative and abstract as I could at the same time being true to the data. Labels like 'unwilling' and 'unable', 'restricted interaction' and 'patient isolation' were discarded because either they did not encompass a shared problem or it was not an encompassing problem for all the nurses. It was apparent that different nurses were affected by different factors that impacted on their interaction. This fact accentuated the confusion in finding the right label. After many hours of deliberation, discussion and designing the problem on countless sheets of paper the concept of being stymied finally emerged. Linkages to the shared problem of all the informants were found and the core problem was painstakingly revealed. Eureka! I have found it!

Nurses it seemed had no difficulty in completing the technical tasks and technological functions required of them. It was the humanistic or person-centered interactions that tended to be put on a 'back burner' in the presence of technology. With the emergence of technology prominence and technology awareness as the two major categories that caused nurses to be thwarted in their interactions, the roots of these categories were traced to technology, which played a role in nurses being stymied in their person-centered interactions in the presence of technology.

CHAPTER FOUR

NAVIGATING THE COURSE OF INTERACTION - THE CORE PROCESS

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NAVIGATING THE COURSE OF INTERACTION - *THE CORE PROCESS*

INTRODUCTION

The core problem identified in the study, as explained in the previous chapter, is that of nurses *being stymied in their person centred interactions with patients in the presence of technology*. It was found that nurses used a psychosocial process to resolve this shared problem. The term process is defined by Strauss and Corbin (1990) as "the linking of sequence of action/interaction as they pertain to the management of, control over, or response to a phenomenon" (p. 143). A basic social process is a type of core category. It is 'processural' and has two or more emergent stages (Glaser, 1978). The basic social process therefore, means a category that is made up of stages, is sequential and is related to a phenomenon. This chapter deals with the overall view of the core process and its details. The interaction between the categories and how they are related to the core process is also portrayed. The categories and their properties identified in this study are supported by extracts from the informants' transcribed interviews. The informants of this study were nurses working in aged and extended care, medical wards, surgical wards and intensive care units (ICUs). To avoid repetition in the writing of this thesis nurses working in all settings are referred to as nurses throughout this chapter.

In this study the process of *navigating the course of interaction* describes the way nurses interacted with patients in the presence of technology when they were *being stymied* in their person centred interactions. The core problem of *being stymied* is the major causal condition for the core process of *navigating the course of interaction*. This means that nurses utilised the process of *navigating the course of interaction* when they encountered the problem of *being stymied* in their person-centred interactions. These nurses, as a consequence, used various strategies at various times with a variety of patients to deal with their problem of *being stymied*. The strategies used were considered as *navigating* the interaction course to manage

the hindrances present. The core process consists of three phases which entail the phases of *embarking, steering and veering* and *disembarking*.

NAVIGATING THE COURSE OF INTERACTION

Navigating the course of interaction was a deliberate and purposeful attempt to deal with the problem of *being stymied* in their person-centred interactions in the presence of technology. The analogy of *navigating* the course of interaction was chosen as the actions of nurses in dealing with the core problem of *being stymied* conjured up the image of a sailor making a considered judgement when directing or *navigating* a ship on its course. In a similar way nurses in their interactions with patients in the presence of technology make 'clinical judgements' on how they would guide the interaction. Just as a sailor, skilled in navigation knows the currents, the torrents, the rapids, ripples and swells as well as the obstacles on course, so also does the nurse in terms of interaction in nursing practice. The sailor uses the art and science of directing the course of a ship by steering and veering so too does the nurse by making choices on the direction to follow whilst *navigating* the interaction course in the presence of technology.

Whether nurses were stymied in their interaction from *either technology awareness* or *technology prominence*, they still, in the course of delivery of care had to interact with patients. According to Henderson's theory (Adam, 1980) one of the fourteen basic needs of the patient is to communicate, which is very much part of interaction. To communicate is an important role of the nurse which signifies the heart of the concept of care in nursing practice. Adam (1980) reiterates that the most meaningful determinant of the effectiveness of nursing care is the quality of the nurse-patient encounter which in the ideal situation is of a helpful, comforting nature.

Navigating

Steering and Veering Turbulent Waters

ART BY ELIZABETH JAMES

Chapter 4 – *Navigating* The Course Of Interaction – The Core Process

It was observed that the phenomenon of nurse-patient interaction did not occur in a similar way as the progress of interaction was not plain sailing. Interaction waters were obstructed by several hindrance factors in relation to the core problem. Nurses like sailors navigated to keep on their chosen course. They steered and veered around obstructions that were represented in the presence of technology (see chapter three on core problem) that caused them to be stymied in their person-centred interactions. *Navigating,* therefore, refers to the process that nurses used to deal with the obstructions in their path of interacting with patients in the presence of technology.

Each nurse dealt with the obstacles in their path in different ways depending on the conditions present at the time of interaction (see chapter six on intervening conditions). The causal conditions that resulted in nurses *being stymied in their interaction with patients in the presence of technology were technology prominence* and *technology awareness.* (See chapter on *being stymied*).

Given the circumstances of nursing in Western Australia it appeared that it was not always possible to interact in an ideal way (Adam, 1980) therefore nurses used the process of *navigating the course of interaction in the presence of technology* to deal with the problems encountered. *Navigating the course of interaction* entailed not only starting out and finishing the journey of interaction but the steering and veering that occurred. Whilst *steering and veering* there was a tendency of movement either towards the patient, away from the patient or maintaining a central, in between line which required just enough navigation to get around the hindrances without any extra effort to move one way or the other. These were the choices observed in this study that nurses made in relation to their interaction with patients in the presence of technology.

The strategies or pathways taken by the nurses were linked to the phase of *embarking.* This represents the phase of setting out to conduct interactions. The process of *navigating the course* was also related to the intervening conditions

(Explained in the chapter on Intervening conditions). The analogy of intervening conditions is akin to the wind that affects a sailing ship that sets it on a course.

Nurses commenced the interaction in the presence of technology during the phase that has been labelled *embarking*. This phase occurred as a result of *nurses responding to the initiating cues*. An initiating cue emanated from several sources and had several characteristics. The baggage nurses carried also affected the nurses' mind set when embarking on the interaction course. This can be represented as shown in the figure below:

Figure 5: **Schematic Representation of Core Process**

Responds to cues

Navigates the course of interaction
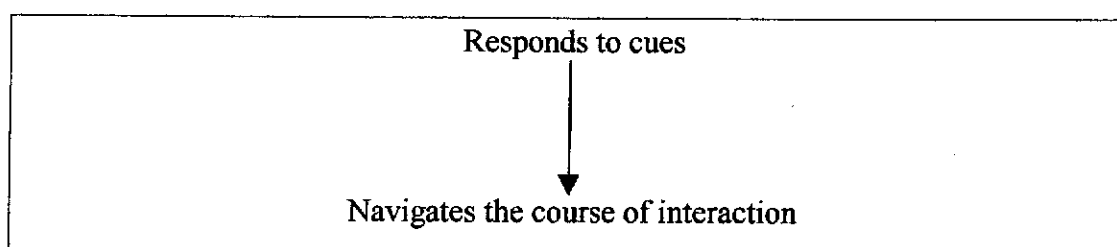
This figure depicts the process used to deal with the core problem.

Once nurses embarked on this journey, the movement in *navigating the course of interaction* was not unidirectional but was one in which nurses *steered* and *veered* the interaction. Nurses utilised the strategies of *steadying, demurring, coasting* and *maximizing* whilst *steering and veering* the interaction. This is the second phase of the process of interaction in the presence of technology. Each of these strategies is briefly explained below.

Steadying was a single-purpose strategy when the entire attention of the nurse centred on life saving interventions. In other words, observation of the nurse revealed a focus on saving the life of the patient. Here the nurse assisted with interventions to enable the patient's condition to return to a state of equilibrium. In employing a strategy of *steadying*, interactions were veered towards technology as it was a time of crisis

In *Demurring* again nurses veered away from the patient towards technology but here it was not an occasion of crisis. The patient's condition was stable and the nurse had the opportunity to enter into a more humanistic interaction. Sadly however, it was observed that attention was given only to the technology.

Coasting was that middle of the interaction pathway when nurses were observed as keeping a "personal" distance from their patients. In *coasting* attention was given to meeting the physical needs. That was as far as it went in the delivery of care. Nurse patient interaction was of a superficial nature consisting of verbal and/or non-verbal interaction that was required for the intervention of physical tasks.

Maximizing was when in spite of *being stymied* nurses utilised person-centred opportunities whenever possible. In both verbal and nonverbal interactions the nurse was aware of the presence of the patient as a human being. This was demonstrated by a genuine interest in the patient. One of the main conditions for nurses using *maximizing* strategies was a knowledge of the patient. This is akin to the navigator being aware of the advantages and disadvantages of a particular route and guiding the vessel so that it would sail smoothly. Such action was for the welfare of all aboard the vessel. Similarly, the nurse, knowing the patient's condition and the patient as a person, in spite of technology and other constraints such as 'time' (see chapter on *being stymied*) was able to use opportunities for person-centred interactions.

Figure 6:   Steering And Veering

Navigating the course of interaction
Steering and Veering

	Central	
Towards the patient	⟵————————⟶	***Away from the patient***
	Line	
MAXIMIZING	*COASTING*	*DEMURRING, STEADYING*
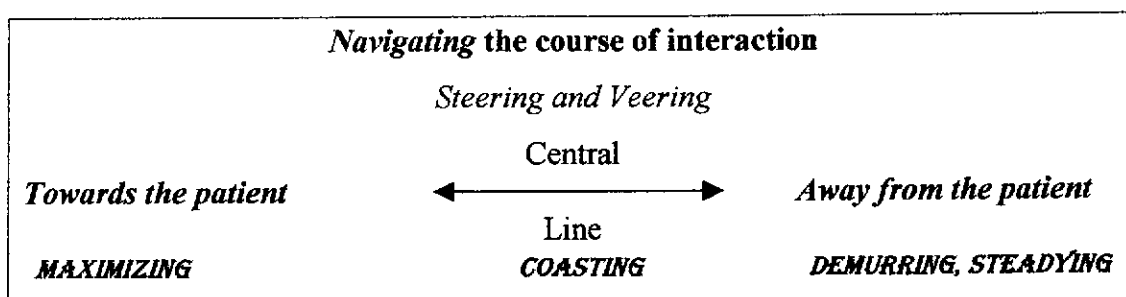
Steering interaction towards the patient and veering interactions away from the patient.

It became apparent early in the analysis that there was not a fixation or permanence of the strategies utilised by the nurses. Instead there was a constant movement. Hence, this process of movement was named *oscillating connections* to depict the to and fro shifting that occurred between *steadying, demurring, coasting* and *maximizing* strategies. As these strategies dealt with the extent of humanistic interactions in the presence of technology the label of *oscillating connections* was coined. *Oscillating* refers to the movement between the strategies and *connection* represents the relating or reaching out of one human being (the nurse) to another (the patient). In the process of nurse patient interaction in the presence of technology, connections are the many ways in which nurses bond with their patients. Connections did not remain static but were dynamic. Nurses moved from one type of interaction to another within the same interaction or between interactions with patients.

All journeys come to an end so also the final interactional phase was when nurses brought to a close or terminated the interaction. Termination of the interaction in the presence of technology occurred on a continuum that ranged from person-centred interactions to technology-centred interactions. In keeping with the process of *navigating the course of interaction*, the final phase has been labelled *disembarking*. If the overall interaction was person-centred then the *disembarking* occurred on the person-centred side of the continuum and if the interaction was technology-centred then the *disembarking* from the interaction was seen to occur on the technology-centred side of the continuum.

By utilising the three phases of *embarking, steering and veering* and *disembarking* nurses navigated the course of interaction in the presence of technology. The following section will explain in detail the three phases of *navigating the course of interaction* namely *Embarking (setting out), Steering and Veering (during the interaction) and Disembarking (termination of interaction)* and the sub-process of *navigating* which is *oscillating connections*. The process has been represented below diagrammatically.

Figure 7: *Navigating* The Course Of Interaction

NAVIGATING THE COURSE OF INTERACTION

Responding to cues

OSCILLATING CONNECTIONS

Coasting

Maximizing

Demurring

Steadying

Person-centered   Task centered   Technology centered

The process of *navigating* the course of interaction is a consequence of the problem of being stymied in person-centered interactions. This problem initiated the process.
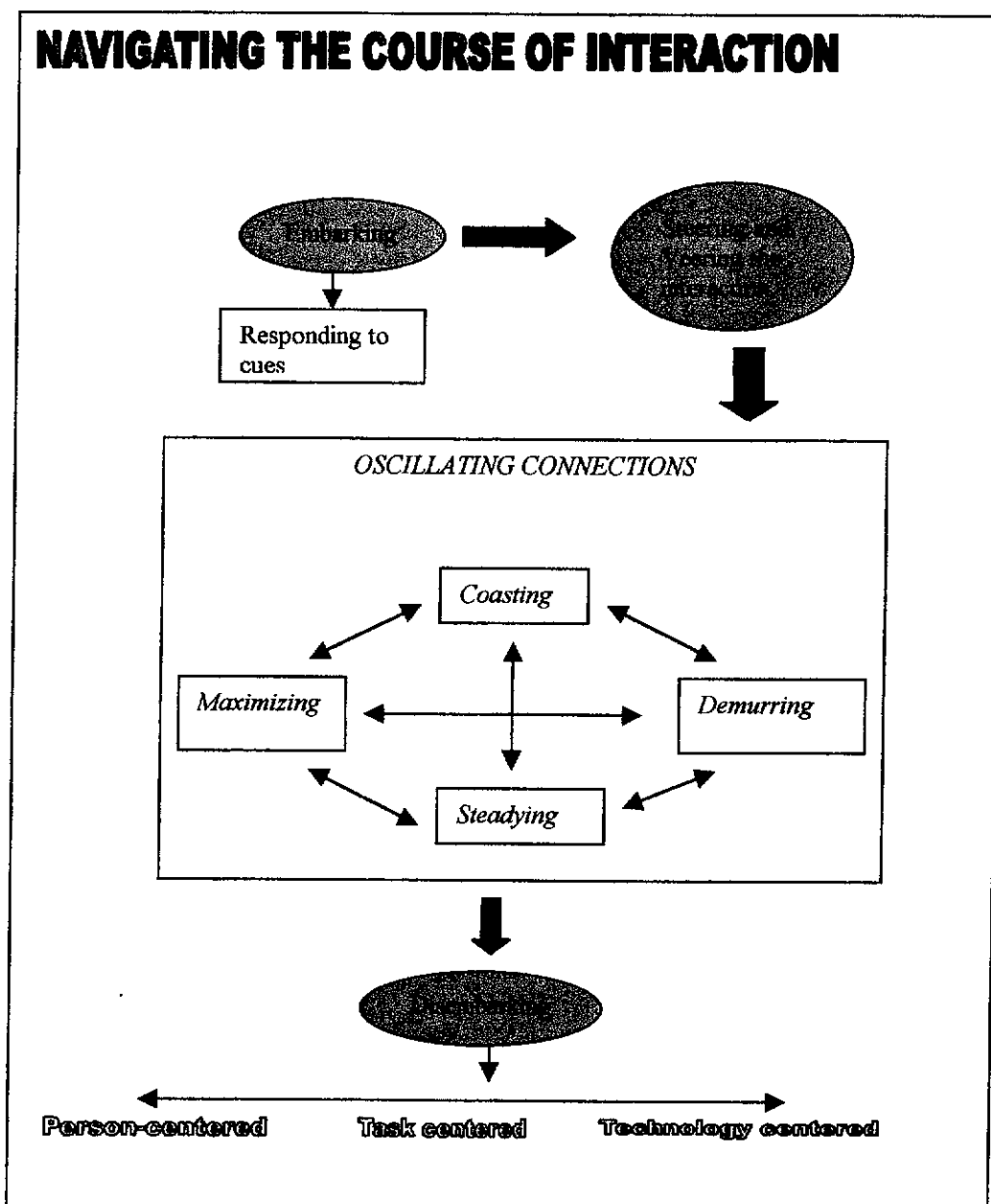
Embarking

The first phase of *navigating the course of interaction* was the phase of *embarking* or starting out on the journey of interaction. In an environment of *being stymied* in their humanistic interactions within a technological context nurses set out on the path of interaction. Imagery of *embarking* depicts the initiating phase when the nurse commences the interaction journey. This phase can be considered a prelude or a

precursor to interaction. It is the phase of *setting out* or beginning a journey. By tradition, the nurse has always had the greatest contact with patients and is in the best position to relate to them and attend to their needs. This is what nursing practice is all about and in which interaction is part and parcel of the delivery of care. The phase of *setting out* or *embarking* on the interaction course was then the first or initial step that nurses undertook in the course of their interaction with patients.

Embarking is akin to a sailor commencing a voyage. Similarly, a nurse embarks or sets out on the interaction journey. *Embarking* needs to consider not just the physical movement of nurses to deliver care but also their *mindset* when setting out to conduct the interaction. It is therefore important to ask what is the disposition of a nurse on embarking on a course of interaction? What emotional baggage does the nurse bring to the interaction in the presence of technology? How well does the nurse know and understand the condition of the patient? What part does technology play in the *embarking* or *setting out* phase?

It was evident in this research that nurses responded to *cues* when they embarked on the interaction course, hence cues were seen as *interaction initiators*. In other words a decision to *embark* on an interaction course was made prior to the arrival at the patient's bedside, ie. before the actual process of interaction began. Details of the *embarking* phase consisting of the nurses' response and the baggage they carried now follows.

Responding To Cues

In relation to *embarking* on the interaction course *prioritising* appeared to be a major strategy that nurses used in their daily nursing practice. This meant that nurses gave precedence to certain activities over others. *Prioritising* tended to occur when the patient's life was at risk or when nurses recognised an alarm, which indicated deterioration in the patient's condition or a call bell of a patient in urgent need. An experienced surgical nurse explained this in the following way:

(N#16) I think (alarms beeping) makes you look at the patient more urgently and if they need the monitor they need me. Once the monitor comes off they don't need me as much.

Prioritising also meant paying immediate attention to technology for example when a patient returned from the operating theatre or when the patient was admitted to the intensive care unit. These patients' lives were at risk and the time was spent in connecting patients to technology or monitoring the patients' status. This nurse explains the presence of technology and the pace of response to its cue.

(N#17) If you see monitors around, all these mechanical things happening you are going to be more in tune with it instead of "oh that can wait that can wait", you can't because it is beeping and it's beeping and it's going and so you will tend to do things on a faster pace I think.

Another nurse described the importance of alarms by stating the following:

(N#7) The alarm is there to warn you so you preset your parameters accordingly. If the alarm sets off you have to (emphasizing) check why.

Not only were these strategies significant to this study but the speed with which the initiating cue was responded to was of equal importance. If a patient's physical condition did not pose a problem for the nurse it did not mean that nurses refrained from prioritizing their daily work. In this case *prioritizing* was seen as a way of managing time. Deteriorating patient's condition led to time constraints which was one of the major conditions of the nurse being stymied in person-centred interactions. Routines were developed to complete the technical tasks like managing drips and monitoring devices. In the West Australian context however, nurses became obsessed with routines. Completion of routines therefore, was an absolute must, thus leading to a 'minimalistic' type of nursing care. The initiating cue to routines was the mental jogger that reminded nurses to at least complete required routines, prepare for the shift and plan for disruptions during the shift. This nurse explains how she planned for a shift.

(N#7) You look through what has to be done when you do the checking through the hand over or your own checking. You then

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assess what direct care has to be given such as dressings, change of lines, tubing's, etc. Then you have to assess what has to be done as it crops up but you can have the known things. My principle is to always first do the things I know I have to do in any event except if it is a four hourly dressing that is not due but try and do the things because invariably things crop up like visitors, doctor's rounds etc.

The following is an example of how a nurse attributed priority status to certain activities at the start of the shift. She confirmed the following:

(N#11) It's sort of looking after drug charts seeing what drugs are due and what sort of drugs they are because some of the drugs take a lot of time to prepare because sometimes you have to give more than one drug in an hour. Also we've got nursing charts that tell us things.

Baggage Carried by Nurses

Factors that affected the response to the cue and the speed with which nurses responded to the cue was the baggage that they carried with them when they commenced care. The baggage was in terms of the knowledge of the patient (knowledge baggage) and the emotions of the nurse (emotional baggage) at the time of an interaction. An experienced clinical nurse manager indicated that everyone including nurses carried emotional baggage with them:

(N#19) People carry baggage when they go to the hospitals, or hotels or jobs or marriages. Everybody carried baggage. ...an arrogant surgeon, a painful operation. We get it. It is lumped on us. We are holding the baby...

The two aspects of the baggage carried are explained below.

Knowledge Baggage

This study revealed that *knowledge baggage* consisted of possessing a preconceived knowledge about the patient. This affected the nurses' response to the initiating cue. Accumulation of *knowledge baggage* came from various sources, such as the nurse's

own experience with the patient, information presented at a patient handover session at the start of each shift or from informal communication with other nurses. Tulloch (1995) conducted a study on the process of clinical decision making by expert intensive care nurses. His findings suggested that a clinical picture formation was one of the phases of decision making. Clinical picture formation occurred through the information obtained from informal conversations with other nurses, hand over of patients and indirect observations of patients. The picture of the patient that nurses developed prior to the delivery of care assisted nurses in the decision making process according to Tulloch (1995). Similarly, the *knowledge baggage* that nurses were observed carrying in this study tended to influence the ensuing interaction and have the ability to alter the process of interaction. These are explained in the chapter on intervening conditions (chapter five). A nurse explains how a knowledge of the patient's condition influenced her interaction with the patient.

> *(N#13) I mean you can't walk in there with a big smile on your face and say "oh, your surgery didn't go very well".*

The following was observed in the ICU. It includes a nurse's explanation for her reaction to beeping technology in the light of her knowledge of the patient.

> *(Obs2#2f) The alarm goes on and off in the background. The patient's eyes continue to flicker open. When asked about the alarm, the nurse said that it irritated her. She said the alarm was deliberately activated when the patient forgot to breathe as the ventilator was only assisting the patient to breathe.*

Knowledge of the patient in terms of the patient being 'difficult' was obtained by nurses through their experience with the patient or by talking to other nurses. How this affected the nurse's interaction with the patient is made evident in the following scenario, which was observed during data collection.

> *(Obs3#3d) One of the patients' rang the bell but no one answered him for about 7 minutes (This is the patient who nurses complained was always ringing the bell). He finally came out of his room with the support of his walker. He said to a nurse, "what about my shower?" The nurse said, "I'll be right there if you are ready". The patient said, "I've been ready for a long*

time (irritable tone of voice). The nurse called the patient by his first name and said, "F, the last Time 1 asked, which was about 10 minutes ago, you said you were still having breakfast". The patient said, "No I didn't". The nurse said, "yes you did" and walked away.

Nurses have talked about knowing the demanding patients and delaying interactions with them as the following example will explain. This nurse is responding to a question about ignoring patients.

(N#14) Oh, they don't get ignored they will eventually answer it. They don't run to those (demanding) people. If they insist on making demands, they are very often the last person they'll answer. Very often there might be three bells in your section and you go to them last and they do become unpopular patients.

Emotional Baggage

In addition to the baggage of patient knowledge, data revealed that nurses embarked with emotional baggage. This baggage was in terms of the nurse's mood on the day and the nurse's personal characteristics. For example, whether the nurse was an outgoing friendly person or a "contained" inward looking and less giving person. The emotional baggage that nurses carried whilst embarking on the course of interaction tended to influence the ensuing interaction. The following quote by a nurse alluded to baggage influencing interaction with patients:

(N#19) 1 think depending on internal factors for that day or maybe external factors like you may be having a bad day. I know that in the morning I tend to be a lot quieter than in the afternoon or more awake I suppose in the afternoon.

In a similar vein another experienced clinical nurse explained emotional baggage in this way:

(N#8) If you have somebody in your family that is really seriously ill or been injured or in trouble of some sort or another then of

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course half your mind is thinking about those problems. Even unconsciously or subconsciously. ...if it is something that is really a problem you can't help it but go backwards and forwards about it in your mind.

Consequence of Responding to the Initiating Technological Cue

The major consequence of the nurse *responding to the initiating cue* was a movement to the patient's bedside. This ushered in the commencement of nurse-patient interaction. Thus, the nurse's response to the initiating cue marks the *embarking* phase or the 'starting out' to navigate the course of interaction. This conjures up a picture of a nurse with knowledge and/or emotional baggage commencing the interaction journey. The process of *embarking* shaped the next phase of the interaction.

Steering and Veering

Having embarked on the interaction course the nurse arrives at the bedside of the patient and with technology present begins the process of interaction. Just as navigators have to steer and veer their way through a course fraught with obstructions so too must nurses who are *being stymied* in their humanistic interaction in the presence of technology, chart out a path and move along the chosen course.

Steer is to direct the course of a vessel or vehicle (Collins concise dictionary and thesaurus, 1994). The term steering, in the context of this study conducted in Western Australia, encompassed strategies used to direct the course of interaction towards the patient as a person in spite of hindrances posed by the presence of technology. There was an attempt by nurses to overcome the obstacles whilst meeting the needs of the patient. Nurses were observed *steering* an interaction to encompass the patient's physical and humanistic needs. The following is an example of steering an interaction towards the patient when faced with several obstructions such as an unconscious patient, being surrounded by technology and those so called routines to be completed.

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> *(Obs2#2e) N1 has been talking continuously to the patient PN3. The patient is unconscious and is apparently running a temperature. She tells him to relax. She tells him about his hospitalisation and why he is in ICU. She continuously praises the patient and says he is going well. She calls him by his first name.*

Veering means to change course or direction (Collins concise dictionary and thesaurus, 1994). In this study veering refers to nurses changing their direction away from patients towards technology during interaction. Thus, *veering* the interaction away from the patient encompasses meeting only physical and technological needs. The hindrances as a result of *the presence of technology*, obstructing the nurses' path at times seemed almost insurmountable and there was little or no attempt on the part of the nurse to rectify this situation. This action might be justified when the patient's safety was at risk but there were instances when this behaviour seemed to be uncalled for as the patient in the example below reiterates.

> *(P#11) But when I am saying to her I think you've got it in the wrong hole (referring to catheterisation) she didn't acknowledge, didn't respond nothing. So you kind of feel a bit like a voice in the ocean.*

The following heart wrenching scenario was observed in the ICU. The nurse and the patient's husband are at the bedside of an unconscious female patient.

> *(Obs2#2f) The nurse was administering the feed through a nasogastric tube. The patient was lying in a supine position with her head raised on three pillows. The doctor, who had been talking to the husband started to leave the bedside. The husband stood silently at the bedside of his wife with tears streaming down his eyes. The nurse turned to look at the husband and then continued to administer the feed.*

Between steering and veering there was a middle category in which nurses maintained just enough navigation to keep a centre-line. This became evident in the strategy of *coasting*. The strategies of *steadying, demurring, coasting* and *maximizing* as described before are the strategies used interchangeably by nurses in the process of *navigating the course of interaction*. The following section explains

the recurrent categories that occurred on a range and which are common to the four strategies. The first one was the presence of the nurse. This refers to the actual or physical presence of the nurse. The second category was whether the strategy employed minimised the impact of technology. The third category refers to the type or the characteristic of the interaction and the fourth category was the notion of 'connecting' or bonding between the nurse and the patient. *Maximizing* was the only strategy during which nurses demonstrated an extra property of *minimising the impact of technology*. *Minimising the impact of technology* will therefore be explained as a distinct property of *maximizing* (See table below)

Table 5:   The Four Strategies and The Recurrent Categories

Strategy	Presence of Nurse	Minimising technology impact	Type of interaction	Connection between nurse and patient
Steadying	*Frequent to continuous (compulsory)*	*No*	*Silent technological focus*	*Distant*
Demurring	*Fleeting (begrudgingly present)*	*No*	*Detached*	*Frayed*
Coasting·	*As required or necessary (routine completion)*	*No*	*Skimming*	*Superficial*
Maximizing	*Maintaining (within constraints)*	*Yes*	*Towards individualising*	*Humane (as possible)*

Strategies of *Steering and Veering* and their properties related to presence of nurse, minimising impact of technology, type of interaction in the presence of technology and the connection between the nurse and the patient.

The strategies of *steadying, demurring, coasting* and *maximizing* used when steering and veering the interaction in the presence of technology are described in the following sections.

Steadying

According to Collins dictionary (1994) the word *steadying* means to strive for a balance or to restore an equilibrium. In this study *steadying* refers to interacting with the patient to prevent the patient's condition from deteriorating. It means *steadying*

the patient's life. This was performed by concentrating on life saving technology and dealing with the technical aspects of care in order to save the patient's life. This strategy involved *prioritising*. Here the focus of the nurse and of the interaction was appropriately directed to the technology and the technical aspects of care. Interacting with the patient in such situations was a low priority whereas saving the patient's life was of utmost importance. The patient's deteriorating condition was a major factor that ushered in the strategy of *steadying*. The rate of response to the initiating cue was rapid. This was evident in the following example.

> *(Obs2#1D) PS3 is an unconscious patient in the ICU. There are two nurses at the foot end of the patient's bed. The alarm goes off, one nurse gets up from the chair and checks the alarm and then silences it. A little later the alarm goes off again. The nurse sitting at the foot end of the bed jumps up and checks the alarm. She then calls for help.*

Another such example was observed in the cardio-thoracic unit. This example is included to show that steadying was not necessarily only non-verbal interaction but that the focus of the nurse while conducting steadying interactions was on the patient's physical well being.

> *(Obs3#3D) The central monitor was beeping and showing bradycardia. The nurse walked quickly to the patient's room and asked "are you alright, are you feeling alright?" The patient said, "yes". The nurse said, "it is just that your heart is slowing down. Do you feel it has slowed?" The patient said, "yes but it feels okay". The nurse says, "I'll check on you in a while".*

There were certain characteristics of *steadying* that became evident in the study. These were that the nurse was continuously or frequently present at the bedside and a predominant interaction with technology (see figure 8 below). The *steadying* strategy is now discussed in detail.

Figure 8:   The Properties of *Steadying*
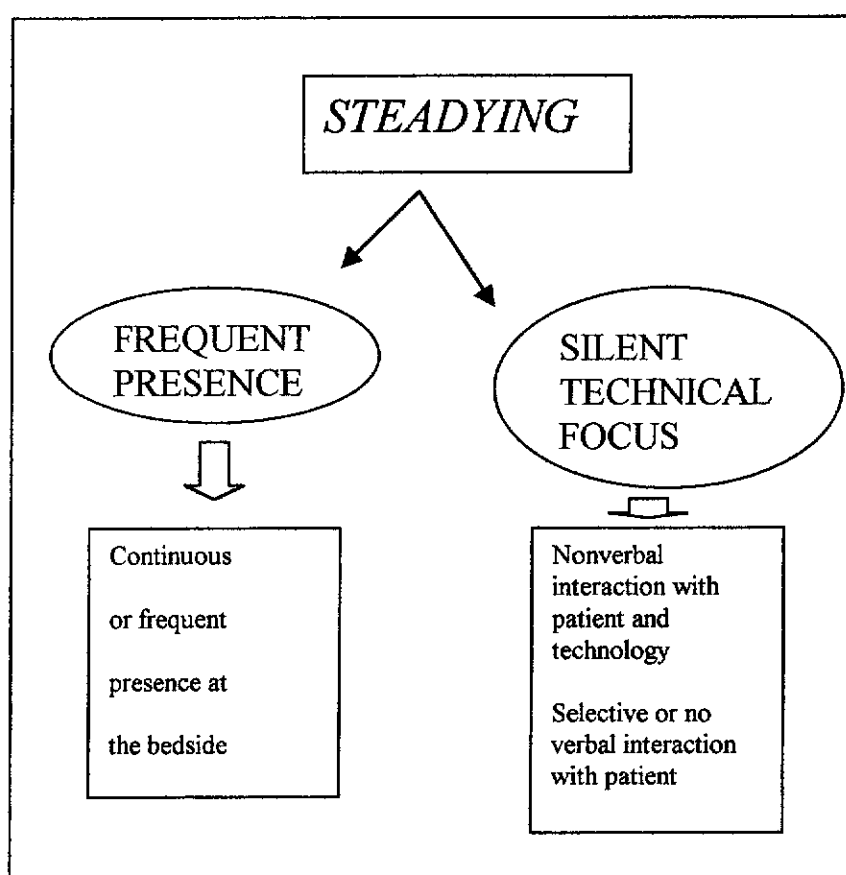
The properties of *Steadying* in terms of frequency of the nurse's presence and the type of
interaction with the patient in the presence of technology

Frequent Presence of the Nurse at the Bedside.

Nurses being present frequently or continuously at the bedside of an ill patient was
seen in all areas of nursing included in this study from the nursing home to the ICU.
Nurses tended to stay longer at the bedside of a patient whose condition was
deteriorating or were at least seen to be visiting the bedside of this patient more
frequently. This could explain the continuous presence of the nurse at the bedside of
the patient in the ICU. It was also obvious that patients whose physical condition
was deteriorating had more technology at the bedside as compared to patients who
were not very sick. Nurses visited the patient more often and stayed at the bedside
longer to either monitor the patient or to complete treatments necessary to save the
patient's life. This nurse aptly explained the frequency of visiting patients who were
sick.

Steadying

Attending to Life Saving Needs

ART BY ELIZABETH JAMES

Chapter 4 – *Navigating* The Course Of Interaction – The Core Process

One nurse explains this in the following way. She says,

> *(N#15) Because we have such a big contingent of sick patients on this ward often the chances are that you might get one or two out of the ten that are really sick and demand a lot of attention and a lot of your time and you don't tend to get back to the ones that are self-caring and walking around because you think well, they are able to get around they are okay and you have to stay with the sick ones.*

Silent Technical Focus

In order to stabilise the patient nurses had to attend to technology that was connected to the patient. This technology could be monitoring technology or technology used in the treatment of patients (McConnell, 1990). There was an appropriate attention paid to technology as the purpose of this attention was for the purpose of restoring the patient to a more stable level. This interaction with technology had two characteristics. These were interacting nonverbally with the patient and technology and not verbally interacting with the patient at all.

Nonverbal Interaction with Patient and Technology

In the course of interacting with technology, nurses tended to touch patients. The nonverbal interaction was mainly by way of looking at or touching the patient while attending to technology. This non-verbal interaction was seen particularly in the surgical ward when the patient was admitted either post-operatively or in the ICU when the patient was a new admission. The following examples were elicited from field notes where nurses were observed interacting non-verbally with technology whilst employing a *steadying* strategy.

> *(Obs2#2e) A patient was just transferred from the operating room. There were 3 nurses and two doctors at the patient's bedside. The patient has 4 intravenous fluids, 3 infusion pumps, a monitor, an indwelling catheter and intercostal catheters. Two of the nurses fix the tubing's and pumps, the other nurse empties the catheter bag. One of the nurses puts up the rails and fixes the*

underwater seal bottle. One of the nurse checks the patient's monitor, pacemaker, pupils and pedal pulses.

The following example was observed in the ICU and relates to an admission of a patient.

> *(Obs2#2b) The patient (PN3) is an emergency admission. The equipment around the bedside had been arranged long before the patient arrived in the cubicle. PN3 has an indwelling catheter, intravenous drip, is connected to the monitor and is intubated. PN3 is unconscious. One nurse connects the patient to the ventilator while the other connects the patient to the monitor. One of the nurses organises the lines while talking to the doctor. One nurse shakes the patient, checks the pain response, pupil reaction, documents and then checks the intracranial pressure. Another nurse comes to the bedside and starts priming a line. There are three doctors at the patient's bedside.*

No Verbal Interaction with the Patient

When the patient's condition deteriorated, verbal interaction with the patient became a low priority for nurses as attention to technology increased. Verbal interaction tended to cease as silent attention was given to technological procedures. The swift and silent interaction continued with technology is portrayed in the following example.

> *(Obs2#1H) N2 is preparing PS2's drugs and the alarm goes off. The shift coordinator is at the bedside and shuts off the alarm. N2 lifts the patient's sheets while saying, "his pressures are up. N2 comes to the right side of the patient to administer an iv injection. She takes out the cap and connects the needle. As she gives the injection the patient starts shivering and the alarm goes off. N2 adjusts the pumps. She empties the intercostal catheter drain and leaves the bedside to wash her hands.*

The following example was observed in an orthopaedic surgical ward where a surgical nurse escorted the patient back from theatre.

> *(Obs#1) After the patient was brought back from theatre and settled into bed, the nurse took the blood pressure apparatus close to the patient. She looked at the drain, took the oxygen*

mask off the patient's face. The patient woke up. She put the thermometer in the patient's mouth. She checked the pulse and asked the patient how the pain was. The patient said, "I am numb". The nurse said nothing. She then continued to document on the charts.

If the patient's condition was deteriorating, the nurses aimed to stabilise the patient before moving on to other levels of *steering and veering* namely, *demurring, coasting* and *maximizing*.

Demurring

The word *demurring* refers to hanging back from full participation (Collins dictionary, 1994). It also suggests mild dissent, personal objection or downright stubbornness. In this study *demurring* referred to the nurse hanging back from full participation in interacting with the patient in the presence of technology. This was mainly by *maintaining a begrudging presence* at the bedside and by conducting *detached interactions* that is by concentrating mainly on technology and ignoring the patient (see figure 9 below). The focus of *demurring* interactions was a veering towards technology. This meant the nurse gave more importance to technology than to the patient. The strategies of *demurring* are now discussed in detail.

Figure 9:   The properties of *Demurring*
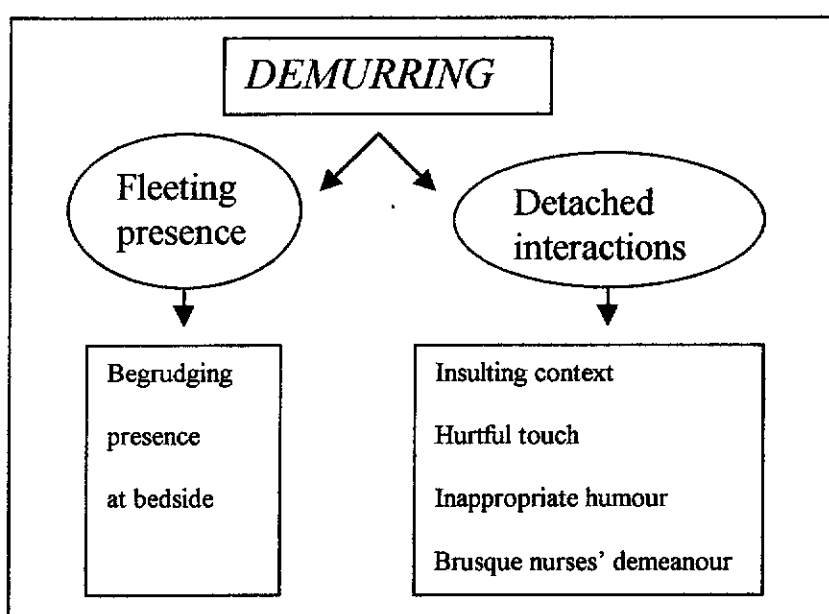
Properties of *demurring* in terms of begrudging presence and detached interactions

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Demonstrating a Begrudging Presence

There were certain times when nurses verbalized as well as were observed staying at patients' bedside only momentarily. When observed no attempt appeared to be made by the nurse to prolong the visit. The nurse entered the patient's room or bedside attended to the technology *in situ* and left immediately. This characterised the fleeting presence. The fleeting presence was evident when the nurse did not have the time or when the nurse was not in the mood to interact with the patient thus unwilling to spend time with the patient. The whole interaction with the patient appeared to focus on the technology rather than on the patient, hence the rationale for representing the interaction as *detached* in terms of human to human connection. The following example was observed on a cardiology ward. The patient was connected to a monitor and two intravenous drips. The patient was sitting up and attempting to eat his meal when the nurse entered his room.

> *(Obs3#3a) The nurse's eyes were fixed on the monitor. She did not say anything at all to the patient. The patient said "you've come to see me?" The nurse continued to look at the monitor and said, "no you can carry on eating". The patient continued the conversation. He said, "you know what I would like, I would like some steak and chips" (smiling). The nurse had moved to the intravenous fluids and was checking the pump. She said, "unfortunately you have to eat what is given". She then left the room.*

One patient who was also a nurse and who had rung the bell asking for pain relief had a similar experience. The following was observed:

> *(P#2)....she (the nurse) said, "I'll be back in a minute with the pain relief (loud voice) and walked out and shut the door really hard".*

Another elderly patient made this comment about a nurse who nursed her on the surgical ward.

> *(P#4) She was impatient and she was very impatient with the lady in the bed next to me who I knew was sick and she treated her I thought (head tilted to one side) very brusquely? And I suppose because I asked for a pan after she had treated this patient, she was very impatient with me, you know irritated.*

Demurring
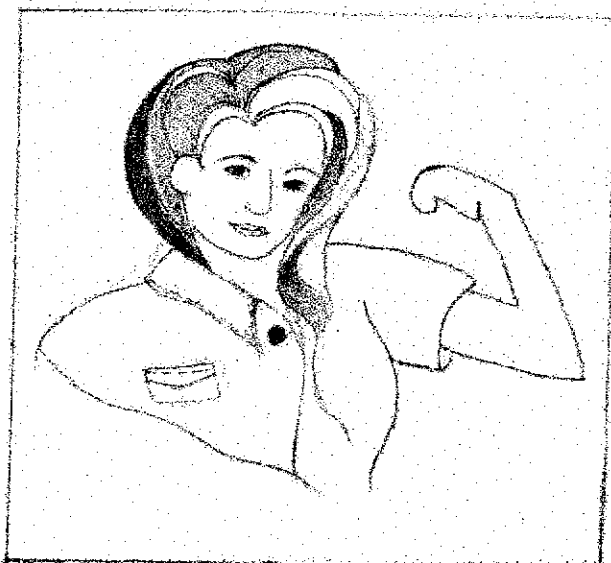
I Have the Power to Exercise an Angry Demeanour

ART BY ELIZABETH JAMES

Conducting Detached Interactions

It was evident in the data that there were times when nurses interacted with patients whilst dealing with technology at the bedside in a manner that caused the patient to feel hurt and insulted. The hurt included both psychological and physical hurt. In terms of human bonding the nurse was at a distance, hence the notion of detached interaction, which is part of the so-called *demurring* strategy, used by nurses. These can be likened to a sailor who has embarked on the journey but who is faced with obstacles and intervenes in a non-inclusive way or in an offensive manner to the others aboard during the process of *navigating* the ship. These actions have therefore, been termed detached interactions and have been included under the strategy of *demurring*. The nurse, ignoring and hurting the patient at the same time did not appear to display any feeling for the patient. Detached interactions had the characteristics of nurses being rude, the non-verbal interaction was hurtful, the humour used was inappropriate, nurses ignored the patient and the nurses demeanour was brusque. Examples of verbal descriptions in this section have been taken directly from patient informants as they substantiate the data obtained from nurse informants. A patient said this about the humour used by a nurse.

> *(P#11)...I started going off and I walked past the desk and I saw her sitting at the computer terminal. ...I waved to her and beckoned her with my hand and I called, "come with me, come with me," The nurse was sitting at a computer and looking at the screen and she said, "oh no you'll be alright we'll pick you up if you fall over". I just felt like *@#^ (expletive). She laughed and another RN in the office laughed. And I felt they were laughing at me.*

The following example of a nurse conducting a detached interaction by being rude has been taken from observations. The patient was lying in bed very disoriented, connected to monitors and intravenous drips. He had multiple injuries and several broken bones. There were three nurses at his bedside.

> *(Obs2#2b) The patient moans loudly and the senior nurse standing near the intravenous pole, titrating the drip moans*

loudly imitating the patient. The doctor and all three nurses at the bedside laugh loudly.

One patient verbalised an example of a nurse being rude to him:

(P#8) They wanted me to sit out of bed quite a lot while I was attached to things but I don't like sitting out of bed on those chairs. I feel uncomfortable and I just don't feel right... I just got back into bed. They kept saying to me you are lazy. You should be out of bed.

Unhelpful interactions were described in this way by another patient

(P#4) ...she came along and she said to me, "well you are allowed to get up at night on the frame" and I said, "after all it is dark in the night...I am not doing it during the day time...so I refused to do it. And she said, "I'll get you a chair then and you can do it in the chair". And I thought I can't do it in the night, I'd do it during the day time but I won't do it at night. So she was a bit cross with me.

Another patient had a similar experience. This is what she said,

(P#11)...there was this knock on the door and she stuck her head in and she said, "you'll have to hurry up in there and get back to bed because this is the third time the doctors have been to see you and you're not there (loudly)". Like, she was cross, like the way she spoke to me she was cross with me".

A patient on a surgical ward had this to say about a nurse's interaction:

(P#4) Sometimes they would say things in a joking sort of way, "here she goes again, she wants another pan" or "oh, oh here she goes again" (tilting tone, quoting nurses). ...they just made me feel as if I was a nuisance and I suppose I was embarrassed.

A comment on an unhelpful interaction by a nurse was reported by a patient as follows:

(P#5) I wanted something. I can't remember what it was now but I do remember that it stuck in my mind that I wanted something

badly, but she wouldn't give it to me. She said, "I know better than you".

When this patient was questioned about how he felt being spoken to in that way, he replied, "not particularly good, in other words she was saying mind your own business". Another aspect of unhelpful interactions included the many ways nurses actually physically hurt the patient. Some patients were saddened by this behaviour and reported the following:

(P#7)...sometimes she would get a very small one (bed pan) which is very hard to manage those small ones. Sometimes she would leave you on the pan longer than I thought she should and sometimes she would say, "well, I have got very sick patients in this ward to look after you know, you are only one of the patients".

Another patient explained about the physical hurt, caused by a nurse:

(P#6) She hit it and it was sore. And then when she put me back to bed whatever way she held my leg it hurt very much and of course I was in pain and I wasn't impressed about that too. Then she came back and she said, "where is the graft?". I told her it was up here (indicating leg) and she said, "I normally check the leg under there" but she didn't, she was just so rough. And she wasn't very happy looking.

The following are examples where the patients were ignored while nurses concentrated on procedures.

(P#4)...someone was changing the dressing. And this nurse said, "goodness me its green" (loudly and changing tone of voice) "heavens never seen it green before". So she called someone else and in no time at all the nurses, I think, were there having a good look at this green thing on my foot. I couldn't see it so I don't know what a green or why it was green. I said to them, "what sort of green?" and there was a green thing on the wall, "that sort of green". After a while I began to get quite cross about this, quite upset about this so I said "the next person who comes to have a look has got to pay me and I am not doing this for nothing. ...I lay there all night thinking, all sorts of thoughts went through my mind.

Nurses Demeanour During the Strategy of Demurring

The nurse's demeanour when the nurse was using the strategy of *demurring* was to be disinterested in the patient, being unkind and uncaring. One patient clearly explained this behaviour when she spoke about a nurse:

> *(P#4)...she was a bit offhanded. She was the sort of nurse who used to come on and she would say, "oh I am so exhausted" right in the beginning of the shift and I used to think you shouldn't be you know it is your job.*

Nurses either stayed at the level of *demurring* or moved to the next levels of *Coasting* or *Maximizing*. The presence of certain intervening conditions caused this movement from *demurring* to *coasting* or *maximizing*.

Coasting

Coasting is a term referred to as 'proceeding without making much effort' (Collins dictionary and thesaurus, 1994). This strategy is aligned to keeping that middling position whilst *steering and veering*. *Coasting* is defined as doing just what was required in terms of interaction with the patient in the presence of technology. *Coasting* was characterized by minimal verbal interactions by nurses. Verbal responses occurred mainly when the nurse attended to the physical or technical needs of the patient. This can be related to a sailor who does the bare minimum to keep the ship afloat. Little or no effort is used to include the other sailors or doing those little extras to make the vessel 'ship-shape". This was similar to nurses who contributed no extra effort when interacting with patients in the presence of technology. They did only what was required in terms of nursing care. There were some examples of non-verbal communication but these were when procedures required touching the patient. *Coasting* was one of the most common strategies used to interact with patients in the presence of technology. This strategy was part of the 'routine obsession' leading to minimalistic care which was explained in chapter three.

Certain actions were involved in *coasting*. These were the required presence of the nurse, ie. being there and attending to the patient only when required, and conducting *skimming* nurse-patient interactions which were akin to a thin overlay of polite patient consideration (see figure 10 below). The interaction was a surface showing or a veneer of professional manners. This resulted in a stilted procedural and/or physical focus of interaction. The strategy of *coasting* is explained in detail below.

Figure 10:   Properties Of *Coasting*
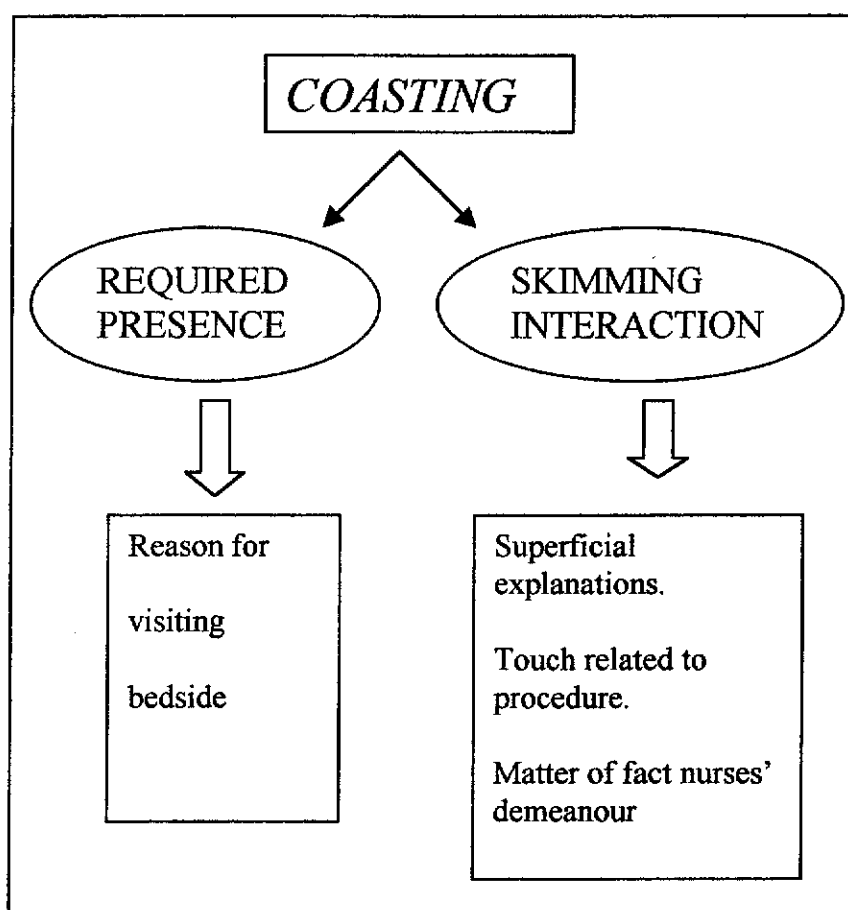
The properties of *Coasting* in terms of the required presence and the skimming interactions

Required Presence of the Nurse

Required presence of the nurse refers to the nurse being at the bedside only as necessary. Nurses visited the patient was when they were required to attend to the patient's needs or to complete procedures. If there was an exchange of words at all it was merely professional politeness. One patient explained this as:

(P#5) When you ring the bell they come, but they won't come otherwise. They don't stay in there otherwise. You know how it was they'd come in and make sure your pillows were okay and everything. They don't do that any more.

Another patient expressed this imagery of a nurse to contrast the notion of *required presence*. The following is what she had to say:

(P#3) They were like angels moving in and out and doing their job and I think when you are down and out you like a friendly face you know, somebody who smiles and talks to you.

The patients' experience of nurses visiting only when necessary was evidenced during observations. In the following example I asked the nurse if I could follow her around the ward. This is an extract from my field notes.

(Obs#2) The first thing the nurse said to me was, "I am going to do observations on patients, routine observations, it is boring, very boring stuff". Once at the bedside she told the patient she would be doing some observations. She asked the patient about her temperature. She then put the thermometer in the patient's mouth, asked for her hand and checked the pulse. She documented the readings and moved on to the next patient.

Furthermore, the presence of the nurse at the bedside was extended only to the point where completion of the task was required. The nurse was seen to depart in a brisk 'preoccupied' manner. The availability of time appeared to be a major condition impinging on the utilisation of a *coasting* strategy. For example if a nurse had just enough time to complete routines, or if the ward was short staffed the quality of the nurse-patient interaction was affected because this led nurses to focus only on the tasks at hand. One patient explained this task oriented care that was followed in the strategy of *coasting*:

(P#9) It's the old routine, you know, the first one comes in and they take your blood, the second one comes in and they weigh you, the third one comes in and they stick a thermometer up under your tongue, the next one comes in and takes your blood pressure and the next one comes in and they weigh you again and it's monotonous.

Chapter 4 – *Navigating* The Course Of Interaction – The Core Process

Coasting

Doing: Nothing More Nothing Less

ART BY ELIZABETH JAMES

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The following scenario was observed during data collection. The scene occurred on a busy medical ward.

> *(Obs#2) The nurse who was giving out the medication barged into the patient's cubicle. When she saw that the patient was using the urinal she said, "sorry, but here is your drug and you need to take it and you need to take it now". She gave him a glass of water. The patient said, "I don't like this drug". She said, "I know but you have to take it". The patient then took the medication.*

The required presence of the nurse was affected by certain conditions. These conditions were the nurses' reason for visiting the patient, the technological cue that drew the nurse to the bedside, the availability of time, patient initiated interaction

Nurses Reason for Visiting the Bedside:

If the nurse visited the patient to complete tasks such as checking of vital signs, then it was observed that the nurse completed that task and moved on to the next patient. Verbal interaction with the patient was kept to a minimum and the non-verbal interaction with the patient only had a procedural or physical focus. It was therefore witnessed that if the nurse visited the patient to complete a procedure the nurse went in, completed the procedure, interacted with the patient minimally and left the bedside. This was similar to the fleeting presence of the nurse seen when a *demurring* strategy was employed. The only difference is that in *coasting* there is an attempt to at least give the patient superficial information related to the task being performed. The experience of *coasting* is encapsulated in the following quote:

> *(P#9) It was one morning that I got up at four-thirty and went for a walk and she spotted me and said, "I'll take your blood sample now, and I'll weigh you and I'll take your blood pressure". I thought wow she wants to get home. So that's how I felt about that situation, maybe a case of being rushed.*

A similar scenario was observed during field observations.

> *(Obs#4) The nurse checks the patient's urine output and then puts the cuff on his arm, saying, "I'll just put this on your arm". She*

then talks to another nurse checks the blood pressure and starts documenting. She then leaves the area.

Being drawn to the bedside by a technological cue was another condition that affected *coasting*.

Being Drawn to the Bedside by Technological Cue

If the cue was a technical one or if the nurse was drawn to the bedside through the beeping of machines or an alarm going off, it was observed that the nurse responded by attending to technology. Interaction that followed was at a superficial level with little or no patient inclusion. This is an example of a nurse being drawn to the bedside by a technological cue and interacting at a superficial level with the patient.

> *(Obs3#2e) The central monitor on the surgical ward had been alarming for about 5 minutes. After about 5 minutes, the nurse went to check the alarm. She checked the monitor, put it on standby and went and saw the patient. She came back and another patient's alarm was going off. She ran quickly towards this patient's room.*

This was another observed incident of being drawn to the bedside by a technological cue.

> *(Obs#2) Two nurses were talking in the corridor. One of the patients next to the corridor had an infusion pump on that started beeping. One nurse turned to attend to the pump. She checked it a few times, turned the alarm off and said, "I don't know why you are on this". She then walked away from the bedside.*

Besides visiting the patient only when required, it was observed that once at the bedside, nurses conducted only the required interactions, which was mainly attention to technology. They did not put any extra effort into making the encounter a more humanistic interaction.

Conducting Skimming Interactions

The term skimming interaction is used for this type of *coasting* interaction because nurses were not seen to put in any extra effort in conducting the interaction with the patient but only interacting with required politeness. Skimming interactions or conducting minimal required interactions were characterised by nurses providing patients with superficial explanations and conducting nonverbal interaction that were only related to the procedure being performed. The nurses' demeanour indicated a lack of interest in the patient. These are described in detail below. All these characteristics occurred together which warranted the label of *skimming* interactions.

Providing Superficial Explanations

When the nurse was at the bedside completing a procedure it was observed frequently that the patient initiated an interaction. Usually this was in terms of a query the patient wanted answered or when the patient needed to clarify certain aspects of the procedure or care being performed. The nurse then responded to the patient in sparse terms, focusing only on the question asked or venturing information that was related only to the procedure being performed. The content of the verbal interaction centred on the procedure being performed or the task being completed or the question asked. The following is an example of a superficial explanation:

> *(Obs3#3d) The patient and nurse emerge from the bathroom with the nurse walking along side the patient holding onto the catheter. The patient asks, "where to?". N1 (nurse) points to the bed. She says to the patient "I'll just check your oxygen". She changes the portable oxygen to the humidifier. She then says, "sit high". Patient sits. She says, "higher". Patient moves higher, N1 says again, "higher". The patient moves higher. N1 says, "good".*

Another example of superficial explanations was as follows:

> *(Obs1#1d)The nurse goes to the patient and says, "Mr. H put this thermometer under your arm". The patient winces. She says, "sorry I have very cold hands". She then leaves the area.*

In the ICU there seemed to be another condition that affected the nurse-patient interaction. This was the not knowing what and how much of the interaction the patients were aware of when they were sedated or unconscious. It was therefore, observed that nurses gave superficial explanations to patients whenever they touched the patient to complete a procedure. This was evidenced quite frequently in the ICU where brief explanations accompanied procedures. Superficial verbal interactions occurred because nurses said they were not sure what or how much unconscious patients could hear. Some nurses had this to say:

> *(N#1) You never know whether the patient can hear or not. If I was sedated I would like someone to explain to me what was happening.*

> *(N#2)...we always assume that the patient can hear at least even though they may be sedated, paralysed, ventilated, unconscious, comatosed.*

At times superficial interactions were in terms of explanations or instructions that the patient was expected to follow. On the general wards for superficial verbal interaction to take place it was essential for the patient to be awake. In the ICU this condition was not a requirement. Nurses communicated verbally with patients in the ICU even if they were unconscious or sedated. The following are examples of situations that occurred in the ICU.

> *(Obs3#3b) An alarm goes and the nurse turns around, silences the alarm and attends to the arterial line and covers it with a towel. She then brings a torch and goes to the patient's right side and says, "I'm just going to shine this torch in your eyes". She then checks both eyes.*

> *(Obs2#2f) Nurse went to the other side with two mouth wash swabs and tells the patient she is going to clean her mouth. She cleans with the first swab and tells the patient to put out her tongue and the patient does. She then applies cream on her lips.*

Superficial interaction also occurred both verbally and by touch whilst carrying out patient procedures. This was termed as procedural touch and was evident when the strategy of *coasting* was used.

Procedural Touch

Whenever the nurse touched the patient in the process of completing a procedure there was an explanation attached to the non-verbal interaction. There was however, an appearance of patient-centered interaction The following examples are examples that were observed of superficial procedural touch.

> *(Obs2#2e) The nurse was sitting outside room 9. ...she sees the patient's leg falling over the side of the bed and against the bed rails. She went in and said, "what are you doing with your legs?" She repositioned them back in bed. She then comes and sits on her chair again.*

> *(Obs2#1i) N2 brings a thermometer and checks the axillary temperature of the patient. She then discards the thermometer. She documents. She then checks the ventilator and humidifier and documents. She watches the monitor and documents. She looks at the pumps and documents. She calculates drugs, checks drainage and documents.*

> *(Obs#2) The nurse went to the patient and picked up his hand just as he was about to eat something. She then said, "can I check your pulse before giving the drugs?" She checked the pulse and kept the drug on the breakfast trolley and left the bedside.*

Demeanour as 'Matter Of Fact' during the strategy of coasting

The nurses' demeanour during *coasting* was that of just being ordinary. This demeanour ranged from being distant to being polite and matter of fact. Nurses talked to patients as required and they touched patients as required usually during the procedure that was being performed. Furthermore the tone of voice they used was either explanatory, ie. what to expect or requesting the patient's cooperation. This incident was observed in the ICU.

> *The patient PS4 kept touching his mask and moving it. The nurse put the mask back and said, "don't investigate" (firm voice). PS4 said in a hoarse voice that there was water in his mouth. The nurse tells the patient not to worry about it because it is probably the high pressure of the oxygen. She tells the patient about the*

nasogastric tube in his mouth and that it was the tube that was causing him the discomfort.

Nurses either stayed at *coasting* or moved to other strategies of *Navigating the course of interaction.* This was based on the presence of certain conditions. These conditions were the nurse as a person, the patient's response, and the availability of time for nursing care. *Maximizing* was another strategy of interaction that nurses engaged in with patients in the presence of technology. This type of interaction indicated that in spite of being stymied by the presence of technology, some nurses deliberately tried to steer the interaction towards the patient in the presence of technology.

Maximizing

In this study *maximizing* is defined as making the most of the interaction opportunity presented to the nurse. Even after being stymied with various factors, nurses attempted to work within the constraints that caused them to be stymied, to achieve person-centered interactions. *Maximizing* was characterized by the nurses' added effort in trying to meet the humanistic needs of the patient in the presence of technology. The focus of the interaction was person-centred interactions rather than patient-centred or technology-centred interactions. This can be related to the sailor who meets every challenge and utilises every opportunity to ensure that the path is navigated smoothly and with due care for the vessel.

Nurses undertook the strategy of *maximizing* by performing certain actions. These were characterised by maintaining a presence with the patient, reducing the impact of technology and individualising interactions. For the nurse to conduct *maximizing* interactions certain conditions had to be present. These were those intervening conditions (see chapter five) of the nurse as a person, the availability of time, the patient's response and the knowledge of the patient. The following are a few examples of how *maximizing* was explained by some of the nurses:

> *(N#7) If you have a lot of time you can sit on their bed or you can read the paper with them or you read a magazine with them or chat for a while.*

The nurse as a person also affected the interaction with the patient. This nurse spoke about herself saying:

> *(N#8) I am just a chirpy person so I'll go Hi how are you going (very cheerfully). Start chatting away specially if they have just come in as an admission.*

The patient's response or initiation of an interaction was also seen as starting a *maximizing* interaction. This observation of light hearted banter in response to a patient initiated interaction is an example:

> *(Obs3#2g) Two nurses took an empty bed into a four bed room. One of the patient's asked, "what happened to the patient?". One of the nurses said smiling, "we dropped him on the way, we got sick of him". The other nurse said, "he wasn't behaving himself so we left him". All the patients and both the nurses started laughing.*

Each of the properties of *maximizing* that is *maintaining presence, reducing the impact of technology* and *towards individualising interactions* are portrayed in detail (see figure 11 below).

Figure 11:   The properties of *Maximizing*
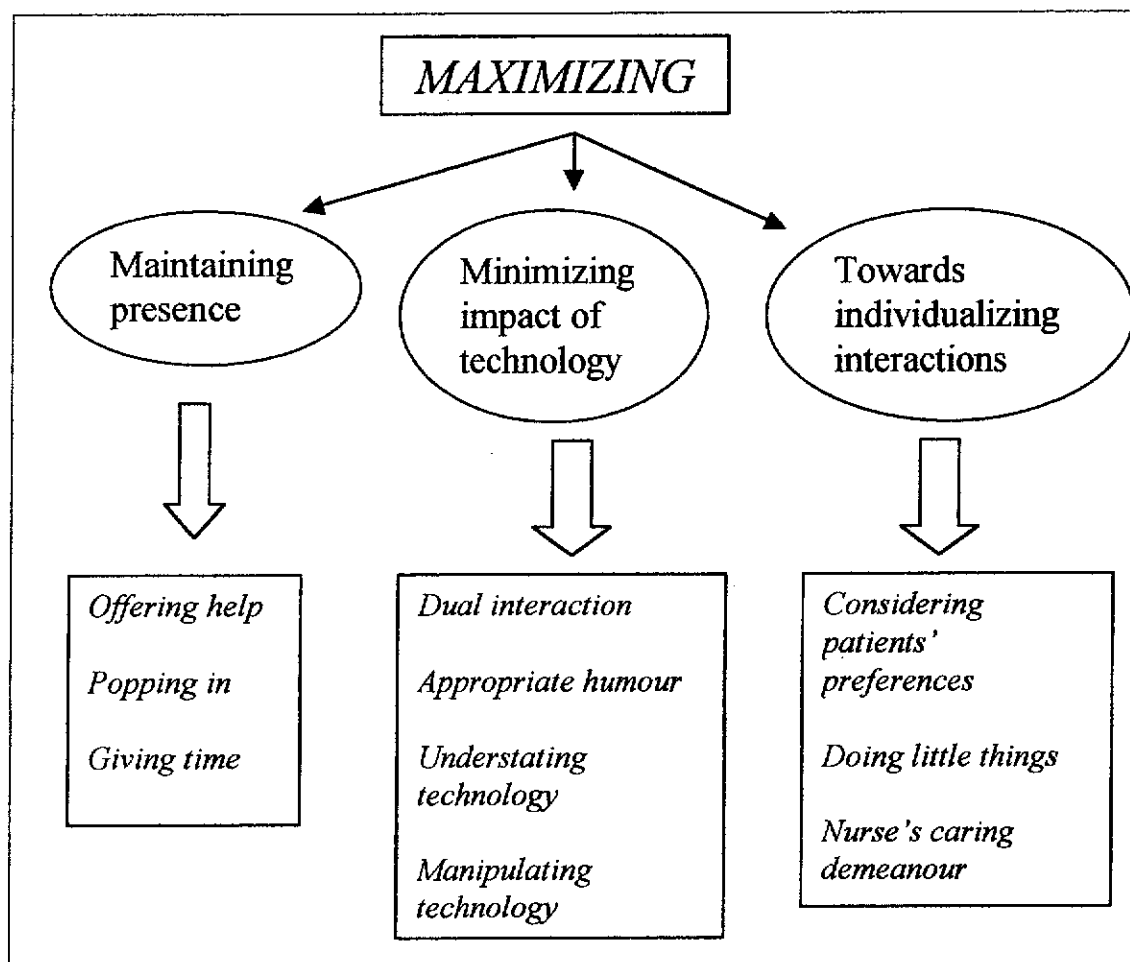
The properties of *Maximizing* in terms of maintaining presence, minimising impact of technology and towards individualising interactions

Maintaining Presence

Nurses were seen to maintain their presence at the patient's bedside in a variety of ways. These were by *offering help* when they had finished attending to the immediate needs of the patient, *popping in* to see the patient when not required to complete a procedure or attend to technology and by *giving the patient attention* when already at the bedside. Each of these strategies are further explained.

Offering Help

This was observed and nurses interviewed attested to the fact that sometimes before leaving the patient's bedside they asked them if they needed anything else. The

nurses saw this as being helpful to the patient if they asked the patient before the patient asked them for something. If the patient requested something then it lengthened the nurse's stay in the patient's room and this therefore maintained the nurse's presence in the patient's room. This is what one nurse had to say:

> (N#3)...it's like anything else you need kind of a thing because often what happens is that it is a nice thing anyway and I do it anyway to offer things before they request them. ...I offer things before they ask.

Other nurses said this about offering help:

> (N#14)...if you've got a few seconds and you just sort of say is there anything else you need that's when you hear things like well, my water jug's nearly empty or something...

> (N#16) I ask them is there anything I can do for you now and sometimes yes and sometimes no. Eight times out of ten it is no at that stage.

Patients seemed to like it if nurses offered them help before they left the room. It made them feel that nurses cared for them An elderly patient had this to say,

> (P#6) It's little things like that. She said, "do you want anything?" even though I wouldn't have. At least I'd see her you know at least she comes.

Offering help related to when the nurse was already at the bedside, but popping in was seen as something the nurse did even when it was not required.

Maximizing: The art of nursing

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Popping In

Some nurses were observed to walk into patients' rooms without having to attend to technology. This gesture was spontaneous and seen as 'touching base' with the patient or to enquire if the patient needed anything. This happened when the nurses had some time, when they commenced a shift or when they came back from a long break during a shift. Nurses were observed greeting the patient in a friendly way and making genuine enquiries of personal requests. In the ICU where patients were not in rooms and where nurses were constantly at the patient's bedside, any change in the patient was immediately sensed and the nurse responded instantly. Some nurses explained it in this way.

> *(N#3)...even if I just stick my head in the door because I don't want them to think they are being left because they can look after themselves.*

Another nurse said,

> *(N#13)...why I like to go in quite often because if you get patients like that who won't ring the bell, they could be lying there in agony and they won't let you know...so that's why I pop in every now and then and say, "oh how are you going?"*

Patients also talked about nurses *popping in* and how they appreciated this gesture. The following patient quote reflects the patient's viewpoint.

> *(P#4) They would find out how you were. And pop their heads in the door even if they didn't come to do something for you and all that sort of stuff. Very very good.*

Related to the concepts of *offering help* and *popping in* was one of giving the patient time.

Giving Time

It was also observed that nurses tended to spend more time with patients that could respond. Nurses tended to initiate the interaction with patients and depending on the

patient's response the interaction would continue. A spring board to such an interaction was the nurse's willingness to interact with the patient. The characteristics of giving time included staying at the bedside, explaining procedures and future plans for the patient in detail, checking to see if the patient had understood and preparing the patient for the procedure. Nurses have discussed the strategy of giving time and how each of them gave their patients time. One nurse seemed happy to spend time with patients. She said,

> *(N#3) They can have as much time as they want with me, I don't rush them. I mean they might take forty-five minutes to get across the room...but with me they can have as much time as they like, as much time as they like.*

Another nurse spoke of this as being caring. Her comment was:

> *(N#5) ...give them time to talk, let them know that they are individuals, and that we are there to care for their individual needs.*

The following nurse explained how she incorporated giving time in her care. This is what she had to say:

> *(N#13) I mean I go in and sit there and then just say "what is the problem, do you want all these things done or is there something worrying you?"*

The following scenario of the nurse giving the patient time was observed on a surgical ward.

> *(Obs1#1a) She checked the amount of fluid that was left and then stood and talked to the patient for about five minutes about other things that he did at home before going on to the next patient.*

Patients also commented on how nurses spent time with them as shown in the following quote.

> *(P#8) She was with all of us, she was there all the time. She was working all the time, talking all the time like "go on sweetheart" you know, she'd really encourage you.*

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A patient commented on how some nurses gave her their time.

> *(P#11) Well just had the time, spent the time, took the time, made the time to actually spend the time minutes, not one minute but a couple of minutes, talking to you about how you felt...*

One of the other strategies the nurses used along with maintaining presence to maximise their interaction was to reduce the impact of technology while interacting with patients.

Minimising the Impact of Technology

This was the second of several actions that nurses used to maximise interactions with patients in the presence of technology. The impact of technology was reduced by verbal means of conducting a dual interaction, using humour, understating technology and manipulating technology. The conditions that affected the nurse reducing the impact of technology were again the nurses' willingness to interact with the patient and the nurses' ability to sense the patient's needs.

Conducting a Dual Interaction:

This meant that when the nurse was performing a procedure or technical task the nurse interacted verbally with the patient about things that were not directly related to their physical condition or illness. This also included nurses giving patients information about themselves. Interacting in such a manner with patients could be called 'social interaction' or 'chitchat'. The nurses felt that this tactic was useful in distracting the patient from the procedure thus making the interaction less clinical and more humanistic. The following examples are those in which nurses 'chit-chatted' with patients.

> *(N#17) ...you just chat about what you are actually doing or you may say what sort of a glorious day it is outside. You can chat about other things that are going on around so that they don't get a sense of being isolated as such.*

Another example of conducting a dual interaction was:

(N#21) You just sort of make conversation with them and talk to them while I am doing it and things like that you know and try and find out. That's when I find out most of my information when I am doing something with the patient and talking to them and they tend to tell you. It takes their mind off what you are doing as well.

Another nurse had this to say:

(N#18) You talk to them as if they are human beings. You don't talk about the specific problems that they are in hospital with, you talk to them in a normal level you know you talk how is their family, talk about their life in general.

With regards to nurses sharing information about themselves with the patient one nurse said, "You talk about yourself too...".

Patients agreed that this was useful to them because they could see that nurses were also human and not just focusing on the tasks. In their verbal interactions with patients it was noticed that nurses did not just talk about the patient's life but also shared information about themselves. Patients have said that this makes the nurses more human to them. Patients have reported the following:

(P#4) They would usually chat to you about anything not necessarily about what they were doing but then I didn't necessarily want them to talk about that. We would talk about books we'd read or you know that sort of thing.

Another patient said,

(P#3) Some you found you got to know little things about them. Like one girl was going to get married and all those sorts of things which made them interesting which made them people.

Another patient agreed that it was important that nurses and patients talk about other things. She had this to say:

(P#11)...spend time...talking to you about how you felt, how your wound was, how your operation was, how you were feeling, did you sleep alright. Was there anything else related to your health, and also things like oh you've got a paper, look at the headlines, or there's a beautiful view out the window, and there'd be a comment about how hot it had been today or something almost touchable like they were human, that they had a life outside the hospital... the fact that they acknowledged that you also existed aside from your wound or the fact that you couldn't void or something.

Along with conducting a dual interaction, using humour was another way that nurses used to maximise their interaction with patients in the presence of technology.

Use of Humour

Nurses sometimes used humour when interacting with patients particularly when they thought that the patient would appreciate the use of humour. The use of humour could be initiated by the patient or the nurse. An important condition for the use of humour was the nurse's knowledge of the patient. If the nurse knew that the patient would appreciate humour it would be used. If the patient was a serious, non-communicative type then nurses refrained from using humour. The use of humour was particularly important in the presence of technology again because patients said it showed them the humanistic side of nurses and nurses thought it reduced the impact of technology. The following are a few examples from interviews and observations.

(N#8) Where I see appropriate is I try to be friendly and even sometimes a little bit light about it or just to relieve a lot of it because ICU usually gets very heavy emotionally as well and I have had feedback that people find me refreshing because I am a bit lighter towards things...

(Obs1#2A) She (nurse) asked the patient to squeeze her fingers and the patient squeezed really hard and the nurse laughed and said not that hard. She then went to the foot of the bed and asked the patient to push against her hands. She then said, "you are really strong aren't you". She smiled when she said this.

One patient talked about the value of the use of humour by nurses. This is reflected in the following quotes.

> *(P#1) They were great, they listened to you. They had a great sense of humour as well, they kept winding you up they were good.*

> *(P#7) One nurse she had a nick name for all of us, she used to call me Rhett, as in "gone with the wind" Rhett Butler. So that type of thing which I you know found really good. Most of the nurses have a sense of humour. They do try to you know bring that out in you and get you to respond to their humour which I found good too.*

> *(P#5) I really appreciated it (humour). It wasn't cracking jokes or anything like that, it was the ability to laugh with me.*

> *(P#9) I would think that modify it (humour) to suit the patient and how quickly the recovery rate of the patient is. If they walked in there and found a guy lying on his back and he was close to you know if he only had twenty beats or something like that on his pulse, I don't think they would try the same sort of humour.*

Another verbal strategy used by nurses to reduce the impact of technology was to understate technology. This was a means of reducing the impact or awe of technology.

Understating Technology

Another strategy that nurses used was to understate or not 'glorify' technology. They would deliberately give explanations in simple terms and provide general information regarding technology connected to patients in an attempt to understate its importance and to make sure that the patient and relatives were not overly anxious about technology. Visitors to the ICU were informed about the ICU setup and what to expect before they could enter the ICU so that they would be mentally prepared to face their patient. The following examples will explain:

> *(N#6) ...should tell them they are very ill, they are getting better, their blood pressure is still unstable but they are being given medication for that and their heart rate is irregular but they are*

being given medication for that. They are still on a breathing
machine... you can tell them don't worry about the machinery
we'll take care of that, you worry about your wife or husband or
your daughter or whatever.

This coronary care nurse discussed patient's anxiety with machines. She stated,

(N#5) The patient can be alarmed by the machines alarming but
if they have been given prior explanations, they probably don't
get worried as they would normally do and when they know there
is a nurse there to look into why these machines are alarming,
their anxiety is even more reduced. As long as you explain to
them that there is somebody watching the monitors all the time to
find out why it is alarming and act accordingly.

Nurses reduced the impact of technology not just by verbal means as in conducting dual interactions, the use of humour and understating technology but also by non-verbal means ie. by manipulating technology.

Manipulating Technology

Nurses manipulated the technology, the environment and bent rules related to technology when they thought it was for the benefit of the patient. For example, they increased alarm limits so that it would not disturb the patient sometimes they would reduce alarm limits or have deliberate alarms so that the patient could actually stay awake and be able to respond. They also manipulated the environment, such as reducing lights and sounds or they would introduce alternative methods to keep the patient relaxed. They also took the time to get rid of unwanted equipment so that the surrounding environment did not look too technical. This is what some of the nurses had to say regarding manipulating technology.

(N#8)...if they've come back from a head op or something...if
lights are around how can I sort of make the environment more
conducive so that they get a good rest. It can be very noisy over
here, a lot of alarms, a lot of machines...and is it a good idea that
I get him some more sedation or do I put the lights off and let him
sleep because it is going to be noisy in this area.

The nurse below is a kind of revolutionary on her ward and was the first to suggest changes to the ward environment. She explained this as:

(N#4)...relaxation therapy, relaxation music, aromatherapy, occasional massage, we introduced what I call semi-real plants throughout the unit, so it gives a look of normality, we've had dark brown shabby carpets replaced with pastel coloured carpet. We've had grey walls painted soft pink, we've had indirect lighting put in... And what its done we feel is soften that critical care environment so the patient and their family are not completely overwhelmed by the technology.

About getting rid of unwanted equipment two nurses had this to say

(N#5)...sometimes all you've got to do is to go and chuck out all those pumps that have got nothing on them...and it all looks so much easy.

(N#11) Patients associate taking away the machine as the patient is getting better and you sort of notice that, you see, the more machines that have gone, then the better the patient is.

Nurses were also observed using their own discretion when it came to following routines rigidly. If they felt that the patient was not benefiting from the multiplicity of technological procedures they would reduce the frequency of these to let the patient rest. This happened commonly in the ICU as shown in the following quotes.

(N#9) Like for instance yesterday, I had a patient, who is a long term patient. There has been a lot going on, its been extensive physio and I couldn't really see the point that at three o'clock he needed to do a lot of things.

(N#8)...with my alarm limits if there has been a steady, you know, if they are cardiovascularly stable patient I tend to widen my alarm limits a little bit more so that when they move or when they cough that it's not going to alarm.

Nurses not only maintained a presence and reduced the impact of technology but strived to individualize interactions so that the personal touch would not be lost.

Towards Individualizing Interactions

This was the third way that nurses used to maximize their interactions with patients in the presence of technology in spite of being stymied in their person-centred interactions. In the use of individualized interactions nurses were seen catering to the patients' personal likes. They tried to do those little things for patients rather than only concentrating on the technical aspects of care. The nurses' demeanour was observed to be one of being kind, caring and cheerful. The conditions essential for individualised interactions to occur were the nurse's willingness to interact with the patient, the nurse's knowledge of the patient, the availability of time and the patient's response. The following nurse talks about the above concepts and their relationship to interactions.

> *(N#12)... the way you answer them and whether you just go in there and do what you have to do and leave straight away without getting into any conversation. I think if you sit down on the bed and talk to a patient and listen to what they are saying and talk to them about things I think that makes them feel that you are interested.*

She further elaborates on the concepts of knowledge of the patient and patient's response. This is what she had to say:

> *(N#14) You have to actually know, get to know your patient, then you know how far you can go. Like with some patients you can muck around with them and they'll muck around back, but then there are other patients who like to be a little reserved. ...ICU is a lot different to any of the other wards because most of the patients there are paralysed and sedated so you don't get to interact with the patients at all. I used to be very frustrated that I couldn't talk to the patients same as when I was in theatre, you know you don't get that patient interaction and I missed it.*

With regards to the importance of time availability to conducting an interaction this nurse said,

> *(N#20) Depends what I have got the time for. I think that if I haven't got a heavy load the first thing that I have to do is go and*

talk to the patient, regarding their worries, treatments and concerns, even sometimes just a general chit chat so that they are not put in the bed and forgotten. Just the human side of it, a general chit chat for ten minutes, for them I think it is a real boost up.

Doing Little Things for the Patient

In the presence of technology it was easy to forget the little things that mattered to patients because of the overwhelming presence of technology at the bedside. Patients have commented that they were very grateful to nurses when their preferences were considered and nurses took the time to do the little things for them that made them comfortable, for example, fluffing the pillows and keeping them comfortable. For nurses to fulfil this wish of patients they had to know the patients' preferences and needs and make an attempt to meet them. By doing little things that mattered to the patient and relatives nurses maximised the interaction because they did not just concentrate on the patient's technical needs but demonstrated that they were also aware of and met other needs. The following examples are from nurses attempting to do little things for the patients:

(N#4)...and she was surrounded by every piece of technology known to mankind to save her life...family would come and say to me, "oh the girls were wonderful today looking after her, they combed her hair, they put her favourite nightie on and she had clean sheets. And her lips were moist today they weren't cracked".

(N#9) I think the little things like nail care, mouth care and just rubbing cream into skin and things like that, that the patients really appreciate and not only them but relatives.

One patient explained some nurses' thoughtfulness that 'made her day'.

(P#4) From our room you actually got an excellent view so the nurses shifted the bed around so all of us could see the fireworks. I thought that was wonderful and they all came in ones that weren't busy came in and had a look at the fireworks so it was great. It was a great feeling that they wanted us to share in that.

Another patient described how those little things of comfort contributed to 'really being looked after'. This is what she had to say:

> *(P#5) They fixed me up in a chair and put a little table and a cushion in front of me. They really looked after me in that respect. They made sure I had the phone near me all the time. They made sure I had the phone near me and the bell every time.*

A patient's relative narrated how the little things that the nurse did for her were comforting. She said,

> *(R#2) I was in hospital when my husband was taken to theatre. The sister (referring to nurse) was really lovely. She made it so easy for me to understand things. She showed me around, she asked if I wanted tea or coffee. She also took me to intensive care. She couldn't do enough for me. She could see I was agitated and she was trying to put my mind at ease.*

Considering Patient's Preferences

Considering patient's preferences is an element of the *maximizing* strategy. It relates to fulfilling the patient's need to know. This consisted of nurses giving the patient as much information as they sought. Nurses were able to engage in information sharing by knowing their patients and judging the 'right' moment. The following quote is an example by an experienced nurse.

> *(N#14) If the patient is really unwell you don't sort of go bowling in there laughing and joking, you have to treat them quietly and give them sympathy so that they are comfortable with you and feel like you are doing something for them rather than just coming in there and treating them and going away again. You have to have a rapport with people.*

Some patients liked a lot of information while others preferred not to know about what was happening to them. Finding out the patients' needs and meeting them was a main characteristic of this category. Some patients were happy with in-depth information as the following patient comment portrays:

(P#9) It was quite interesting because she showed us how the flutter coming in and showed us why that was occurring so yeah, from that point of view that would probably be the best example of them you know not just sort of saying, "I'm going to put this band aid on your arm" and not say any more.

Another patient talked about other ways in which nurses considered patients' preferences. He said,

(P#7) They (nurses) always checked what you wanted to be called. They find that out first. I prefer to be called by my first name and they did that. I noticed they referred to some patients as mister.

An ICU nurse indicated how she used her knowledge of patients' music preferences in her care. The following is how she explained it:

(N#6) You have to know the type of music a person likes to listen to. I don't think the patient would like to listen to one of the more rocky programs if they are 95 years old or vice versa.

The concept of using individual communication techniques is also included under considering patients preferences because this involved a problem based nurse-patient interaction where the nurse used individual communication techniques. For example, the use of sign boards, lip reading and adjusting their communicating methods for patients with communication difficulties. These are some of the ways in which nurses communicated with patients. The following is an example of individualizing an interaction.

(N#1) ...we'll often use what we call magic boards for them to write on or a piece of paper or lip read is something you get very good at, in tracheostomised patients. We've got a patient now who has Guillan Barre's who has a talking tracheostomy...we put it on his pharynx. We can actually hear him talk.

Nurses Demeanour whilst using Maximizing Strategy

Nurses who came across as being kind, caring and cheerful endeared themselves to the patient because some patients said that it was important to them that nurses came in smiling or were cheerful. Nurses in trying to maximise interactions and while using humour also displayed a cheerful countenance thus making the situation at the bedside less clinical. This is an example of the nurse's demeanour during a *maximizing* interaction:

> *(Obs2#2i) The nurse leaned over the bedrail and talked to the patient. ...the patient talked about her sister and the nurse asked her about her family, while she walked in and around the bed. She then went to the bedside and stood looking at the patient while she (the patient) talked. She laughed and interacted with the patient while completing her procedures.*

The phases of *steadying, demurring, coasting* and *maximizing* have been explained as discreet steps of *steering and veering* in the process of *navigating the course of interaction* for ease of explanations. During the process of analysis it became evident that there were times of overlap between the strategies particularly during the change from one strategy to another. The strategies used by nurses were dynamic in that there was a movement from one to another. Hence a sub-process to the process of *steering and veering* emerged from the data. This sub-process was labeled as *oscillating connections* which is now further explained

Oscillating Connections

Oscillating connections means that nurses in their interactions connect with the patient. This *connection* may be a fleeting or a tenuous one as shown in the strategies of *steadying* or *demurring*. It could be a very superficial connection when the strategy of *coasting* is used or it can be a strong bond with the use of a *maximizing* strategy.

The sub-process of the process of *Navigating* was called *oscillating connections* because interestingly, nurses did not use one strategy all the time. In the Collins dictionary (1994) Oscillation is defined as 'to swing to and fro' ; 'waver' or 'to

fluctuate'. Connection is defined as an association. *Oscillating connections* therefore, encompasses the movement of the nurses and the association with patients while interacting with them in the presence of technology. Depending on the conditions at that particular point in time nurses moved from one type of interaction to another and back again according to the strategy they utilized whilst *steering and veering*. Some nurses persisted with one strategy longer than others. For example, a nurse who was using *coasting* could move to either *maximizing* or *demurring* and vice versa in the same interaction or in different interactions with the same patient or in different interactions with different patients.

In addition to the strategy utilized that made this connection visible, there was also an influencing factor. This was the *baggage* nurses carried with them at the times of *embarking* on the interaction journey. The direction of the interaction was dependent on many factors but it was clear that the *baggage* nurses had to carry before *embarking* tended to be linked to the chosen strategy used by the nurse which embroiled the 'connection' of nurse-patient. Nurses navigated the interaction course in the presence of technology because circumstances at the bedside changed and it was apparent that nurses had to constantly shift their focus. In the study by Bottorff and Morse (1994) on nurse-patient interaction, it was reported that the type of attending by nurses changed several times in a single interaction. The same authors also indicated that nurses involved patients in episodic ways while they completed tasks.

Nurses in Zalumas's study (1989) reported that they used several complex skills at once in order to meet the patient's need at a specific time. Daingerfield (1993) studied the communication patterns of critical care nurses. This author's study revealed that patterns in an intensive care unit occurred as mutual, simultaneous and continuous and that these coexisted within the environment. These research results confirm the findings of this research in which it was observed that nurses did not maintain a static method of interacting. Nurses oscillated from one strategy to the next depending on the circumstances at the time of interacting with the patient. The following example will explain:

Oscillating connections

Moving, Switching, Changing between and within strategies

(Obs#1) The nurse got the sphygmomanometer. She explained to the patient about the velcro on the apparatus. She fixed it on the patient's arm. She told the patient to relax. She then checked blood pressure and told the patient what it was. She took out the thermometer from the patient's mouth and asked if the patient was warm enough. The patient asked her for a tighter name band. The nurse went away to get another name band.

In the above example the nurse had gone to the bedside with the knowledge of the ward routines. She had embarked on the course of interaction in order to check the patient's vital signs. Once she got to the bedside she had to navigate the interaction based on the situation at the bedside. This example is just one of the many from this study where it was seen that nurses had to change their focus or navigate the course of the interaction depending on the situation present at the bedside. In describing the process of interaction nurses have said that either they had to overcome or work with the factors that caused them to be stymied in their person-centered interaction in the presence of technology. For example one nurse stated that,

(N#5) We have to overcome the obstructions or work with them.

Another nurse explained interaction in the midst of technology by saying,

(N#10) You have to muscle through technology to get close to the patient and put a hand on the patient's brow.

This nurse explains how she would have to navigate the interaction at the bedside depending on the situation at that time. She states,

(N#16) Depends on the procedure, if it is something that needs more explanation than another or if they are particularly nervous about it. If they are having a catheter put in or something you gonna sit there and reassure them more than if it is something that they are happy with.

It was evident from the data that nurses moved from one interactional strategy to another between interactions or during the same interaction. This movement depended on the intervening conditions that affected the process. It appeared that

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nurses moved or oscillated in their connections with patients between one strategy to the other within the same interaction or in different interactions depending on the conditions. Movement between different interactions has been explained in the descriptions of the individual strategy.

The sub-process of *oscillating connections* was evident throughout this research through the observations performed and by what nurses reported verbally during interviews. The movement was visible and tangible. The sub-process was contingent on the conditions present at that particular point in time. These were mainly in terms of intervening conditions that are explained in chapter five. This oscillating movement was apparent when nurses completed routines, when they performed procedures, when they admitted patients to the area, when patients returned from surgery or were transferred from another ward, when patients were being positioned and seemed to transgress every core of the nurses' work. The following few examples will indicate the commonality of the process of *oscillating connections* in use.

Oscillating Between Steadying, Maximizing and Coasting

The following is an example of how nurses moved between the strategies of *steadying, maximizing* and *coasting*. This example has been taken from field observations.

> *(Obs2#1e) I was talking to N3 about her patient PN5 when she saw that PN5's ventilator was disconnected. She rushed to the patient's bedside and connected it (steadying). She spoke to the patient and said, "are you doing bed aerobics? It is good for you (maximizing). She positioned the patient and said to me, "I tried my relaxation technique on her yesterday as I had learnt it and she just mouthed shut up". The nurse then laughed. At this the patient opened her eyes and looked at the nurse. N3 said to the patient, "I am going to give you a wash" (coasting). The patient did not respond.*

Oscillating Between Demurring and Coasting

The following is an example of how nurses moved between the strategies of *demurring* and *coasting* in the presence of technology. This example has been taken from field observations conducted in the ICU.

> *(Obs2#2g) The nurse was suctioning the patient's mouth. (PS4 {patient} is intubated, has lacerations on the face, his eyes are swollen, he is restrained, has two monitors connected to him, he has splints on both arms, has iv bungs on both hands, has a central venous line with four drips running). When the suctioning was going on the patient raises his hand, the nurse tells him to put his hand down and tries to put his hand down with her hand while still suctioning with the other. ...the nurse tells the patient to relax and settle down otherwise she can't do what she needs to do. She keeps telling the patient to put his hand down. The alarms go and she turns them off (appears flustered). She then looks for a ventilator connection, finds one and says, "this is the wrong one but it will do". She then connects the patient to CPAP (continuous positive airway pressure) and tells the patient, "you are now breathing on your own".*

Oscillating Between Coasting and Maximizing

The next movement observed was between the strategies of *coasting* and *maximizing*. This interaction also took place at the bedside of a patient who was quite ill but conscious.

> *(Obs2#3h) The nurse explained to the patient what was going to be done. The physiotherapist (PT) applied pressure to the chest and the nurse connected the patient to an ambu bag and bagged the patient. During the procedure the nurse saw the patient wince with pain. She went to the narcotic infusion and gave her a bolus and explained to the patient that pain medication had been given. Every time the patient was sucked out the nurse explained this to the patient. She put her hands over the patient's abdomen when she was asked to cough. There was a noise when the PT was opening some catheters (like the passing of wind).*

The nurse laughed and said, "it's not me it's the PT". When the patient coughed the nurse said, "good girl". When the patient shook her head the nurse asked her if she was in pain. The patient shook her head again. She then took a pillow and placed in between the patient's legs, while slightly flexing the top leg. She then put the side rails up. After the PT left she went close to the patient's face, stroked her head and asked if she was in pain.

Oscillating Between Coasting, Maximizing and Demurring

The following is an example of the nurses moving between the three strategies of *demurring, coasting* and *maximizing.*

(Obs3#3a) The nurse says to the patient, "we'll just sit you up". The patient says he wants pork chops for lunch. The nurse laughs and says, "that's why you are here, you can have dry roast". She then says to the patient, "put your chin on your chest and breathe as you come up". Two nurses then lift the patient. The nurse asks the patient how he is. He says, "I feel fine". The nurse says, "that's what they all say, it's amazing how you feel fantastic so soon". She then asks the patient about pain. He says, "I have no pain". The nurse says, "good we'll give you morphine before 1pm because the physio comes at 2pm and you'll need it before she comes". He tells her, "I've just come from Adelaide". The nurse says, "oh really" and continues documenting and then leaves the bedside.

Oscillating Between Steadying, Demurring, Coasting and Maximizing

The intent of quoting the following example is to explain that the action of oscillating and the subsequent connection that the nurse develops with the patient in the presence of technology was also evident between all four actions of *steadying, demurring, coasting* and *maximizing.* The transcript of this example was more then four pages long. Snippets of the observation will be presented to explain oscillation between all four actions. The scenario was observed on a medical ward.

(Obs#2) The patient was an elderly male and evidently very breathless. He was connected to the wall oxygen through nasal prongs. He was restrained in a chair. He was trying to get out of it and pulled at the straps around his waist. A nurse came to the patient's bedside. She touched him on his back and said, "are you

alright?" The patient did not respond. She stayed at the bedside looking down at him, her hand on his back (maximizing). She put the thermometer in his mouth and left the bedside. The patient took out the thermometer from his mouth and held it like a cigarette. The nurse came back with a stethoscope and said, "I'll listen to your chest" (coasting). She listened to his chest, documented this and left the bedside. ...the patient started moving his table backwards and forwards. He was still restrained in the chair. A neighbouring patient rang the call bell for the nurse. A nurse came and asked the patient if he was in pain. The patient nodded. The nurse got the doctor. The nurse continued to ask the patient about the pain (steadying). The patient then said he had no pain in his chest. The patient indicated his stomach and said "it is all the way down". The nurse shouted and said, "you just told me you had the pain". The doctor left the bedside. The nurse without warning put a cup with water to his lips. The patient turned his head. The nurse said, "you have to drink this" and left the bedside (demurring). The patient was trying to walk with his nasal prongs still connected. The nurse came and said, "where are you going?" The patient said "to the toilet". She said, "you can't go like this you'll strangle yourself". She then disconnected the prongs and helped the patient to the toilet by holding his hand. The patient walked to the toilet very quickly. When the patient came back from the toilet the nurse attempted to put the prongs back. The patient refused. She switched off the oxygen. The nurse then combed the patient's hair and said, "you look pretty spunky". The patient did not reply. The nurse with the help of another staff put him to bed. She adjusted his pillows, covered him with sheets and put back his oxygen. He did not refuse this time. She stroked his leg repeatedly (maximizing). The patient was asleep in five minutes.

Steering the interaction to include the patient and *veering* the interaction away from the patient seems to fit in with the common core problem of *being stymied* and the process of *navigating the course of interaction. Steering* and *veering* occurred after nurses had embarked on the interaction track with the patients. The end of *steering and veering* the interaction in the presence of technology ushers in the last phase of *navigating* the course of interaction. This is when the interaction ceases and nurses disembark from the journey. In this study *disembarking* occurred on an interaction continuum that is now explained.

Disembarking

The final stage of any navigation is reaching an end point which results in the culmination of the journey. The journey can end at a range of destinations either pre-determined or on a spontaneous decision. In order to reach a destination however, the navigator has to embark on the journey, steer and veer on the course and then finally reach a port of call. In the analogy of nurse-patient interaction in the presence of technology, nurses were faced with conditions that caused them to *be stymied* in their humanistic interaction in the presence of technology. In spite of their being stymied, data revealed that nurses responded to initiating cues and embarked with their particular baggage whilst *navigating* the interaction course. They steered and veered, using strategies of *steadying, demurring, coasting* and *maximizing*. The use of these strategies however, was dynamic (oscillating) where the nurse-patient connection differed. In this dynamic movement between strategies, the last phase of disembarking comes into play. The interaction phase is terminated and the point of disembarkation becomes discernible. The destination was revealed to be anywhere on a continuum from humanistic to technological interactions. This depended on the strategy being used when interaction ceased (see table 6 below). The strategies used for *steering and veering* thus led to the disembarking phase of the nurse-patient interaction in the presence of technology.

Table 6:   Strategies and points of disembarkation

Type of interaction when interaction terminated	Point of disembarking on the continuum
Steadying ➤ ➤ ➤	Towards technology-centered end of continuum.
Demurring ➤ ➤ ➤	Towards technology-centered end of continuum
Coasting ➤ ➤ ➤	Towards a middle point on the continuum
Maximizing ➤ ➤ ➤	Towards person-centered end of continuum

The above table illustrates interaction termination at various strategies linked to disembarkation.

A point of interaction tended to occur along a continuum of interaction. This continuum ranged from technology-centered interactions to person-centered interactions (see figure 12 below). As nurses oscillated between *steadying* and *maximizing* they also oscillated between technology centered and human centered interactions. The movement of the nurse on the continuum was evident through the nurse's demeanour and behaviour during interactions.

Figure 12:   The Interaction Continuum

Technology centered interactions   *Patient centered interactions*
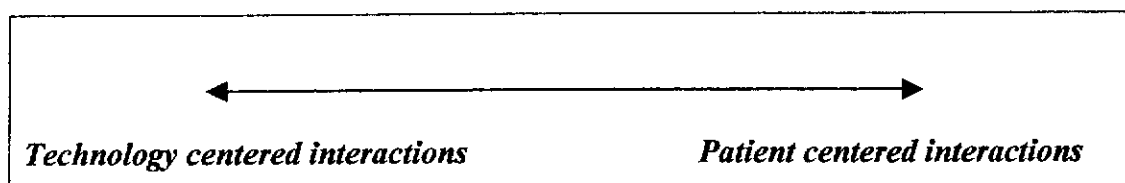
CONCLUSION

The data in this research study revealed the major problem in nurse-patient interaction in the presence of technology was nurses *being stymied* in their interaction with patients in the presence of technology. Nurses used several strategies to deal with the core problem. The basic psychosocial process that was used by nurses to deal with *being stymied* in their person-centered interactions with patients in the presence of technology was *navigating the course of interaction*.

This process consisted of four main strategies. These were *steadying, demurring, coasting and maximizing. Steadying* was the strategy where the focus of interaction was appropriately focused on technology. *Demurring* was the next strategy of the process where the focus of the interactions was inappropriately centered on technology. The next strategy of the process was *coasting* where the focus of interactions appeared to be on the completion of tasks and procedures and the fourth strategy of the process was *maximizing* which was a movement towards being human centered. It was however, noticed that nurses moved between these strategies in the same interaction with the same patient or different interactions with different patients depending on the conditions present at that particular point in time. This

sub-process of *navigating the course of interaction* was therefore termed *oscillating connections.*

PERSONAL NOTES

Having to identify the core process of this research proved to be an onerous task. The connections between categories appeared to be clear but to identify the overall process was difficult. Steering and veering was the first category to be identified. I suppose this is because the strategies were more easily visible. Clarifying the phases of embarking was not as easy. It took concentrated work of sitting down with the adviser and dissecting every piece of data. Once the phase of embarking was discovered, disembarking followed soon after. It was gratifying when informants confirmed these phases in subsequent interviews. This feeling of relief did not last long as writing the process proved to be equally onerous. Several drafts and redrafts were essential. Once again memo writing aided this process to a great extent. It was felt necessary to explain and clarify the intervening conditions that impinged on the process of navigating the course of interaction. Intervening conditions are therefore explained in the next chapter.

CHAPTER FIVE

INTERVENING CONDITIONS AFFECTING THE CORE PROCESS OF *NAVIGATING THE COURSE OF INTERACTION*

CHAPTER FIVE

INTERVENING CONDITIONS AFFECTING THE CORE PROCESS OF *NAVIGATING THE COURSE OF INTERACTION*

INTRODUCTION

Several conditions became evident in this research that affected the process of *navigating the course of interaction*. These were termed intervening conditions and are the focus of this chapter along with their relationship to the process of *navigating* the course of interaction. The decision to explain these conditions in a separate chapter was made because of the significant effect of these conditions on the process of interaction between nurses and patients. Examining all the conditions that impinge on the phenomenon help captures the range and variations in it (Chenitz & Swanson, 1986). It was these intervening conditions that accounted for the variation in the phenomenon of nurse patient interactions.

INTERVENING CONDITIONS AFFECTING THE PROCESS OF *NAVIGATING THE COURSE OF INTERACTION*

Intervening conditions are defined as "the structural conditions bearing on action/interactional strategies that pertain to a phenomenon. They facilitate or constrain the strategies taken within a specific context" (Strauss & Corbin, 1990). In other words these are the general conditions that have the ability to alter the process and cause the occurrence of variations in the process. It is not just the presence of intervening conditions but also a change in them that can alter the action/interaction of a phenomenon (Strauss & Corbin, 1990). This is important because there were several intervening conditions in this study that occurred and tended to alter and therefore change the process of interaction.

There were several intervening conditions that affected the process of *navigating the course of interaction*. These were identified in the data and arranged under three broad headings of nurse-related conditions, patient-related conditions and nurse-patient related conditions. These are depicted in Figure 13

Figure 13:   Intervening Conditions Affecting The Core Process

Intervening conditions affecting the process of *navigating the course of interaction*

Nurse related conditions

- Nurse as a person
- Presence of staff
- Time to conduct person-centered interactions

Patient related conditions

- Patient as a person
- Sleeping patient
- Patient's responsiveness
- Patient's age

Nurse-patient related conditions

- Cues during interactions
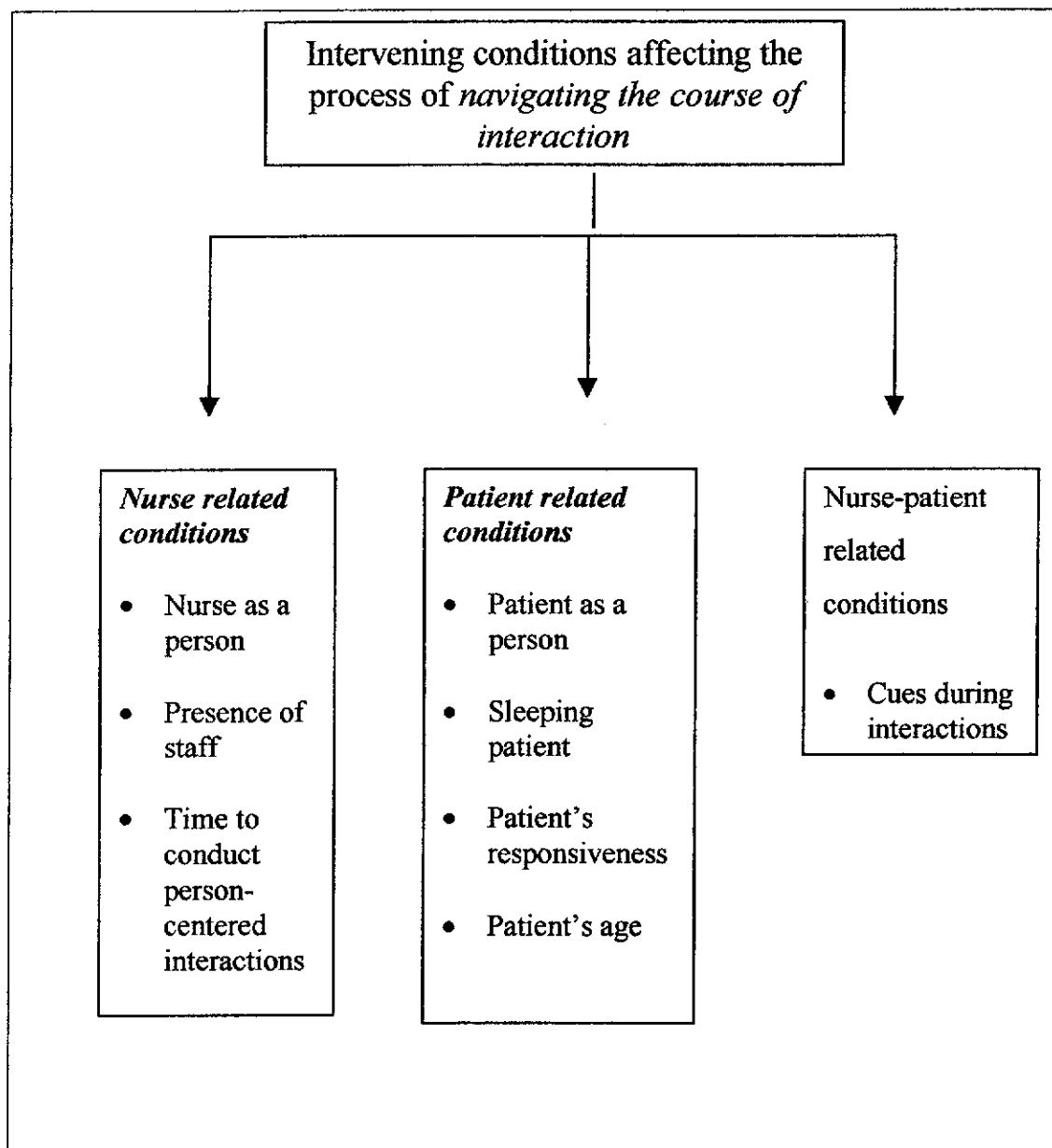
Intervening conditions that affect the core process of *navigating the course of interaction*, identified in this research

Chapter 5 – Intervening Conditions Affecting the Process of Navigating the Course of Interaction

Each of these conditions is explained in detail with examples from field observations and direct quotes from formal and informal interviews from both nurses and patients.

Nurse Related Intervening Conditions

Nurse related conditions refer to the intervening conditions that centered on nurses and affected the actions they performed. Nurse related conditions that were identified in this research were nurse as a person, presence of other staff at the bedside and time available to conduct person-centered interactions. These are explained below in detail.

Nurse as a Person

The intervening condition of *nurse as a person* pertains to the personal characteristics of a nurse. For example there were cheery outgoing nurses who were spontaneous in their interactions and nurse-patient relationship appeared to be at ease. There were also nurses who were the "silent" type either generally or on that particular day. With these nurses communication was not forthcoming and nurse-patient interaction appeared to occur reluctantly. There seemed to be a façade of professional politeness about these nurses. Forrest (1989) identified that one's own background, learning, feelings and responses to patients have the potential to affect both the caring intent and the caring action. The nurse's own individual characteristic impacted on the nurse's willingness to interact with patients and caused the nurse to *be stymied in person centered interactions.* This was evident through their attitudes towards patients. Imagine the scenario where a nurse who is in no mood to interact is at the bedside of a patient who is trying to draw the nurse into a conversation. This patient also has an intravenous drip and a nasogastric feed. The nurse answers the patient in monosyllables and concentrates on technology at the bedside. The nurse is already trying to work in a situation of *being stymied by*

technology hindrances (as explained in chapter three) but this aspect of not being in the mood further impinges on nurse-patient interaction.

Pares (1982) contends that nurses' attitudes are reflected in their approach to patients. Cafferty and Sugarman (1971) who proposed that interpersonal relations are the result of interaction between human beings support this view. These authors further contend that the facets of individual personality that contribute to the establishment of this interpersonal relationship are self-awareness, self-acceptance, acceptance of others and sensitivity to their needs and respect for the job one is doing. Almost every nurse in this study commented that their interaction depended on their personal characteristics. By this they meant that if a nurse was a gregarious type then that person's interaction would be different to a nurse who was more reserved. If the nurse was more reserved and did not initiate an interaction or just delivered the required care then that would stymie that nurse's interaction with patients. Two nurses explained it in this way:

> *(N#18) It also depends on the nurse too. A lot of nurses don't give it that much. I mean they've got their obs and their meds and this and that to do and they don't necessarily talk a great deal.*

> *(N#17)...I'm usually very quiet and I usually don't say very much and sometimes I do find, I find it hard to talk to people because I'm not normally like that I'm not normally somebody who talks a lot. ...and that makes it kind of difficult.*

It is apparent that in addition to the technological hindrances the overall personality of a nurse impinged on the process of interaction. A nurse explains these differences.

> *(N#11) People have more patience in some areas than others, some people don't have any communication skills, they can't explain things in lay terms or they just choose not to or they forget about it.*

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Course of Interaction

When asked why they act that way, she said, "I think some people are just grumpier than others" (laughing). Another nurse explains about the nurse as a person.

> *(N#6) ...if you are talking and talking and talking all day long and in the end it's just nice to have peace and that includes not saying too much yourself. ...some days you feel like lots of small talk and other days you don't feel up to that at all.*

At times the *nurse as a person*, altered the interaction context. For example, the easy going, communicative nurse reverted to the "silent" type. Here again other impinging factors existed within or external to the nurse that influenced the change on the day. These are further explained below.

Nurse's Mood

This is defined as the nurse's state of mind and feelings on a particular day. This aspect of the nurse as a person was mentioned by a number of nurses. For example, some explained that when they were stressed about factors other than the delivery of patient care, it affected their interaction with patients. If nurses did not feel like interacting then this would therefore, stymie their interaction with patients, and the focus of the nurses' attention would then be the technology at the bedside. This is explained by nurses in the following quotes:

> *(N#5) ...some days you feel like lots of small talk and other days you don't feel up to that at all.*

> *(N#13) ...like nurses are human as well and like everybody has a bad day. If you've got a very very heavy load of patients you might be fine with them the first day but at the end of the four days you think oh god (sighing) and it does tend to make you maybe a little short with the patients. I think mood and whether you got enough sleep the night before ...it affects the way you talk to people.*

Another attribute of the nurse that came to light in this study and which functioned as an intervening factor was the cultural background of the nurse.

Cultural Background of the Nurse:

This aspect is included in nurse as a person because nurses entering into nursing situations bring with them their cultural mores and values. Some informants felt that nurses who are of a particular culture tend to be more subdued in their interactions with patients while others because of the very nature of their background interact differently. This difference in cultural backgrounds therefore, had the potential of influencing nurses' interactions with patients. Several nurses concurred on the following sentiment as expressed by one nurse.

> *(N#6) I am sure that an Italian nurse or a Southern European nurse would act differently to a Northern European nurse. For instance their whole culture is much more outspoken.*

When the nurse was not in the mood to interact or was inhibited because of the culture or other factors then there was a potential for nurses to focus all their attention on technology and interact with the technology, thus excluding the patient.

Presence of Other Staff at the Bedside

Another finding that came to light in this study was *the presence of other staff at the bedside* and their influence on the nurse's interaction with the patient. Presence of other staff at the bedside meant that when other staff members (nurse, doctor, orderlies etc.) were present at the bedside along with the care giving nurse, this nurse's interaction with the patient changed. This was observed when one nurse was helping another, when doctors performed technical procedures at the bedside with the nurse as an assistant or when orderlies helped with the ambulation of a patient. In such situations nurses tended to interact with each other or other staff members present rather than with the patient.

Instead of focusing on the patient during these occasions nurses chose to interact with other staff present at the bedside thus stymieing the nurses' interaction with the patient. Nurses focused on the tasks at hand and verbally chatted with each other. Another connection between presence of other staff and technology is that when the patient had a lot of technology at the bedside, nurses got help from other staff. This provided the nurse with more time. But nurses did not utilise this time to interact with patients. Indirectly, therefore, technology provided nurses with more time. At times they frittered this away by talking with their colleagues and this technology in these cases, was responsible for stymieing the person centered-interactions between nurses and patients. This finding was revealed during field observations and interviews and was evident in all the areas included in the study. The following examples portray the action of nurses in the presence of other staff:

> *(N#6) If there's another nurse there that sort of makes you talk to the other nurse a lot more than you'd talk to the patient. ...it is probably saving you more time having the pump there continuously going rather than filling it up every hour. You have more time to spend with your patient. But if you have more time are you going to spend it with the patient or you going to be gas bagging to the nurse beside you that is the important thing isn't it? (laughing).*

These examples have been taken from field observations:

> *(Obs2#2h)Two orderlies came to the bedside. N2 and the orderlies laughed and talked loudly.*

> *(Obs2#3f) The nurse wets the patient's dressing. The doctor comes in. ...the doctor and nurse talk among themselves. ...they (doctor and nurse) discuss the nurse's night duty while the nurse aspirates the NGT and re-inserts the aspirate.*

This finding was also revealed by other authors. Noble (1979) studied staff communication and found that all but 14% of communication was conducted with patients and that communication between staff was largely of a personal nature.

Wells (1980) found that patients were often left to assume the position of a third person on the edge of a conversation when two nurses were attending to one patient because nurses conversed with each other. Similar incidents were found in this study. One nurse however, said that she did include patients in the interaction when there were other staff at the bedside. This is what she said,

> *(n#15) When we talk about something make it so that we involve the patient in it so that they are involved in the conversation. It would be very wrong just to stand over the patient talk about what you did last night.*

If the nurse-patient interaction was impeded because of the presence of other staff, then there was a tendency to lead to a *demurring* interaction with the patient but if the interaction with the patient was enhanced then it meant that nurses were *maximizing* that interaction opportunity.

Time Available to Nurses to Conduct Person-Centered Interactions

The availability of time was a category that occurred on a range. Non-availability of time was a causal condition for nurses being stymied in their interaction with patients in the presence of technology. Availability of time on the other hand changed the complexion of an interaction and many nurses attested to this fact. Nurses in this study saw this as a major influencing condition. They said that if they had the time their interaction with patients would be different. It therefore, appears that if nurses had more time it would change the complexion of the whole interaction. Having the time available to interact would assist the nurse who is stymied by the *presence of technology* to conduct an interaction that is more person-centered than technology-centered as under these conditions the nurse would not have to rush around completing technical tasks. One nurse explained it as follows:

> *(N#38) Sometimes you have to override the fact that you haven't got the time or these other things are not important.*

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Once things relax and you are just going along you talk all the time, "I'm just going to lift your head, or I'm going to do this , I'm going to do that but if things get hectic you just sort of do them.

Time appeared to be a factor for this nurse also. She said,

(N#14) ...if you've got the time you can do it. No matter what's going on you can sit by them and explain things to them or just talk but if you are busy you just don't have the time to talk or explain or just make idle chatter. ...if you are busy you're doing your job and besides explaining what you are doing there is nothing much else going on.

Another nurse said,

(N#6) If you have a lot of time you can sit on their bed or read a paper with them or read a magazine with them or chat for a while.

The second category of intervening conditions identified in this research were those related to patients. These are explained below.

Patient Related Intervening Conditions

Patient related conditions refer to the intervening conditions that centered on patients and were dependent on patient related factors. Patient related conditions identified in this research were *patient as a person, sleeping patient, patient's responsiveness* and *patient's age*. The following is a description of these intervening conditions related to the patient.

Patient as a Person

Just as the nurse as a person can affect the nurse's interaction with the patient, the patient as a person can also influence the nurse's interaction with the patient. All the nurses indicated that the personality of individual patients was important to an interaction. If the patient was responsive and interacted with the nurse then the person-centered interaction went ahead. If the patient chose not to respond to a nurse

who was interacting then the nurse tended to terminate an initiated interaction and focus only on the technology or the performance of the tasks. The following examples from nurse interviews will explain:

> *(N#19 Their (patient's) personality. If they don't respond to you, don't want to talk to you, don't want to answer you, relate to you on that level then that definitely impedes your interaction.*

> *(N#16) ...if the patient feels uncomfortable with you as a person not because you've ever done anything to them but because you know they may not feel comfortable with you that will then stop you communicating effectively.*

The following example is from field observations:

> *(Obs1#2c) The nurse tells the patient, "I am just going to take a reading of your heart". She asks him, "how are you?" When he doesn't answer she says, "still weak huh, it takes a while". She then starts fixing the leads and says, "there that's done". ...patient has a pained expression on his face. She asks, "sore?". There is no response from the patient. When the ECG is taken, she says, "there we go that's it". She then leaves the bedside.*

The above example therefore, indicates that if the patient is unwilling to respond to nurse initiatives then the nurse finally gave up trying to interact with the patient and concentrated on technology.

Sleeping Patient

In this study the sleeping patient is considered to be an intervening condition because the nurse tended not to wake a patient that was sleeping. This was observed and/or reported by nurses in all areas included in the study. Nurses rationalized their actions on the basis that 'nature tends to heal the sleeping patient'. This is what one nurse in the ICU had to say:

(Obs2#21) I do not like to wake patients for trivial reasons (referring to the intravenous antibiotic) specially if it doesn't involve the patient physically. I am a believer of nature healing and the best way nature heals is through rest. I would not like anyone disturbing me if I was sick so therefore, I tend not to disturb patients if it is not required.

Furthermore, nurses have been observed to reduce the frequency of many procedures in order to allow the patient to sleep. These actions are reflected in the following quote:

(N#9) I put them on four hourly obs and less overnight and don't do blood dextrose sticks, or nothing overnight so that you try and give them sleep and try to orientate them to night-day and day-night rhythm.

Whilst nurses chose not to wake sleeping patients, the situation changed if the patient awakened when the nurse was in attendance at the bedside. For example, the process of interaction was triggered and the nurse commenced communication as shown in the incident below:

(Obs3#3f) N2 was giving panadol to PS4 through the nasogastric tube. The patient was fast asleep. As the nurse finishes the administration the patient stirs and N2 tells him that she is giving him some panadol and asked him to relax.

If the patient was sleeping, the attention of the nurse was switched to technology. Technical tasks were attended to and the nurse departed. One nurse explained this action in the following manner:

(N#3)....the high dependency patients I often spend a lot more time popping in and out but often the conversation is not so much with them because they are often quite a lot ill and sometimes sleepy so it tends to be a quieter kind of interaction a presence rather than speech. ...if you talk about highly dependent as in unconscious as in very sleepy as in very quiet I tend to just pop in have a look at them. If they are asleep I don't wake them I just check the machinery, check that they are comfortable, check their neurovascular

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*obs or whatever they need without verbally interacting with
them.*

Some nurses held a belief in the therapeutic value of sleep. A nurse shared this view
as a rationale for her action of not disturbing a sleeping patient:

> *(N#2) ...they don't like to be disturbed some of them are just
> sleeping so I tend to tip-toe in and out with the shoes
> (laughing) so I tip-toe in and do what I have to do and make
> sure that everything is okay. If they are awake I talk to them
> otherwise I don't.*

Nurses at times deliberately refrained from interacting with patients. This was
observed on several occasions and explained by a nurse in the following quote.

> *(N#8) Interaction with a patient depends on the patient's
> condition.   ...the care is grouped in certain cases. For
> example neurological problems. I try not to stimulate the
> patient constantly as that irritates the patient and has an
> effect on the condition. Nurses tend not to verbally stimulate
> patients all the time and also tend to prevent relatives from
> doing the same.*

Interaction is a two way process and factors from a vantage point of a nurse were
revealed as an intervening condition. The other side of the coin i.e. from the
patient's perspective was searched for in the data. It was found that the conduct of
an interaction relied significantly on the patient's responsiveness.

Patient's Responsiveness

Patient's responsiveness is considered an intervening condition because depending
on how the patient responded, this tended to affect the interaction. The scenario of
the nurse working in a situation in which she/he is stymied in the *presence of
technology* needs to be considered. The nurse trying to overcome the problem of
being stymied by using the process of *navigating the course of interaction* is now
faced with an unresponsive patient. This nurse is compelled to then direct attention
to the technology at the bedside or interact non-verbally with the patient because the

patient is unresponsive. There were incidents observed where patients were responsive to the nurse and inquired about the technology in use. This usually set in motion a nurse-patient interaction. The following is an example of a field note I wrote whilst observing a nurse-patient interaction in the ICU.

> *(N#13) The verbal interaction seems to increase markedly when the patient can respond back. Some of the things the nurse asked the patient was the type of drink he would like and how he would like to be positioned. Because the patient was able to respond verbally, the nurse could clarify things with the patient as to why he was drinking a lot of fluid, whether he was thirsty or just dry. The nurse also asked the patient about his past medical history.*

Related to patient responsiveness another nurse said this about one of her patients,

> *(N#7) It also depends on what response you get from the patients. We had a patient who was ninety and I'm sure that she was like the Encyclopaedia Britannica, wanting to know the meaning of what was written down about her stay in ICU and she was extremely chatty.*

Another example of patient responsiveness as an intervening condition is shown in the following observation

> *(Obs#2) The patient asks the nurse something. The nurse says "hmm" goes to the bedside with the injection. Starts giving it intravenously. The patient says something else and the nurse and patient laugh.*

One nurse summarizes how the patient's response can affect interaction.

> *(N#8) You do have a greater interaction both ways if you are getting some feedback from the patients or if they are asking you a question then you are answering their question so it (interaction) extends a little bit further. ...it is a greater depth of interaction with somebody who is able to*

communicate back with you, wouldn't be just an explaining of what you are doing.

Initially when most patients are in ICU they are unable to respond to nurses' verbal interaction. Nurses have said that for an interaction to be humanistic, it was essential that the patient was able to respond. This is what they had to say:

(N#16)...if you've never spoken to them you just don't ever have that rapport with them. You just have to know them as a person and sometimes in intensive care you don't know them as a person...

Patient's Age

It became apparent in this study that the age of the patient impacted on nurse-patient interaction. This factor appeared to play a major role in the interaction of nurses when stymied by the *presence of technology*. When dealing with this problem nurses are expected to care for patients of all ages. The age of the patient further either hindered or enhanced the nurse-patient interaction. The age of the patient hindered the interaction because nurses appeared to interact more solemnly with old patients and interacted more jocularly with younger patients. This condition is also related to patient's responsiveness which would further hinder or enhance nurse-patient interaction. Nurses in this study had definite views of this intervening condition on the process of nurse-patient interaction. The following excerpt from an interview with a young nurse working for an agency reflects this concept of *patient's age*.

(N#6)...the people in their late 30's and 40's tend to be much more up-to-date on medical technology and when they are in their 90's and 70's and 80's they are not. They also have other medical problems whether it be Alzheimer's or dementia or something like that and that tends to interfere with interaction. The younger ones I just treat them like I would treat myself because I am that age bracket. But 50's I have to be a little more careful because I am not in my 50's and I have not dealt with a lot of people in that age bracket. Just takes a little bit more time to get to know things before

you start interacting. Sometimes they are a bit quieter you know.

Another nurse explained how she interacted with patients based on their age:

(N#3) I would talk differently to a seventeen year old kid than a seventy year old woman. Probably the seventy year old woman with more respect, but then you would joke around more with a seventeen year old kid.

Similarly an ICU nurse explained the intervening condition of patient's age:

(N#8) ...many of our patients are in the older age group and you can associate with "if that was my mum, if that was my dad" and the others are then going to go that one generation further, "if it was my grandma or my grandparent". You may have children yourself and then see the interaction from that perspective.

Nurse-Patient Related Intervening Condition

Cues have been included as a nurse-patient related intervening condition because cues were pertinent to the interaction between the nurse and patient. Both nurses and patients sent and received cues during an interaction. One overriding intervening condition that had the potential to alter the course of interaction at the bedside was the presence of cues. It was chosen to explain this intervening condition last because no matter what the change was in any of the above mentioned intervening conditions it was manifested by a cue. Whether the patient was sleeping, the nurse's mood, the patient's response, interaction when other staff were present at the bedside, the patient's age and interacting when there was time available were all manifested by cues that nurses picked up. Cues as an intervening condition has been explained below.

Cues

A cue can be defined as a signal to the nurse or patient to initiate, sustain or terminate an interaction. Cues are a significant component of any interaction. Cues were seen to emanate from the patient, the nurse, technology at the bedside, relatives and other staff at the bedside. Three types of cues were identified in this research. These are *initiating cues, sustaining cues* and *terminating cues.* Initiating cues have been explained in the section on *embarking* in Chapter four. *Sustaining cues* and *terminating cues* will be explained below.

Sustaining Cues

These are cues that help maintain the interaction between a nurse and a patient after the interaction has been initiated. For example a nurse responding to the call bell is responding to an initiating cue. When the nurse goes to the bedside and the patient asks for the need to be met, this is then the sustaining cue for the nurse to continue the interaction. The nurse then responds to the patient depending on the cue presenting itself at that particular point in time.

Terminating Cues

These are cues that lead to termination of the interaction between the nurse and the patient. For example, a patient thanking the nurse or the nurse completing a procedure is a terminating cue for that particular interaction. The terminating cue had an air of finality about it, which was picked up and to which nurses and patients responded.

Cues are included as an intervening condition because the cue that presented itself during a nurse-patient interaction had the potential of altering the process of interaction in the presence of technology. This occurred due to the fact that nurses and patients picked up, ignored or missed cues that presented themselves during the interaction. In the following example the nurse goes to the bedside with the initiating cue of the knowledge of routines. She goes to the bedside to monitor the patient's vital signs.

> *(Obs#3) The nurse puts the thermometer in the patient's mouth without an explanation. She then asks the patient a question (sustaining cue). The patient tries to say something with the thermometer still in his mouth (patient's response to the cue). The nurse starts clearing away the bedside at this time, like putting away the walking stick and the weighing scale (ignored sustaining cue). She then takes out the thermometer from the patient's mouth and documents the reading. The patient thanked the nurse (terminating cue). The nurse walked away.*

Many more examples as described above were seen in this study. If the nurse had not asked the patient the question, the patient would most likely not have said anything or if the nurse had waited after completing the procedure the interaction would probably have continued. Following are some more of similar types of examples that explain this concept.

> *(Obs1#1b) Another nurse went in to check the patient's vital signs. The patient started talking about her condition and her various nick names for the condition (sustaining cue). The nurse was checking the blood pressure (missed cue). Suddenly she interrupted the conversation and asked the patient, "do you feel dizzy?" (sustaining cue). The patient said, "yes a little bit, why?" (sustaining cue). The nurse said, "because your blood pressure is a little low" (sustaining cue). The patient said, "I'd rather have it a little low" (sustaining cue). The nurse documented the reading and said, "alright then" (terminating cue) and left the room.*

(Obs3#2d) A nurse went to the patient's bedside with some dressing equipment. The patient was talking to another patient in the room. The nurse said, "could you come back to bed?" (sustaining cue). The patient went back to bed (patient's response). She told him to come on the other side of the bed and helped position him in bed. The patient had had a hip replacement done. She put a pillow in between his legs and asked him not to flex his hip and to turn around (all sustaining cues). The patient did exactly as she said. The nurse did not explain anything to the patient, took the old dressing out, looked at the wound and continued talking with me (researcher). The patient then interrupted her and asked, "how do you think it is looking sister?" (sustaining cue). The nurse said, "oh, I think it is looking quite good. I don't think I'll put a dressing on it, maybe some opsite spray". The nurse put some spray on the wound, repositioned the patient and went to do up his pants when the patient said, "you can leave now" (terminating cue). The nurse left the bedside.

The examples above indicate that had it not been for the cues during the interaction, the course of interaction would have taken any direction causing a variation in the process of interaction. Not only responding to the cue but also ignoring and missing cues can cause the nurse to navigate the interaction in another direction. Cues can be ignored or missed when nurses are busy with completion of tasks. As there is no response to the cue, the interaction is navigated in a direction different to that of the direction an interaction would take if there were a response to the cue.

CONCLUSION

The intervening conditions that affected the process of interaction have been elaborated on above. Some of these conditions are linked to the causal conditions of nurses *being stymied* in their person-centered interactions in the presence of technology. The causal conditions, as mentioned in chapter three, were *technology awareness* and *technology prominence*. Technology prominence was caused by the patient's condition and nurses available to nurse. These led to time constraints and hence technology prominence. The examples given above differentiate between the

conditions that cause the nurse to be stymied and conditions that alter the process of interaction between the nurse and the patient in the presence of technology.

PERSONAL NOTES

Differentiating between the two proved to be an onerous task. This task was overcome only by constantly comparing the conditions and the circumstances surrounding the conditions. Initially it was thought that all the intervening conditions were causal conditions. But when all the intervening conditions did not answer the question of how the core problem was affected, it was evident that the intervening conditions did not relate directly to the core problem but that they caused the variations in the core process.

The next challenge was where the intervening conditions should be placed in relation to other chapters of the thesis. An attempt was made to explain the intervening conditions at the beginning of the chapter on the core process. This meant that the core process would be alluded to but could not be explained in detail and the meaning of the intervening conditions was lost. It was then decided that the intervening conditions should be presented in a separate chapter after the chapter on the core process. The rationale for this was that having explained the core problem and the core process and having referred to the intervening conditions, explanation of these in relation to the alteration of the process would be easier. The other main aspect was that this chapter seemed to fit in well after the chapter on the core process.

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Course of Interaction

CHAPTER SIX

THEORY OF *NAVIGATING THE COURSE OF INTERACTION*

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INTRODUCTION

This chapter describes a substantive theory of nurses *navigating the course of interaction* in the presence of technology. The theory provides a model for understanding how nurses interact with patients when *being stymied in the person-centered interactions in the presence of technology* under conditions of *technology prominence* and *technology awareness*. A substantive theory is one that is evolved from researching a phenomenon in "one particular situational context" (Strauss & Corbin, 1990, p. 174). In other words, substantive theory is developed for an area of inquiry (Strauss, 1987). Examples of these might include, patient care, therapeutic touch etc. (Streubert & Carpenter, 1995). An advantage of developing substantive theories according to Glaser and Strauss (1967) is that these theories aid in the development of new formal theories and help with reformulating new ones. These authors further add that comparing different types of groups within the same phenomenon can increase the scope of substantive theories.

With regards to this study, the theory developed is substantive because the research centered on the phenomenon of nurse-patient interaction. This theory however, has a wide scope because different groups of informants and different field areas for observations of the same phenomenon were used to collect data. The data were collected and compared simultaneously in keeping with grounded theory methodology, hence the theory of interaction can be applicable to all areas of nursing utilised in this study. The substantive theory of nurses *navigating the course of interaction* is described below.

RESEARCH OVERVIEW

The central focus of this research was to develop a substantive theory that would explain the process of nurse-patient interaction in the presence of technology. It sought to identify the articulated problem from the nurses' perspective in interacting with patients within a technological context and to discover how nurses dealt with this problem.

Using grounded theory approaches, the core problem that nurses encountered was identified as their *being stymied in person-centered interactions in the presence of technology* under conditions of *technology prominence* (caused by time constraints due to nurses available and varying patient's condition) and *technology awareness*. By applying levels of coding, analysis and interpretation, it was discovered that nurses dealt with this problem through a core process labelled *navigating the course of interaction*. This core variable was the process of nurses moving through the phases of *embarking on the interaction, steering and veering the interaction* and *disembarking from the interaction*. A sub-process of *navigating* became evident while explaining the actions/interaction of the phase of *steering and veering*. This was labelled *oscillating connections*.

Navigating the course of interaction explained the major actions and behaviours of participants, as well as linking the various pieces of data together. With these characteristics the criteria for being a core variable was met (Glaser & Strauss, 1967; Glaser, 1992). In addition, the process of *navigating the course of interaction* occurred over time and under different conditions, which generated variations in the process and the outcome of the interaction. There were four ways or strategies (*steadying, demurring, coasting* and *maximizing*) distinguished in the process. Each of these ways involved different actions and behaviours, which were affected by the causal and intervening conditions evident in the context and phenomenon under study.

The movement of the nurses in utilising the four strategies was also contingent upon intervening conditions present at the time of interaction. This movement was not

progressive from one strategy to the next but was rather a to and fro movement between strategies. It was therefore, the action/interaction of *oscillating connections*, which was considered to be the crux of this research. This movement was discernible but not fixed and changed depending on circumstances present at the time. With the change in the movement there was also a corresponding shift in the connection between nurse and patient during that particular interaction.

The third phase of the study was when nurses terminated the interaction. This phase was seen as *disembarking*. The point of *disembarking* occurred at the place at which the interaction was terminated. As nurses oscillated between the strategies of *steadying, demurring, coasting* and *maximising*, therefore the point of *disembarking* differed accordingly. *Disembarking* occurred on a continuum ranging from technology-centered interactions to person-centered interactions.

The Building Blocks of Theory Development

The phenomenon under study in this research was the process of nurse-patient interaction in the presence of technology. In the practice of nursing, interaction occurs in many different ways. The question at the centre of this research was to find out how this interaction occurred when technology, a third variable was introduced. Thus the foundation of the building blocks of this substantive theory of nurse/patient interaction are the concepts of nursing care and technology used in the delivery of care. Each of these concepts are viewed as separate building blocks of this substantive theory. The building blocks are then combined within the West Australian nursing settings to present the core problem of and the core process of the substantive theory of nurse-patient interaction in the presence of technology. The contextual conditions which contributed to the core problem were found to include time constraints caused by nurses available to nurse and the varying patient's condition.

Nursing Care

Caring is a concept central to nursing. In turn nurse-patient interaction is a process at the heart of caring (Benner & Wrubel, 1989). Nurse-patient interaction is the vehicle that allows nurses to demonstrate caring and it guides nursing practice (Clarke & Wheeler, 1992). Caring has been defined as a concern for the well being of another and as giving of oneself (Ford, 1981). To nurses this represents doing those "extra things" or "showing interest in patients" (Henry, 1975). From this viewpoint caring can be seen as a two dimensional concept consisting of nursing and tasks (Brown, 1982). Just as a sculptor or an artist creates images of art so too are nurses privileged and possess the skills to shape an interaction into something creative. This is what places nurses in such a unique and privileged position.

Relating to people in a human way in the caring context is central to nursing practice. As Taylor (1994, p. 8) states, "the meaning of nursing is embodied in nurses and patients and it is manifested by them, as they interact daily together". To nurse is to be closely involved with people who need care. In such a situation nurses in hospitals assume a unique position. Through their special knowledge and skills nurses get to know their patients as individuals, as sick or injured people. They also get to know how patients respond to their illness and hospitalisation and to the care given to them. In such a close proximity with another human being in a caring environment, nurses can taste the joy and satisfaction of nursing. At the same time nurses can "begin to appreciate their potential for understanding interpersonal relationships ... [and] come to understand themselves as humans who share commonalties with people in their care (Taylor, 1994, p. 3). Herein lies a manifestation of nursing care. It is an awareness of having an ability to help patients who have entrusted themselves to be cared for, it involves having a genuine concern of "being there" in those moments of need.

Nurses as members of the health care team are constantly at the patient's bedside. They have the unique opportunity to delve into the patient's background and sift through information that can be used to enhance interactions with the patients. Nurses therefore,

add the human touch to an interaction by divulging information from their own background, placing the personal self into the interaction and blending these into a pure clinical focus of their interactions. Jourard (1971) supports this concept and maintains that nurses have the ability to facilitate a patient's negative reaction to their illness to a positive outlook. Nurses above all else, can minimize the pain of procedures by focusing on the human element, even at times the lighter side of life. By undertaking these strategies nurses can create nursing into an "art" and not merely a science. By a blend of art and science of nursing, interactions can demonstrate holistic care. Questions however arise whether holism is possible in today's nursing context, a context that is not just nursing but one that is being inundated with technological advances.

The context of nursing today has an ever-increasing technological presence. Attending technology can be considered to be the science of nursing. How nurses interact with patients in this technological presence was the quest of this research. Blending high technology with humanism is the challenge for present day nurses. Some nurses in this study tried to achieve this balance by utilising strategies that attempted to deal with the adversity of being stymied in their interactions. The benefits and disadvantages of technology therefore, need to be examined in order to portray the impact of technology on nurse-patient interactions. This brings in the next building block of this study's substantive theory.

Technology in Patient Care

The introduction of technology was supposed to be a factor that enhances nurses' work. This was intended to reduce the workload and increase opportunities for nurses' to meet patients' humanistic needs. Wilkinson (1992) concurs with this viewpoint when she states that technology relieves nurses of work such as observations linked to infusions. This in turn reduces patient disturbance, provides accurate measurements and allows nurses to make decisions more rapidly. What then is the down side on this advantageous addition to nursing practice?

Sinclair (1988) tends to see perhaps an over reliance on technology and cautions that nurses may trust the monitor's readings rather than their own assessment skills. In a similar vein Wilkinson (1992) warns that "technology is only as good as those who use it" and that the risks of iatrogenic illnesses, over dependence on technology and potential harm to the patient are an ever-present danger. Halm and Alpen (1993) state that technology has the potential of being physically and psychologically harmful to patients and family members. Another issue related to technology was the fact that technology in critical care areas can very easily be viewed as extensions of patients (Cooper, 1994). This is mainly due to the condition of the patients and their unresponsiveness. It is not difficult therefore for nurses to spend more time with machines in this situation than to the care for patients (Howard & Strauss, 1975). Another factor that causes nurses to focus on machines might be the fact that nurses may not be fully au fait with the machine. This lack of knowledge and skills may lead nurses to use the machine as a "ritualistic totem" rather than a clinical tool to obtain physiological information. Nurses can also focus on the technical aspects of practice because these are tangible, identifiable and dominant in the present health care paradigm (Lenihan & Abbey, 1978). One of the dangers of focusing on technological care identified by Krejci (1995) was the danger of focusing on technical care to such an extent that all other humanistic and holistic connections with patients become invisible.

Depersonalisation of patients is another concept related to technology. Ballard (1981) found that staff checking equipment more than the patient was ranked high as a significant stressor by critically ill patients. According to some authors (Carper, 1979; Fry, 1988) technology has the potential to erode the ethic of caring and the art of nursing. Technological devices may impede touching patients (Sinclair, 1988) thus hampering a potent means of interaction. The questions that beg answers are what really occurs when there is this meshing of nursing and technology? How do nurses perform when delivering care in the presence of technology? Is the art of nursing care submerged by an ever-increasing technological presence?

One effect of technology that was observed in this study was that nurses tended to devote time to technology to the detriment of humanistic interaction. This occurred when nurses were seen to be overwhelmed at times with hindrances posed in the *presence of technology* (*technological prominence* and *technological awareness*). Some attempted to meet these hindrances valiantly and were still able to deliver humanistic care. Others seeing the hindrances veered away from the patient. At times the technological influences were major enough to warrant nurses doing only that which was needed to complete nursing routines which were seen as 'minimalistic nursing'. This entailed attending to and recording technology *in situ*. In these cases nurses were observed and they articulated that they had no other choice due to the shortage of staff and subsequent workloads (see technology prominence in chapter three). On the other hand it was also observed that nurses sometimes did have a choice of more humanistic interaction in the presence of technology, but opportunities were not seized. The veering towards technology in fulfillment of that which was absolutely necessary in patient care tended to be an established pattern of nursing care in these Western Australian settings.

Nursing and technology was part of the nursing context in Western Australia just as it is all over the world. It cannot be denied that technological competence is of utmost importance in nursing but delivering technological care in a caring manner is even more important. This would amount to achieving *pragmatic holism*. Nurse patient interaction is the essential ingredient in developing a positive nurse-patient relationship. One of the ways in which nurse-patient relationship can be measured is through nurse- patient interaction. In a nursing context, of which technology is a large part, there is no better way to demonstrate caring and the art of nursing than through interaction with patients. Tosch (1988) found that unconscious patients found the soothing voice of the nurse the most therapeutic nursing action that was experienced during hospitalization. Within such a context of nursing care, Curtin (1990) aptly stated that the sharp edge of the science of technology needs to be tempered with the softness of nurse caring to achieve holistic care. Krejci (1995) postulates that some nurses take a detour from humanistic nursing while caring for patients as did nurses in this study and this detour is the provision of mechanistic care with the aid of technology. Literature acknowledges the

fact that both high technology (science of nursing) and high touch (art of nursing) are essential for people receiving health care (Ashworth, 1990; Brown, 1986; Clifford, 1985; Curtin, 1984; Dyson, 1996; Irurita, Williams & Reeves, 1994; Krejci, 1995; Lenihan & Abbey, 1978; Naisbitt, 1982). Viewed in this light the combination of the two building blocks of nursing care (the art of nursing) with technology (the science of nursing) are the contributors to nurse-patient interactions. The nature of this interaction forms a window of practice (see figure 14 below). Through this window we gauge the quality of care we deliver in the presence of technology.

Figure 14:   The Synthesis of Nursing Care And Technology
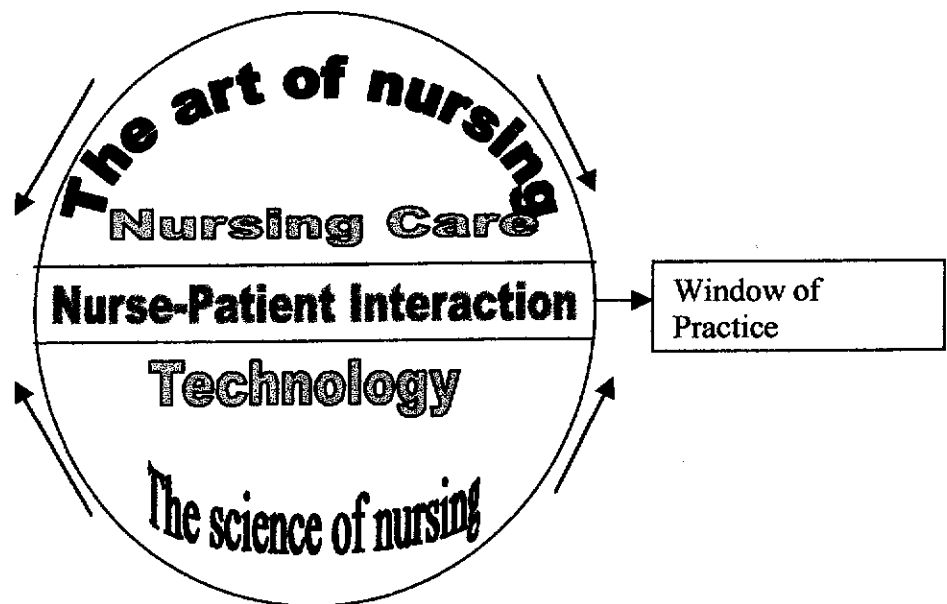
Nurse patient interaction can be observed through the window of practice

In this study, a shared problem emerged when nursing and technology came together in the context of Western Australian nursing. This problem did not occur because of the combination of nursing and technology *per se* but data revealed that it was within the context of the phenomenon of nurse patient interaction in the presence of technology. These contextual conditions were those of *technology prominence* (caused by time constraints) and *technology awareness*. The context was also made up of intervening conditions such as the *nurse as a person, patient as a person* and other associated

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subcategories (see chapter five on Intervening conditions). These were seen as the contributors to the shared problem of *being stymied*. The shared problem faced by nurses and the ensuing process of dealing with this problem now leads to the additional building blocks that further developed the substantive theory.

The Shared Problem Encountered by Nurses

As explained above it was not the mere mix of nursing and technology that posed the problem for nurses of *being stymied* in their interaction. This problem arose out of the fact that certain conditions present in the context of nursing in Western Australia that tended to exacerbate the disadvantages of technology. All the contextual conditions were related to the presence of technology and were divided into two major categories that were *technology awareness* and *technology prominence*. Together these two categories were referred to as *hindrances*. These contextual conditions were factors such as the patient's deteriorating physical condition, the nurse patient ratio on the ward, the employment of temporary nursing staff and the policies of areas of nursing included in the study (see chapter three on core problem). These conditions led to time constraints as a consequence of which nurses bestowed on technology a prominence. This, in a milieu of intervening conditions detracted nurses from dealing with patients humanistically.

The other causal condition that led nurses to be stymied in their interaction of patients was a constant awareness of technology. This was both a conscious and an unconscious awareness. Ironically, in this study, an awareness of technology led nurses to the patients' bedsides and encouraged them to stay with patients longer or to visit the patient more frequently. At the same time, *technology awareness* magnetized nurses towards technology and away from humanistic care. Technology attendance was a priority with all else appearing as secondary.

Both the conditions of *technology prominence* related to time constraints and *technology awareness* associated with being consciously or unconsciously aware of technology

occurred in the presence of technology and hindered nurses' interaction with patients. It became evident in the process of conducting this study that these hindrances detracted nurses from interacting with patients in a human way. The shared problem of nurses has therefore been labeled being stymied in person-centered interactions in the presence of technology (see figure 15 below). This problem, however, did not appear to be exclusive to the Western Australian context.

Figure 15:   Building Blocks of Shared Problem
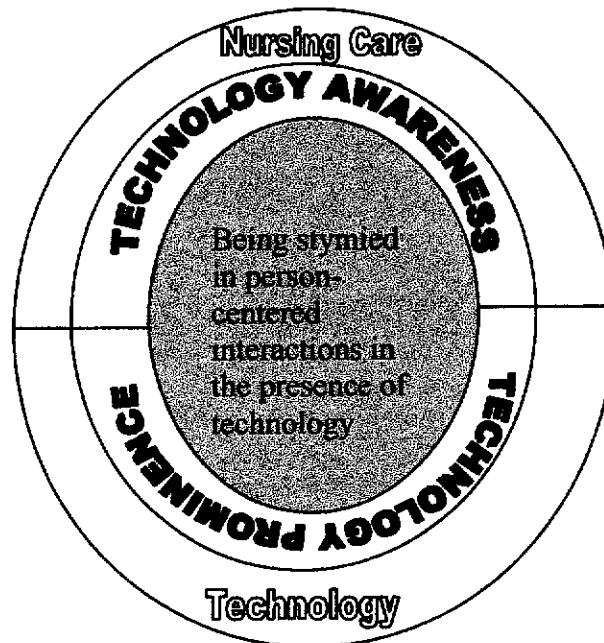
Technology awareness and technology prominence in the presence of technology.

VanCott (1993) suggested that nursing shortages and technical tasks tended to result in ineffective time management. This in turn left nurses less time to interact effectively with patients. Similarly, Jablonski (1994) undertook a study to examine the experience of patients on mechanical ventilation. Patients indicated that because they could not verbally communicate, they felt frustrated when nurses did little to understand their needs. Nurses in my study too stated that 'patients not being able to communicate definitely stymied their interaction'. Some nurses felt that the patient's inability to respond prevented them from having a two-way humanistic interaction. Others stated that they were tired of talking to themselves all day. Patients in Jablonski's (1994) study also indicated that nurses seemed to be very aware of the technology connected to

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patient rather than to the patients themselves. In a nursing home environment, it would be expected that with a slower pace schedule nurses would be able to interact more with their elderly clients. Gibb and O'Brien (1990) however found that nursing practice was constructed around schedules and routines and this emphasis on routines impeded nurse-resident relationship. In a study that dealt more directly with technology from the patients' perspective, Riemen (1986) found that nurses had become so attuned to technology at the bedside that the patient connected to the technology was of secondary concern. This was found to be the case in some instances in this study when nurses utilized the strategy of *demurring*. There were other nurses however, who tried to overcome the hindrances posed in the *presence of technology* by conducting *maximizing* interactions with patients (see chapter four on core process).

From another viewpoint, Owens and Batchelor (1996) and Williams (1996) found that the workload of a nurse impacted on the length of time that they could spend with each patient. Horrendous workloads in the midst of nursing shortages led nurses in this study to feel frustrated. Forrest (1989) revealed similar findings of factors that impinged on nursing interaction. These included the nurse's background, feelings and responses to patients, patients responses to nurses and the frustrations experienced at work. These findings were similar to intervening conditions of this study such as the nurse as a person, patient as a person and patients' response.

Researchers identified other factors that impacted on nurse-patient interaction. For example, Forrest (1989) found that nurses tended to focus on routines and tasks when caring for "difficult" patients. Patient participants in a study by Harrison and Cameron-Traub (1994) identified that nurses were constantly busy and had no time to talk. A similar finding emerged in this study that showed nurses tended to focus on technological aspects of care when time was at a premium or when they had to deal with a "difficult" patient or one whose condition was deteriorating or when they were not in a mood to interact. On closer examination of the observation data, however, it was found that nurses did not always effectively utilize the time available to them. Wells (1980) and Stockwell (1972) found that nurses spent a majority of time available on non-

nursing duties rather than personal time with patients. This was because talking to patients was not a priority for nurses. Cooper (1993, 1994) provided another insight into the impact of technology on nurse-patient interaction. Here technology represented an obstacle because it detracted the attention of the nurse away from the patient. This insight is similar to the concept of being stymied in person-centered interactions in the presence of technology identified in this study.

In spite of being stymied by the factors stated above, the nature of nursing is such that care continues. In attempting to deal with the problem of being stymied nurses utilized the process of *navigating the course of interaction*. Thus the next major concept or building block of the substantive theory is introduced.

Figure 16: *Navigating the Course of Interaction*
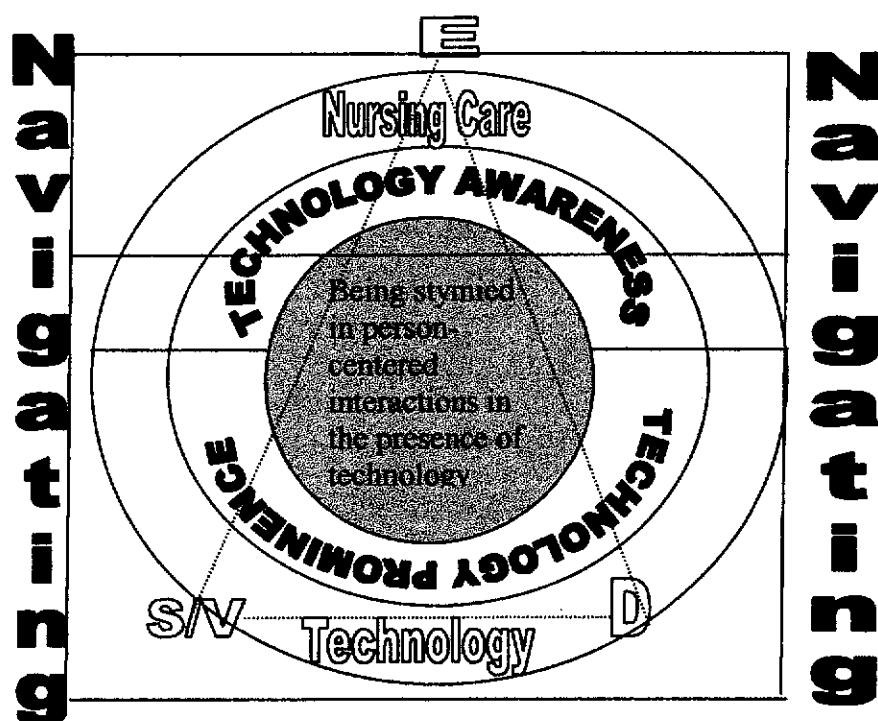
Navigating the course of interaction in the midst of being stymied in person-centered interactions in the presence of technology. The strategies of *navigating* the interaction course were Embarking (E), Steering and Veering (S/V) and Disembarking (D).

When nurses were faced with the problem of being stymied there was an attempt on the part of the nurses to deal with this problem. A choice was made to venture on the path of *navigating the course of interaction.* The venturing out or *embarking* was the first step towards *navigating the course of interaction,* which was made up of three phases. These three phases were *embarking steering and veering and disembarking* (see figure 16 above). *Embarking* could be considered to be a temporal condition because this was when nurses set out on the journey of interaction. *Embarking* was usually in response to an initiating cue that started the interaction. When nurses embarked the baggage they carried with them also tended to influence the interaction. This baggage was in terms of the knowledge of the patient and emotions of the nurse at the time of *embarking.* Baggage that affected a nurse's interaction has been alluded to by Forrest (1989) and Tulloch (1995) who stated that nurses' feelings and the acquired knowledge of the patient could influence the interaction. This has been explained in chapter four on the core process and chapter five on intervening conditions.

Whilst *being stymied* on the interaction journey, nurses moved forward by *steering and veering.* *Steering* involved directing the interaction to incorporate the patient in the interaction in the presence of technology and *veering* related to moving away or holding back from inclusion of the patient. *Steering and veering* thus represents a process of action/interaction undertaken by the nurses. *Steering and veering* was evident through four strategies of *steadying, demurring, coasting* and *maximizing* that nurses used in this study. These strategies were undertaken in the presence of certain intervening conditions, the absence of which would change the strategy being used by these nurses. The strategies were labeled according to the views articulated by nurses and patients and the observance of nurse-patient interactions.

The strategy of interacting with the patient with the aim of stabilizing the patient's condition and to prevent deterioration was termed *steadying.* Nurses stabilized a patient's condition by concentrating on life saving technology and dealing with the technical aspects of care in order to save the patient's life. This strategy was utilized in the presence of a deteriorating condition where there was a noticeable lack of time to

conduct humanistic patient interactions. The priority was the use of technology in life saving matters. This finding is supported by Barnett (1972) who found that when nurses were busy stabilizing a patient's life there was not enough time to provide emotional support.

The next strategy used was *demurring* which refers to the nurse hanging back from full participation in interacting with the patient in the presence of technology. Nurses leaned more towards technology than they did towards their patients. Neff and Summers (1992) attribute the adoption of such actions by nurses, to a lack of communication knowledge on the part of the nurse. This however, was not the case in this study. The strategy of *demurring* was utilized when the nurse was not in a mood to interact or when the presence of other staff at the bedside detracted from nurse-patient interaction. This was observed as well as articulated by nurses. When utilizing the strategy of *demurring*, nurses tended to ignore the presence of patients or were abrupt with their patients or in some cases even hurt the patients mentally and/or physically. Some nurses indicated that this kind of behaviour was used with "difficult" patients but *demurring* behaviour was observed or substantiated by patients in this study when the patient did not appear to be "difficult". Such behaviour demonstrated by nurses can be linked to helpful and unhelpful communication described by some authors.

In a study conducted by Thorne (1988) on helpful and unhelpful communication in cancer care, patients indicated that 61.3% of unhelpful communication by nurses was intentional. These patients also revealed that 90.5% of nurse's advice was unhelpful and that 92.5% of the unhelpful instances were associated with a communication style characterized by lack of concern by nurses. Another group of long term ill patients was targeted by researchers such as Müller and Poggenpoel (1996) who conducted a study to explore the patient's perception of interaction with psychiatric nurses. The significant finding of this study was that patients perceived nurses to lack empathy. This leads to the question of what effect this behaviour has on patients. There is a growing body of research, which indicates that a lack of empathy may have harmful effects on patients (Haber, Hoskins, Leach & Sideleau, 1987). Patient informants who participated in the

studies conducted by Jablonski (1994) and Irurita (1993) stated that nurses sometimes physically and verbally abused them. These nurses were seen to be task oriented, focusing on tasks and controlling patients' actions. All of these findings are very similar to the description given by patients in my study in relation to nurses who used *demurring* interactions (see chapter four on core process). To present a bleaker picture of interaction, Baker and Melby (1996) found that discussions by staff in the patient's presence signified a lack of awareness by staff of the impact their conversation had on patients.

The findings also revealed that sometimes nurses did not give patients any explanations despite the sounding of alarms. In relation to response from patients, Solberg and Morse (1991) found that nurses did not respond to infants who were intubated and therefore who could not cry out aloud.

The most commonly used type of interaction in this study was *coasting*. This meant doing just what was required nothing less and nothing more. Nurses interacted verbally only when required, which was a characteristic of *coasting*. Attention in *coasting* was mainly directed to the physical and technical needs of the patient. Such nursing action was labeled 'minimalistic care'. Conditions to portray the paucity of care delivered pertaining to this strategy were both articulated and observed. The conditions consisted of an emphasis on nursing tasks and completion of routines due to an apparent lack of time. Irurita (1993) and Williams (1996) identified similar findings in the same Western Australian context. Nurses expressed a feeling of not being in the mood to interact and the difficulty of not being able to interact with an unconscious patient (see chapter five).

A similar finding was evident through Thorne's (1988) study, which was conducted from the patients' perspective. This researcher found that the majority of interaction conducted by nurses was related to treatment regimens. Several other researchers have found that nurse-patient interaction relates mainly to procedures and the provision of physical care (Wells, 1980; Fielding, 1986; Seers, 1986; VanCott, 1993; Baker & Melby, 1996). These authors also found that nurses' contact with patients was frequently mechanical and most verbal contact was related to physical care or reassuring noises.

Clark (1985) reviewed nurse-patient interaction in a multitude of settings and found that 4% to 14% of a nurse's time was spent in verbal communication and 50% of that was superficial talk. In my study, *Coasting* emerged as the most common interaction strategy used by nurses in the presence of technology.

The final way of interacting in the presence of technology that emerged in this study was *maximizing*. This was defined as making the most of the interaction opportunity presented to the nurse. Even though *being stymied* by various factors, nurses attempted to work within the constraints that caused them to be stymied. This striving against the odds was an attempt to overcome to some extent the stifling influence of hindrances occurring in the *presence of technology*. The main conditions enhancing the use of this strategy were the availability of time and knowing the patient. Knowing specific information about the patient enhanced the nurse's ability to incorporate this information in the care being provided and the interaction being conducted. This however, was only possible if the nurse had the time to pay attention to and include this information in the interaction with the patient.

The benefits of *maximizing* can be seen in a research conducted by Latham (1996). This researcher indicated that even a moderate amount of humanistic caring used by nurses was beneficial to patients. In a similar vein, Halm and Alpen (1993) identified strategies to humanize interactions in a technological environment. These were similar to the strategies used by nurses when using the strategy of *maximizing* in this study. These strategies included, nurses exchanging names, nurses divulging information about themselves, taking time to interact with the patient's family and surrounding the patient with personal belongings. Irurita (1993) found similar results and labeled such care as "soft hand care". Assimacopoulos (1995) described strategies such as staying close to the patient, doing more than one thing at a time and understating technology. All of these ways were evident in this study and were included under strategies of *maximizing*. Experienced nurses suggested that dual interaction while performing a procedure was important to minimize the impact of technology. This was also found in a study conducted by Wells (1980), where nurses spent 75% of their time talking to patients

whilst performing procedures. Conducting dual interaction was a strategy that was observed and articulated by nurses in this study. They indicated that was the best way to effectively use limited time available to them to interact with patients in the presence of technology. Other authors have identified various *maximizing* strategies. For example nurses in Hunt's (1991) study used self-disclosure to encourage patients and relatives to feel at ease and express themselves more freely. Self-disclosure or nurses revealing information about themselves was also seen by patients and nurses in this study to be important to conduct a humanistic interaction (see chapter four on core process). Smith & Sullivan's (1997) study indicated that both nurses and patients agreed on the importance of a combined scientific-humanistic caring approach. Patient informants in a study conducted by Harrison and Cameron-Traub (1994) mentioned that they treasured nurse qualities such as kindness, friendliness, smiling and being humorous because these qualities were seen as morale raisers. These same qualities were identified in my study by both patients and nurses as being important when interacting with patients in the presence of technology.

The four ways that nurses used to interact with their patients when they were stymied in the presence of technology are the further building blocks of the substantive theory. The following is represented in figure 17 where these additional building blocks are combined to the synthesis of nursing care and technology.

Figure 17:   Ways of Interacting In The Presence Of Technology
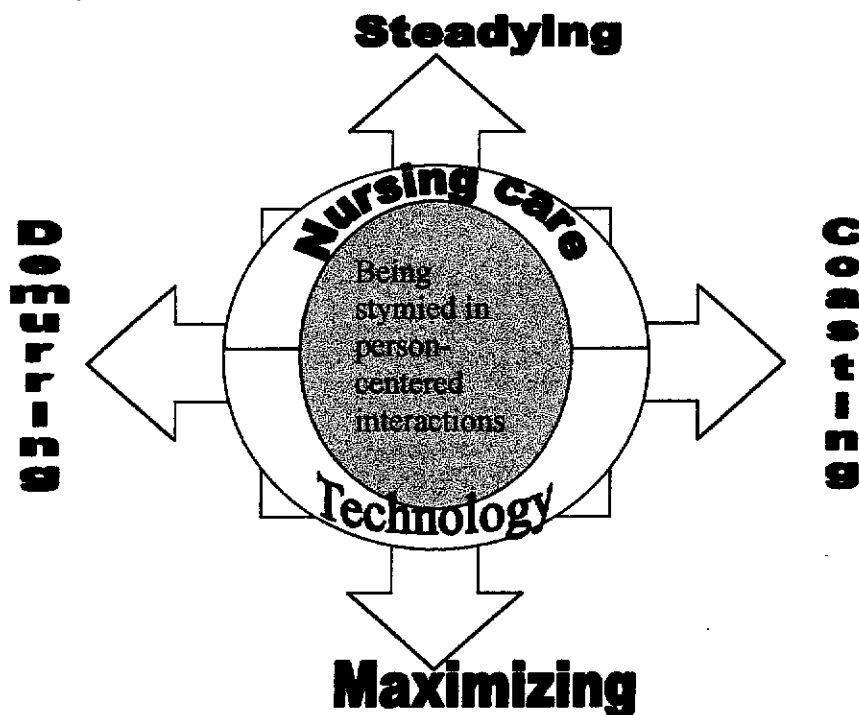
The four ways of interacting depicted above are the interaction strategies identified during the phase of steering and veering.

An exceptional property of the strategies explained above was the movement that occurred between them. This movement was not a linear or progressive movement but rather a shifting, fleeting movement from one strategy to another. Due to the nature of the movement and in relation to the notion of humanistic interaction this process was labeled *oscillating connections*.

Oscillating Connections

Oscillating connections was the reaching out of one human being (nurse) to another (patient) and the movement between strategies. This activity was evident between interactions with different patients and within interactions with the same patient. The peculiarity of *oscillating connections* was that it was discernable and yet not fixed. A property of *oscillating connections* was not just the movement but the type of affinity that nurses developed between nurses and patients during that particular interaction. Depending on the oscillation of the movement from one strategy to the next, the

connection between a patient and a nurse who was conducting a *steadying* interaction was a very tenuous one as compared to the connection between a patient and a nurse who was conducting a *maximizing* interaction. Movement, fleeting or pausing occurred until the interaction terminated and the nurse disembarked from the interaction. A portrayal of such movement was found by Gibb and O'Brien (1990) in the interaction of nurses and residents. The interaction seemed to range from dialogue related to nursing procedures to a mutual social interchange.

Krejci (1995) also commenting on nurse-patient connecting, indicated that the connections were often unarticulated, unacknowledged and invisible. The author further contends that it is these connections that enhance the healing process of the patients. In Krejci's study the connections between nurses and patients are referred to as nursing's "little secret". It is that "special" something occurring between two human beings in a caring environment. Similarly, Estabrooks and Morse (1992) have explained the concept of connecting in their research on a theory of touch. Connecting is described as a phase characterized by reciprocity. This is also the process whereby the nurse demonstrates caring for the patient. This concept is further developed by Hagerty, Lynch-Sauer, Patusky and Bouwsema (1993) who have explained connectedness and disconnectedness in their explanation of the theory on human relatedness. They contend that connectedness occurs when a person is involved with another being and this involvement brings about a sense of comfort, well-being and anxiety reduction. Disconnectedness is indicated to be the opposite of connectedness. These appear to be two extremes of the one concept of connecting. All these explanations of connections imply that the connection is always positive. In this research connecting is a term used to depict a bonding between nurses and patients that could be strong but at the same time very tenuous. The oscillation between this strong connection and the tenuous one in the course of interaction is the crux of this research and explains the type of interaction nurses have with patients in the presence of technology. These building blocks placed together in the paradigm (see figure 18 below) explicate the development of the substantive theory of nurse-patient interaction in the presence of technology.

Figure 18: *Oscillating connections*
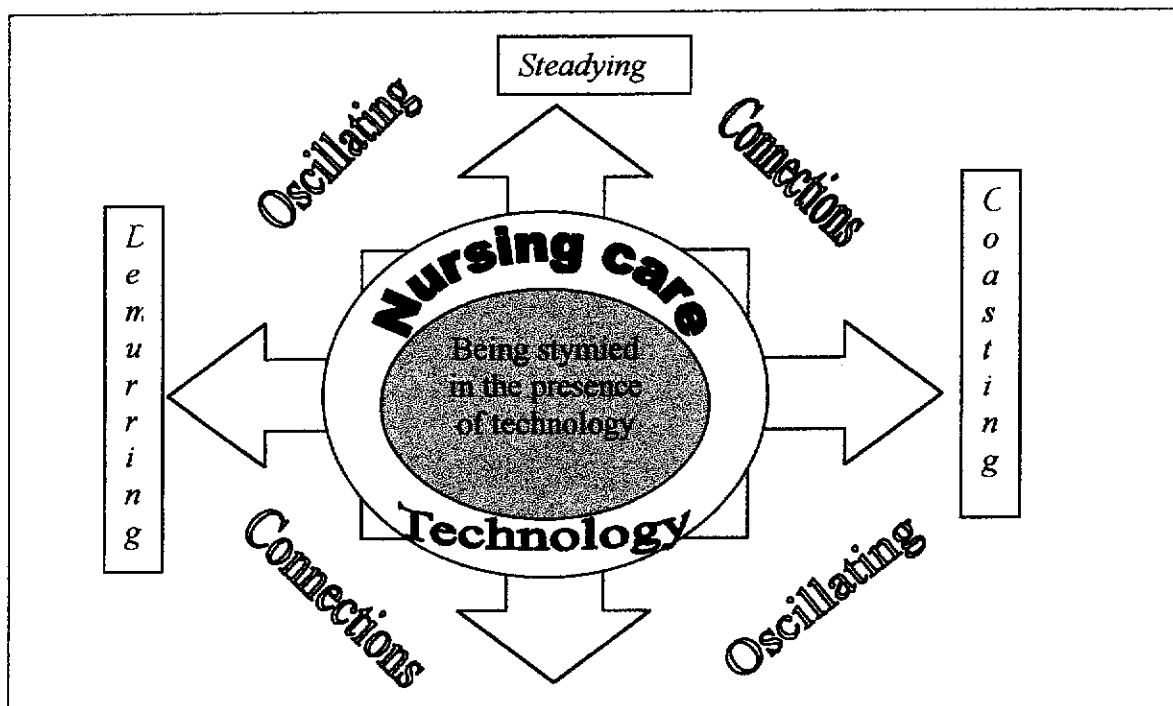
Sub-process of *navigating the course of interaction* is *oscillating connections*

Osterman and Schwartz-Barcott (1996) have explained variations of the concept of being there in terms of the presence of the nurse. This could be understood and compared to four types of connections between nurses and patients. The four types of presence defined by the authors are presence, partial presence, full presence and transcendent presence. Presence is defined as being physically present in context of another, partial presence is the same except that the focus is on equipment and tasks, full presence is defined as being physically and psychologically present and transcendent presence is defined as being physically, psychologically and holistically present. These types of presence can be compared to *demurring* (presence), *steadying and coasting* (partial presence) and *maximizing* (towards a full presence). The achievement of transcendental presence was not observed in this study. As the ways of interacting with patients differ so do the connections that nurses develop with patients differ and can thus be understood in terms of the nurses' presence as being a fragile connection, fleeting connection and a strong connection.

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The final block needs now to be set in place to complete the substantive theory. This building block is when the interaction terminates or ends. In keeping with the nautical theme of labeling, the final building block is the last phase of *disembarking* from the journey of *navigating* the course of interaction.

Disembarking

Following the different strategies and *oscillating connections* that occurred, the last phase of the process of *navigating* the course of interaction was *disembarking*. The phase of *disembarking* relates to the point at which the interaction is terminated. This is another temporal condition similar to the condition of *embarking*. The interaction was terminated at any point during the strategies of *steering and veering*. Disembarking therefore, as the end of the process of *navigating the course of interaction* occurred at the point of interaction termination.

Although displayed as a theoretical model in separate components, all parts together made up of interacting patterns and linking categories created a dynamic movement of *navigating the course of interaction*. The model aims to enhance nurses' understanding and heightened awareness of their interactions with patients in the presence of technology. It also encourages nurses to comprehend the many ways in which different nurses dealt with the problem of *being stymied*. Nurses in a variety of settings should be able to relate to the strategies of interaction utilized in this study as the circumstances and issues involved appeared to be of global concern. This theoretical model, therefore, will contribute to the ongoing debate of the impact of technology on nursing practice. Currently, the discussion in literature focuses on either the disadvantages or advantages of technology in relation to nursing.

The significant features of the substantive theory of this study are depicted in figure 19 below. Substantive theories can assist nurses to describe and explain every day experiences, to mirror back to nurses in a particular context the process of nursing care delivered when they are confronted with a specific core problem. In the generation of

this substantive theory of nurse-patient interaction in the presence of technology, the fundamental components of grounded theory were used as explained in chapter two as well as throughout the study. Concept formation, concept development, concept modification and integration are integral to the nature of grounded theory methodology. A concept is a building block of theory. It is an idea or word that describes objects, events, or properties, bringing up a mental image of the phenomenon (Creasia & Parker, 1991).

The initial building blocks of the substantive theory of this study were the concepts of nursing and technology in nursing care. In the past few decades, nursing has undergone significant changes and faced many challenges. Yet, one factor that has remained constant to nursing throughout the ages is the concept of "caring". Caring is central to nursing practice. It is an interpersonal process derived from "curative" factors as they relate to the pivotal concept of caring (Watson, 1989). Combined with this enduring "care" for patients has come a more recent awareness of the role of technology as a possible detractor to the process of caring. This is the combination of the first two building blocks. Nursing and technology marks the beginning of the substantive theory of this study. From this the shared problem emerged within the context of nursing practice in Western Australia. Data analysis revealed that nurses were stymied in their humanistic nurse-patient interactions in the presence of technology.

How then did nurses deal with the shared problem? What was the core process identified from data analysis? What strategies were used by participants when they encountered the problem? The core process identified was seen as *navigating the course of interaction*. This consisted of three phases of *embarking, steering and veering* and *disembarking*. Whilst *embarking* nurses carried with them *knowledge baggage* and *emotional baggage*. Whilst steering and veering there were four strategies used. These were labeled as *steadying, demurring, coasting* and *maximizing*. It was whilst using the four strategies that non-constancy of use was observed. There was a movement from one strategy to another that occurred. This discernable movement was labeled as *oscillating* to represent the 'to and fro' use of strategies. As this study's core problem was that

nurses were stymied in humanistic nurse-patient interactions, the co-concept of *connections* was added to *oscillating*. *Connections* were those human ways nurses interacted with their patients. It was the bonding of one human being to another in the practice of nursing care.

The third and final phase of *navigating the course of interaction* was that of *disembarking*. All journeys come to an end so also the journey of *navigating the course of interaction*. Nurses disembarked at a point where the interaction ceased. The strategy used at the termination of an interaction marked where nurses disembarked on a continuum of person-centered to technology-centered interactions. Thus ends the story line drawn from the portrayal of the substantive theory that was generated in this study of the process of nurse-patient interaction in the presence of technology. Having explained the theory in detail above, I will now attempt to compare this theory with other interaction theories elicited from literature.

Comparison of Other Interaction Theories to the Theory Of Navigating the Course of Interaction

One of the objectives of this research was to compare the theory of nurse-patient interaction in the presence of technology to related theories and research findings. It is appropriate to indicate now that the other theories of interaction do not have the focus of technology. Nevertheless, these theories are relevant to aspects of this study. In the course of conducting a literature review similar specific interaction theories and other research findings of the major categories were found. The following is a comparison between similar findings and my own research on the process of nurse-patient interaction in the presence of technology. A comparison will first be made with other interaction theories and then with similar research on nurse-patient interactions.

Figure 19:   Interaction In The Presence Of Technology
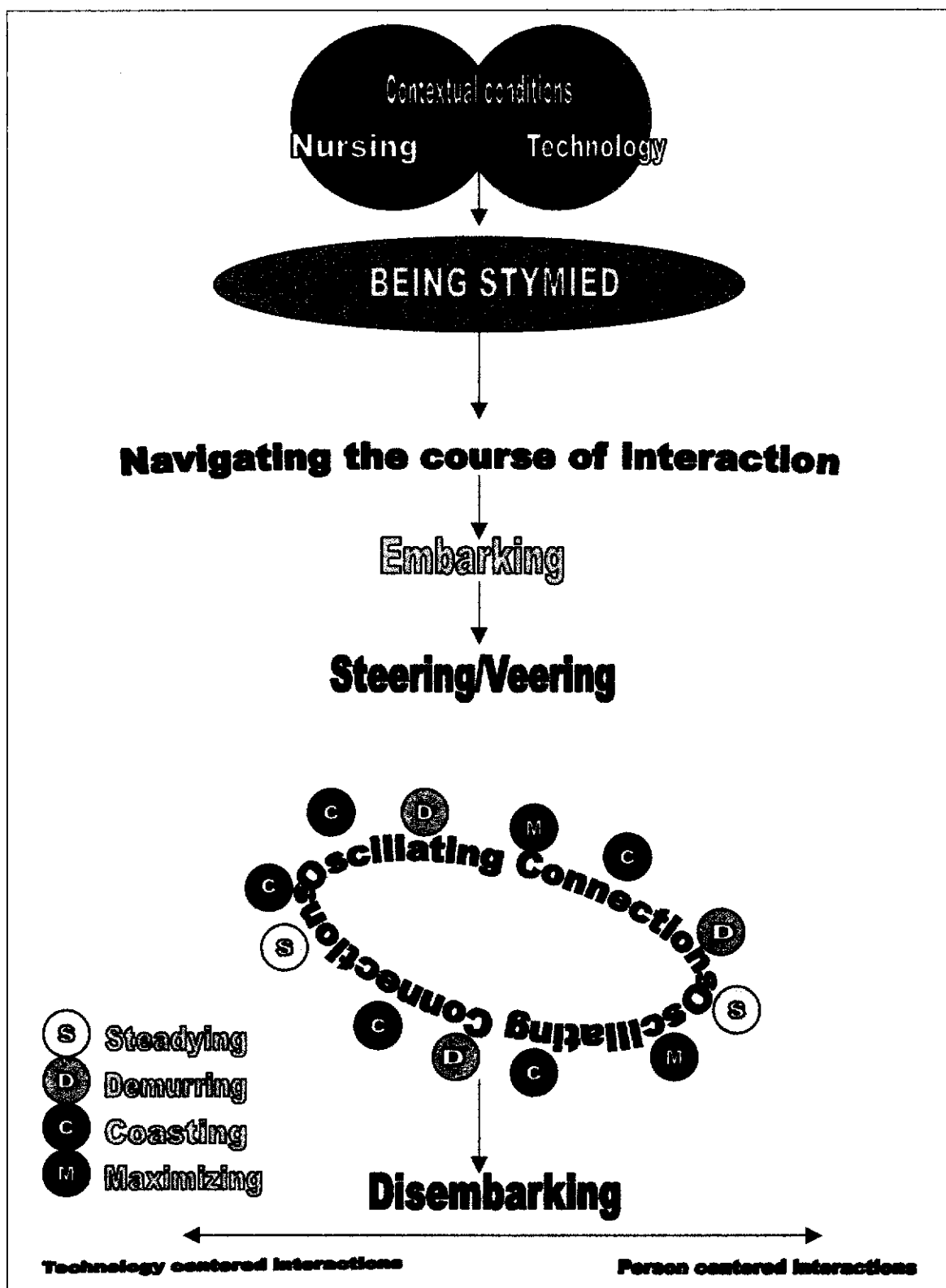
All the components of the theory pictorially depicted. This includes nursing and technology, the shared problem and the process of dealing with the problem.

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Comparison with Other Theories of Interaction

A well-known theory of interaction in nursing is that of Imogene King (1981). King's theory deals with the central questions of interaction between nurses and clients. Questions related to the nature of the process of interaction that led to goal attainment and the significance of mutual goal setting in achieving goals was considered (King 1984). King described the concepts of action, reaction, interaction and transaction. This theory of interaction impinges on the theory of *navigating the course of interaction* as explained in this research. King (1981) states that each individual brings personal knowledge, needs, goals, expectations, perceptions and past experience to every interaction. These are not very different to the intervening conditions and the *embarking* phase identified in this research. When nurses embarked on an interaction it was in response to an initiating cue and they carried with them *knowledge* and/or *emotional baggage*. This can be understood in terms of the reaction, which as defined by King is not observable. The interaction is the steering and veering that occurs at the bedside of the patient and is similar to interaction as described as being directly observable (King, 1981).

One of King's implicit assumptions was that patients want to participate actively in the care process. If this is true then the theory is not applicable to comatose patients (Verity, 1996). Patients actively wanting to participate in the interaction at all times was not observed in this research and sometimes the interaction process was altered because of the patient's unwillingness to respond. One commonality between this theory and King's theory of goal attainment is the basic tenet of symbolic interactionism. Grounded theory, the methodology used in this research is based on the premise of symbolic interactionism. King (1981) derived her theory from symbolic interactionism, as several indications of parallelism between King's theory and symbolic interactionism are evident in the explanation of King's theory.

Another point of comparison is that King's theory dealt with individuals rather than groups of individuals or families (Meleis, 1985). This theory too dealt with individuals

i.e. nurses and patients, but it also considered not just interaction *per se* but the process of nurse-patient interaction in the presence of technology. King conducted a descriptive study to test her theory (King, 1984). The findings indicated that interaction could be verbal or non-verbal and that interaction led to identification of disturbances in the patient's environment. The study also found that achievement of goals was enhanced by perceptions of nurses and patients, communication between the two and setting of mutual goals". These findings can be compared to this research where it was found that interactions were verbal and non-verbal and that communication was essential to humanize interactions in the presence of technology. It was however, found that the setting of mutual goals was not always possible particularly if the patient was admitted to ICU.

Orlando developed her theory of interaction in the 1950s. It was developed through the analysis of 2000 nurse-patient interactions. Orlando's theory is based on the central concerns of the prompts of nursing actions and the properties of dynamic nurse-patient relationships (Orlando, 1961). This theory is limited to immediate exploration and immediate responses to a given situation. It is similar to this research to an extent that this study examined the nurse-patient interaction in the presence of technology. The dynamic nature of Orlando's nurse-patient relationships can be compared to the *oscillating* that occurred in this study of interaction. Orlando theorized that the nurse's reaction was based on observation of patient behaviour and was influenced by perceptions, thoughts and feelings related to the patient's action (Orlando, 1961). In this research this has been described as cues that were picked up at the bedside by both the nurse and the patient. Both parties interpret cues and then the appropriate reaction is demonstrated. Orlando also postulated that nurses delivered automatic nursing care which was evident in the emphasis on routines (Orlando, 1972). This was particularly evident in this research where the focus on routines or minimalistic care was abundantly demonstrated. I would state however, that the routines themselves provided nurses with the cue of visiting the patient's bedside particularly when technology monitoring was concerned. Routines might not be an observable cue but would function as a mental

jogger due to the nurse's knowledge of the routines of the area. This knowledge would lead the nurse to the patient's bedside and would appear to be automatic.

Paterson and Zderad developed the Humanistic Nursing Theory in 1976 (O'Connor, 1993). The central questions of this theory were "how do nurses and patients interact and how can nurses develop the knowledge base for the act of nursing?" (Paterson & Zderad, 1976, p. 15). This theory has concepts required for nurses to conduct humanistic nursing. The foundations of this theory highlight the importance of considering the uniqueness and sameness of individuals and the importance of relating to human beings (O'Connor, 1993). The theorists have used the terms "person-as-nurse and person-as-patient". These terms mean that "person-as-nurse" is the professional nurse who delivers care to the patient who is the person requiring the nursing care. I have also used similar terms in my research but *nurse as a person* is used to explain the characteristics of the *nurse as a person* that influences the interaction. The label of *patient as a person* is used to explain the characteristics of the *patient as a person* that influence the course of interaction.

The humanistic nursing theory espouses the fact that the nurse-patient encounter is influenced by others in the nurses' and patients' lives and ordinary objects (utensils, clothes, furniture) and special objects (life sustaining equipment) (Paterson & Zderad, 1976). This is similar to the intervening conditions identified in this study such as nurse as a person, patient as a person, presence of other staff. Other conditions identified in this study such as emotional baggage and the presence of technology are also referred to by Paterson and Zderad (1988).

The theorists, Paterson and Zderad propose that nursing as an art and a science occurs together in the nursing situation. They hold this notion integral to nursing (O'Connor, 1993). I also propose the same and with the inclusion of technology as a third variable in my study I reiterate that for nursing practice to be holistic both the art of nursing and the science of nursing need to be demonstrated together. This was evident in this research by the *maximizing* strategies that nurses used in spite of *being stymied* in the presence of

technology. Nurses in this Western Australian study in relation to meeting the obligations of the art of nursing with the responsibilities of the science of nursing were found to vacillate between the two thus giving precedence to technology (science of nursing) or to the patient (art of nursing) and occasionally combining the two.

The humanistic nursing theory explains the importance of the "nurse being and nurse doing" and highlights the importance of recognizing a person even when faced with limited time and other hindrances rife in nursing situations. This is related to the concept of the nurse being present both personally and professionally in an interaction (O'Connor, 1993). Informants in the humanistic nursing theory have also identified the imperative need for recognizing patients as persons and nurses sharing information about themselves in order to interact in a human way with patients. This theory on humanistic nursing however does not discuss the requirement of a patient's ability to respond in order for a humanistic interaction to be conducted. Paterson and Zderad (1976) recognize that nursing is inextricably linked to the concepts of being and doing and that one cannot exist without the other.

Brodish (1982) described an interaction model for nursing practice. The author based her theory on the fact that interaction between nurses and patients is essential to nursing. Brodish (1982) identified four types of interactions and these were labeled as diagnostic, therapeutic, educative and supportive. The author theorizes that these types of interactions address four types of patient need namely, health, developmental, emotional and interpersonal. Furthermore Brodish (1982) contends that the intertwining of the types of interaction with the patient needs results in the development of the fabric of nursing practice.

The model proposed by Brodish (1982) appears to be a general nursing model of interaction and can be compared to the strategies of interaction used in this study very broadly. Needs of the patient are similar irrespective of the area of nursing in which the patient is being nursed. Types of interaction used by nurses depend on the patient and the needs demonstrated by the patient particularly in the case of *steadying* the patient's

condition. Brodish's diagnostic and educative interactions can be compared in this study to the *coasting* type of interaction because diagnostic interactions require a sound knowledge of the routines of the area and educative interaction implies informing the patient about procedures and providing information related to the patient's pathological problems. Therapeutic and supportive interactions are akin to the *maximizing* type of interaction demonstrated in this research because these imply a beneficial outcome of the interaction for the patient.

Comparison with Other Research on Nurse-Patient Interaction

Bottorff and Morse (1994) examined verbal and non-verbal behaviors during interactions with cancer patients. The authors considered types of attending to be the structural units of nurse-patient interactions, which can be understood as patterns of nurse behaviour with patients. These authors identified four types of attending. These were "doing more, doing with, doing for and doing tasks". "Doing more" was defined, as nurses doing something beyond what is usually required to complete care. This can be compared to the strategy of *maximizing* as emerged in this study. Although nurses were stymied in the presence of technology, they used every opportunity to interact with the patient. "Doing with" was evident when the nurse focused equally on the task and the patient and can be compared with the *coasting* strategy utilized in this study. "Doing for" was characterized by the nurse responding to patient requests that were not treatment related. No equivalent strategy was found in the Western Australian study related to "doing for". The nurse focusing on equipment, treatment and getting the job done characterized "doing tasks". Parallels between the types of attending identified by the authors and the ways of interacting that nurses used in this study with patients in the presence of technology that have been explained in the next paragraph.

As technology was introduced as a variable in this research on nurse-patient interaction, it is possible that the types of attending may not completely match the ways of interacting as set out by Bottorff and Morse (1994). Nevertheless, "doing tasks" could be seen to be similar to *demurring* or *steadying* strategies used by nurses in the presence

of technology. An important finding of the study by Bottorff and Morse (1994) was that "the type of attending used by a nurse could change several times during a single interaction stimulated by a patient's behaviour". This was similar to the concept of *oscillating connections* found in this study where nurses changed their strategies of interaction, moving from one to another at various times with different patients or within the same interaction. Cues that were picked up by nurses and other intervening conditions relevant to the phenomenon brought about the movement in this study.

Bottorff and Varcoe (1995) conducted another study to examine and describe patterns of transition from one type or nurse attending to another. The authors identified three patterns of transitions within nurse-patient interactions. These were labeled, "weaving proficiency with presence, sensitive responses and creating openings". The change in the type of attending during a single interaction was identified in the previous study on types of attending (Bottorff & Morse, 1994). The authors labeled these changes in the type of attending as transitions. The sub-process of *oscillating connections* that was identified in this research is similar to the process of transitions. This sub-process was identified and became evident early in this research when it was observed that nurses moved from one way of interacting to another within the same interaction or with the same patient at a different time. Even though this movement of *oscillating connections* was identified it was considered to be outside the scope of this study to clarify this movement further. Similarities between concepts identified by Bottorff and Varcoe (1995) however were apparent.

The authors stated that nurses simultaneously moved between completing a task and engaging with patients. This was labeled "weaving proficiency and presence". In this study this pattern was identified *as dual interaction* and was seen to be a strategy of *maximizing*. "Sensitive responses" was the next type of transition identified by the authors. Particular types of patient cues initiated this pattern of transition. Cues emerged as an intervening condition in this research and were seen as having the ability to alter the course of the interaction. Cues enabled nurses to move from one way of interacting with the patient to another. "Creating openings" was the next identified type of

transition and was characterized by nurses creating openings for patients to express their concerns or to obtain assistance. The authors contend that this pattern of transition was observed prior to the nurse preparing to leave a patient's room. These types of behaviours were also observed in this research when nurses spent more time with patients or offered the patient help before leaving the room. This concept was labeled *offering help* in this research and was seen as a strategy of *maximizing.*

These authors also identified concepts which they termed "missed opportunities" (Bottorff & Varcoe, 1995). In this research these were termed as missed or ignored cues. Ignored cues were considered to be a characteristic of a *demurring* type of interaction where the patient's needs were ignored and the tendency of the nurse was to focus on technology at the bedside. An exciting comparison that can be drawn between these two studies is that nurse-patient interaction is not a linear progressive process but one in which nurses move between strategies of interaction. This non-linear process is also one that occurs irrespective of the area of nursing considered or the amount of technology in that area.

Irurita (1993) conducted a grounded theory study of patient's perceptions of nursing care in the Western Australian setting. The core problem encountered by patients in that study was found to be vulnerability and the process used to deal with this problem was labeled *integrity preserving.* Irurita described three levels of hard-hand care, firm-hand care and soft-hand care as being encompassed in the process of *integrity preserving.* The context of Irurita's (1993) study was the same as the context of this study. The level of hard-hand care is akin to the *demurring* strategy of interaction whilst the levels of firm-hand care and soft-hand care are similar to the concepts of *coasting* and *maximizing* described in this research.

In a similar vein, Williams (1996) conducted a study from the nurses' perspective in the same West Australian setting. Williams found that quality nursing care related to the degree to which physical, psychosocial and extra care needs were met. A similarity between this study and my study was that Williams also identified time constraints as the cause of nurses delivering inconsistent care to patients. The phenomena of the above

mentioned two studies however, was the quality of nursing care whilst this study was undertaken to explain the process of nurse-patient interaction in the presence of technology.

Cooper (1993) conducted a study to identify and categorize the behaviours and interactions that characterize the moral experience of ICU nurses. Data for this research was collected through field observations, formal and informal interviews. The findings of this research relate only to the ICU whereas my study was conducted in various areas of nursing. Cooper found that technology impeded care by alienating not only the patient but also the nurse. Cooper notes that nurses were impeded in their interactions because of their attraction to technology, presence of other staff and the mere presence of technology at the patient's bedside. This is similar to the problem of *being stymied in person-centered interactions* that nurses faced in my study because of similar reasons. Patients were not included in Cooper's study but statements of patients' responses were formed based on observations and nurse interviews. Patients were observed and interviewed in my study and patient data was used to substantiate nurse data. Cooper concludes that "competence and care are necessary aspects of the nursing response. Neither is sufficient alone" (Cooper, 1993, p. 31). This reiterates again the importance of blending the art and science of nursing.

The studies highlighted above were related to nurse-patient interaction and nursing practice. Nurse-patient interaction however, is a manifestation of the relationship that exists between nurses and patients. Taylor (1994) undertook a research to explore the nurse-patient relationship so that the nature and effects of "ordinariness of nursing" could be manifested. Taylor defined "ordinariness" as 'the affinity of humans that allows nurses and patients to acknowledge each other as human' (p. 4). This research was conducted using a phenomenological approach. The major theme identified was that of 'being human'. Eight aspects of this theme were also discovered. These were facilitation, fair play, familiarity, family, favouring, feelings, fun and friendship. Some of the categories identified in my research are comparable to these themes. Nurses in Taylor's study demonstrated certain qualities that are similar to the qualities of nurses in

my study particularly those who conducted *maximizing* types of interaction. Taylor's study, however, did not emphasize interactions such as *demurring* or *coasting* in nurses' everyday work because the purpose of her research was to explore everyday activities of nursing and the human quality required to carry out these activities (Taylor, 1994).

In a similar vein, Hagerty, Lynch-Sauer, Patusky and Bouwsema (1993) developed the theory of human relatedness. These authors found that individuals move through different states of relatedness including connectedness, disconnectedness, parallelism and enmeshment. Connectedness has been defined as the state when a person is actively involved with another person and this involvement leads to a sense of comfort, well-being and anxiety reduction. This state is akin to the strategy of *maximizing* when an attempt is made to develop a strong connection with the patient. Disconnectedness occurred when a person was not actively involved with another person and this therefore led to discomfort, anxiety and lack of sense of well being. Disconnectedness as explained by Hagerty et al. (1993) can be compared to both *demurring* and *steadying* strategies of interaction explained in this study where the connection with the patient is very tenuous. Parallelism is the state when a person's lack of involvement is comfortable and promotes well being. This can be compared to the *coasting* strategy of interaction to a certain extent when nurses did just what was required and interaction was seen to be superficial. Enmeshment is the state when involvement with another person is coupled with anxiety. This state was not observed in this research. As in the case of Bottorff and Morse's (1994) study, the dynamic nature of movement through the states is similar to the movement between the ways of interacting which in this study is labeled *oscillating connections*.

CONCLUSION

This chapter is the one that every one said, "brings the whole thesis together". It is the one in which all linkages are made clear without referring to raw data. I decided to include literature and other similar researches in this chapter rather than have a separate literature review chapter. This was done after consultation with my supervisor so that

explanations could be given and comparisons could be made without losing the essence of the research. The chapter concludes with comparison between other theories on interaction and similar research conducted on nurse-patient interactions. Similarities and differences between this research and other studies have been highlighted.

PERSONAL NOTES

I found this chapter very difficult to write due to the fact that I had this insuppressible urge to plunge head on into the theory and explain it. Following lengthy discussions with my supervisor and endless sleepless nights I finally decided to explain it in the way that it has been explained. The reason for my reluctance to write in this way I suppose can be attributed to the fact that I felt it was explained before albeit from another perspective. I refrained from looking at the whole picture. Once I had decided that this was what I needed to explain it did not take very long to complete. Comparing my findings with the other researchers confirmed that the phenomenon of nurse-patient interaction in the presence of technology was probably more global than I thought possible. Even more exciting however, was discovering how other authors described similar findings such as oscillating connections in their own studies.

CHAPTER SEVEN

CONCLUSION

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INTRODUCTION

Using the grounded theory method the phenomenon of nurse-patient interaction in the presence of technology was described, explored and analysed. This expose was a depiction of the everyday reality of nurses and their interaction with patients in the Western Australian setting. In depth descriptions and explanations portrayed the setting, the context and salient features of nursing practice in terms of nurse-patient interaction in the presence of technology. The core process that emerged from this research is that of *navigating* the course of interaction to deal with the shared problem of *being stymied in person centered interactions in the presence of technology*. The process consisted of three phases of embarking, steering and veering and disembarking. This was affected by certain intervening conditions that had the potential to alter the process of *navigating* the course of interaction.

Nursing practice in terms of nurse-patient interaction in the presence of technology was discernible through extensive observations of nurse-patient interactions in various nursing settings together with in depth formal and informal interviews with nurses and patients. It is hoped that the knowledge unveiled in this research will shed light on the ongoing debate of technology and its impact on nursing practice. In keeping with grounded theory, this study has attempted to dip beneath the surface of mere nurse-patient interaction to seek the shared problem and the ensuing process that nurses use in dealing with this problem in the presence of technology.

This in depth study has revealed the specific reasons why nurses were *stymied in the presence of technology* and the impact it had on nurse-patient interaction. *Technology prominence* and *technology awareness* emerged as two causes of nurses *being stymied* in their person-centered interactions with patients in the presence of technology. Having

embarked on the interaction journey, nurses were found to steer and veer in their interaction either towards the patient or towards technology. *Steering* and *veering* involved using the strategies of *steadying, demurring, coasting* and *maximizing*. As seen in this study however, nurses did not use the same strategy but moved between strategies and varied their bonding or human relationships with their patients. This was labeled *oscillating connections*. Nurses disembarked from the interaction on a continuum that ranged from technology centered interactions to person centered interactions.

The findings of this study are an incentive to broaden the inquiry into nurse patient interaction not only considering the impact of technology but to research whether the process revealed in this study has relevance to the general context of nursing care in Western Australia. This chapter on the conclusion of the study has outlined the implications for nursing and the epilogue of the study suggests answers to some of the questions raised in the prelude to the study. The findings of this research are pertinent to nursing research, nursing practice, nursing education and nursing administration.

IMPLICATIONS FOR NURSING RESEARCH

Even though patients were included in this study as a result of theoretical sampling the information obtained from patients proved to be invaluable in supplementing nurse data. Nevertheless, the study was undertaken from the nurses' perspective. It would be useful to conduct the same study from the patients' perspective and incorporate information from nurses into the study. The emerging theory can then be compared to the theory of *navigating* the course of interaction developed in this research. The topic of nurse-patient interaction has the potential to evolve into a formal theory that explains the process of interaction between nurses and patients in the presence of technology. The formal theory will then be applicable to various contexts and can be used to predict and measure interactional outcomes in the presence of technology.

From the above recommendation, it is suggested that outcome research related to the process of nurse-patient interaction in the presence of technology can be conducted. What is the outcome for patients and nurses when nurses use the process of *navigating* the interaction course in the presence of technology. This research has revealed that patients remembered the care given to them even during past hospitalizations. Outcomes could therefore be measured in terms of patient and nurse satisfaction with the strategies used in the process of *navigating* and the feelings of both parties at the point of disembarkation.

This study has revealed that nurses did not utilize or persist with one strategy of interaction but moved between strategies. This was termed *oscillating connections*. Another interesting potential research suggestion for Australian nurses would be to explore the strategies of transition used in *oscillating connections*. This would be similar to the research of Bottorff and Varcoe (1995) who studied nurses' movement between levels of attending.

An important implication that arises for nursing administrators from this research is to rectify the very real problem of lack of time for the delivery of care and its consequence of a technological focus through minimalistic care. Some of the reasons why nurses did not appear to have time were highlighted in chapter three. Staff patient ratios and the employment of temporary staff appeared to be some of the issues inherent in the problem of lack of time. A question that needs to be further researched is the employment of temporary staff. Is this a band aid solution to a more deep-seated contextual problem? How can this situation be dealt with in the Western Australian setting? What creative means can administrators utilize to ensure that nurses are able to deliver quality care in a technological context?

The next area of research recommended is for clinicians and academics alike. This deals with the utilization of the strategy of *demurring*. Is the utilization of this strategy applicable only in the presence of technology? Literature reveals that the essence of *demurring* is utilized generally in nursing care. This needs to be resolved. We cannot

assume that *demurring* interaction occurs because of nurses *being stymied* by technology. The important question remains. Why do nurses behave in a manner that is hurtful towards patients? My own research showed that *demurring* behaviour was a common occurrence of nurses in their interactions with patients. This was however, within the context of technology and it seemed to affect patients to such a degree that some patients broke down while attempting to explain this behaviour. As a member of a caring profession, I advocate research into the intent of such behaviour. What factors intervene to arouse a strategy of *demurring* to be used? To what extent can the socialization of nurses, particularly the impact of adverse role models, be at the heart of the problem? There is a need to investigate how the current climate of nurse shortage in Western Australia is obliterating the caring heart of nursing.

The above research suggestions are also applicable to nurse academics. For example, is *demurring* taught in Schools of Nursing by default? Can *demurring* be attributed to the basic nursing education of student nurses? Does the nursing curriculum focus on technology and psychomotor skills to an extent that technology is given a greater prominence? How do student nurses learn and internalize the concept of interaction in the undergraduate programs? How are values of nurse-patient interaction reinforced in the clinical field? I remember a student asking me once, "how can I show I care when I am performing a procedure?" How can nursing students be shown how to care? Are interaction skills given the same importance as psychomotor skills or is it taken for granted that students do not need to be taught interaction skills?

EPILOGUE OF THE STUDY

I have finally reached the stage in this thesis when I feel compelled to answer some of the questions that set the scene for the study. In the prelude to the study in Chapter One I asked certain questions. An attempt will be made to answer these questions in light of the findings from my study. I feel I need to do this because these are the questions that are repeatedly asked in nursing literature. To be able to answer the questions I need to reiterate what the questions were.

The questions I asked when commencing writing this thesis were: is the interaction limited to the technology used in care or do nurses also find time to interact with patients? Is their interaction synonymous with that of being a technician or a doctor's assistant or can the nurse preserve the essence of caring in a technological environment? Does the nurse-patient interaction differ with an extensive or less use of technology? Are nurse-patient interactions the same irrespective of the amount and type of technology or are there differences? What are the differences in the conditions and contexts of the nurse-patient interactions in areas with varying use of technology? Do these affect the process of interaction? In today's technological climate does technology influence nurse-patient interaction? If so, is it an aid or hindrance in the delivery of care? Does it prevent nurses from focusing on the patient?

The answers to the above questions are that the findings of this study revealed that interaction with technology were based on certain conditions. At times it was related only to the technology at the bedside. At other times nurses were as good as or better than any technician but there were also times when nurses attempted to preserve the essence of nursing in spite of overwhelming amounts of technology and other stymieing factors at the patients' bedside. This was seen to be possible because nurses used several different types of interaction in the presence of technology. Additionally nurses were not static at one particular type of interaction but they moved between different types of interaction depending on the conditions present at that time

The surprising finding of this research was that no matter in which nursing setting nurse-patient interaction occurred, the process of interaction remained the same. A nurse manager of an ICU said to me towards the end of data collection, "I expect the interaction in the ICU to be quite different to an interaction on the medical ward". This nurse had never worked in any other area but the ICU. As data collection and analysis progressed it became evident that the process of interaction was the same irrespective of the amount of technology on the ward. Nurses were faced with the same stymieing factors in their interactions. Nurses embarked, navigated the course of interaction and disembarked from the interaction in the same way. This brings me to the next question

which is the differences in the conditions and contexts of the nurse-patient interactions in areas with varying use of technology and the effect these have on the process of interaction.

Varying conditions in the process of interaction in the presence of technology were identified. The major condition that emerged as an intervening condition was that of patient status (i.e. patient's physical condition). The reason for this appeared to be that the focus of the interaction changed depending on the patient's condition. If the patient's condition was serious, the patient had more technology at the bedside and the focus of the interaction was to stabilize the patient's life by dealing with and concentrating on the technology. *Other conditions such as the nurse as person, presence of staff at the bedside, time available to conduct interactions, sleeping patient, patient as person, patient's responsiveness, patient's age* and *cues* also emerged as significant contributors to vary the process of interaction in the presence of technology. These were general conditions that were present irrespective of the area of nursing included in the study.

In today's technological climate does technology influence nurse-patient interaction? If so, is it an aid or hindrance in the delivery of care? Technology in this study did appear to influence nurse-patient interaction with the presence of technology at the patient's bedside, however, there appeared to be a paradoxical influence. For example, it was observed that nurses visited patients with more technology more frequently thus providing nurses with greater interaction opportunities. Patients, however, with more technology were mostly unable to interact because of the seriousness of their condition. When the patient's condition improved the use of the technology decreased. The patient was now more physically capable of interacting with the nurse but the nurse having less technology to attend to visited the patient less frequently. This reduced interaction opportunities. There were some nurses however, who maximized the opportunities, which were presented to them irrespective of the circumstance at a given time.

Table 7: **Summary of Questions Asked In Literature And Answers That Emerged From This Research.**

QUESTIONS FROM LITERATURE	ANSWERS FROM RESEARCH
Is nurse-patient interaction in the presence of technology mainly technology centered or can the nurse preserve the essence of caring in a technological environment?	*This research indicated that nurse-patient interaction in the presence of technology was dependent on many factors. Nurses oscillated between different strategies of interaction in the presence of technology.*
Does the nurse-patient interaction differ with an extensive or less use of technology?	*The surprising finding of this research was that irrespective of the amount of technology, the process of nurse-patient interaction remained the same.*
What are the differences in the conditions and contexts of the nurse-patient interactions in areas with varying use of technology?	*Conditions that varied the process of nurse-patient interaction in the presence of technology were identified in this research.*
In today's technological climate does technology influence nurse-patient interaction? If so, is it an aid or hindrance in the delivery of care?	*Technology did appear to influence nurse-patient interaction. The influence however, appeared to be paradoxical. The presence of technology at the patient's bedside appeared to lead to the paradox.*

The above table depicts the most commonly asked questions in relation to nursing practice and technology and the answers that emerged in relation to those questions in this research.

Some patients in this study expressed an understanding of the problems that caused nurses to conduct limited interactions with them, particularly in the situation with the lack of time. This was however, not the only reason that caused nurses to be stymied in their interaction with patients. Nurses' efforts to interact with patients in the face of adversity did not go unacknowledged. Patients have stated that nurses' investing some of their time to interact with them was refreshing. They commented on how it made

them feel human in totally alien situations and at times when they felt most vulnerable. Some patients also spoke about the value of nurse-patient interaction in terms of achieving an outcome of satisfaction with the care they received. These brief patient comments shed light on the value and importance of nurse-patient interaction, particularly in a hospital environment with the increasing presence of technology. As in any client-provider relationship, it is how people interact with one another that is ultimately important. It gives an indication of satisfaction with the service provided. It is the window to the delivery of nursing care. One very important finding emerging from this research is that knowing an individual, be it patient or nurse, is extremely important in making an interaction individualistic, thus balancing a mechanistic environment with a humanistic approach. I would like to conclude this thesis using the following quote from one of my patient informants. She said,

> *Caring to me means just looking after the person and treating them as a human being. I expect them to be pleasant and kind and feel obliged to come in a patient's room looking cheerful or pretend you are anyway.*

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APPENDIX 1

ROUNDS OF INTERVIEW GUIDES & OBSERVATION SCHEDULES

INTERVIEW GUIDE (NURSES)

I wish to ask you a number of questions exploring your views on nurse-patient interaction in your area of work.

1. What influences your interaction with patients in your area of work?

2. What factors help you in your interaction with patients?

3. What factors impede your interaction with patients?

4. What sort of equipment do you have in your work area? How do you incorporate this equipment in your nursing care?

5. How does the equipment affect your interaction with patients?

6. How does the equipment affect patients interaction with you?

These questions will form the broad outline of the semi-structured interviews. The responses to these questions will be explored in depth with cues being followed and issues thoroughly explored. The participants will be asked to cite examples where needed.

INTERVIEW GUIDE (NURSES)

1.   What are important aspects of caring for a patient from your perspective?

2.   How do you decide patients need information and how do they provide it?

3.   What are your priorities wen you care for a critically ill patient?

4.   How do you plan the day, when you go to work? – attention to individual patients.

5.   Why did you want to work in the CCU?

6.   What makes different nurses care differently?

7.   How do you feel about technology in your area? How do you use technology available to you? Do you check anything manually?

8.   What are the different ways in which you communicate with patients?

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INTERVIEW GUIDE (NURSES)

1. On what do nurses base the depth of their answers to patients questions?

2. Ask nurses how they know the patients need something?

3. Why do patients and nurses interact? How do you know you have to interact?

4. How do nurses decide how much to interact with each patient?

5. How do you feel when patients are non-compliant? What do you do?

6. When do you feel patients call you to the bedside?

7. What are some of the problems patients face as a result of hospitalisation?

INTERVIEW GUIDE (NURSES)

1. What do you understand by communication and interaction?

2. How do you interact with the patient in the presence of relatives?

3. How do you decide how much information to give a conscious and unconscious patient? Why do you have to give explanations? What happens when patients don't ask?

4. When do patients ask you something or ring the bell?

5. Why do you feel like a burden on nurses?

6. Has there been any instance when you have called and the nurse hasn't come?

7. When do you know you have to interact?

8. How do you know a patient needs something?

9. What effect does the patients inability to respond have on their interaction?

10. What factors impede your interaction with patients?

11. When do you minimise interaction? When do you enhance it?

12. How do you overcome the problem when the patient does not respond to you? Unconscious patients?

INTERVIEW YOUNGER AND LESS EXPERIENCED NURSES

13. What are some of the advantages and disadvantages of technology? How do you utilise available time?

14. Describe a difficult and easy interaction.

15. What happens when your interaction is impeded (following what impedes your interaction).

16. How does noise affect interaction?

17. What factors affect interaction?

18. On what does the depth of verbal interaction depend?

19. What are some of the problems patients face as a result of hospitalisation?

20. When and why do nurses use humour?

21. What are the types of interaction you use?

22. How do you know which type of interaction to use with which patient?

23. With what speed to you respond to patients? What influences this speed?

24. When do nurses think patients call them to the bedside?

25. Choose to Interact!

26. Why do nurses choose to interact differently with different patients?

27. I have noticed nurses interacting differently even with the same patient. What causes this?

5/2/96

INTERVIEW GUIDE (NURSES)

1. What do you mean by communication and interaction?

2. What factors enhance or impede your interaction with patients?

3. How do you know how much to interact with a patient?

4. Why do nurses choose to interact differently with different patients?

5. When and how do patients call you to the bedside? Why are patients reluctant to call nurses at the bedside? When do nurses visit patient's rooms?

6. Describe your interaction with patients in the presence of technology.

7. Following the cue, what initiates the action that you take?

INTERVIEW GUIDE (PATIENTS)

I wish to ask you a number of questions exploring your views on the nursing care and equipment and machinery that was used on you while you were hospitalised.

1. Could you please tell me some of your experiences as a patient? Was the case consistent throughout hospitalisation?

2. As a patient, were any machines or equipment used on or for you? (clarify as needed).

3. What do you feel about the machines and monitors that were used on you? / Taken away from you? Any problems with technology? What does caring mean to you?

4. What did you think of the nursing care when this equipment was being used? Tell me something about the explanations you received as a patient.

5. Do you have any experiences of hospitalisation where less/more equipment/machinery/monitors were used in your care? Was there anything you did not like, how did you seal with it? Attention, how did you get help?

6. What do you think influences nurses interaction with patients.

These questions will form the broad outline of the semi-structured interviews. The responses to these questions will be explored in depth with cues being followed and issues thoroughly explored. The participants will be asked to cite examples of the care.

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INTERVIEW GUIDE (PATIENTS)

1. When would patients wait to ring the bell and why? When would patients call the nurse immediately?

2. Why is there this perception that they are going to be a nuisance to nurses?

3. Why do patients and nurses interact? How do you know what to say?

4. What is it about hospitalisation that makes patients more compliant and less demanding?

5. Why are patients reluctant to ask nurses for help? Why do they feel they should not pressurise nurses?

6. How do patients make 1st contact with nurses if the bell is unavailable?

7. Do you think that nurses with different ages interact differently?

8. What strategies patients use to overcome boredom?

INTERVIEW GUIDE (PATIENTS)

1.   Interaction with the nurses?

2.   When did nurses visit your room?

3.   How did they interact when they came into the room>

4.   How did you feel about their interaction? If not good, what could improve it?

5.   Use of Humour?

INTERVIEW GUIDE (RELATIVES)

1. Can you tell me something about you relative's hospitalisation?

2. How did you feel about the way in which nurses interacted with your relative?

3. Was this interaction consistent in all areas?

4. Why do you think nurses are good/bad?

5. Can you describe the interaction with you relative when there was technology?

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OBSERVATION SCHEDULE

1. Observe ways in which cues are provided to nurses.

2. Observe what happens from the time she comes to the bedside, to the time she leaves the bedside.

3. Under what conditions do nurses initiate interaction with patients?

4. Look for situations in which the patient is forced to comply and where the patient is non-compliant.

5. Watch for other patients call nurses to the bedside.

6. Observe the type of interaction when physical care is being done.

7. Care given by younger and older nurse.

8. Observe the frequency of the nurses visit to the bedside.

9. Compare step down unit with surgical ward with medical ward.

10. Nurses standing around at nurses station.

MODIFIED OBSERVATION GUIDE

1. Look at interactions initiated by nurses, when do nurses visit the bedside without a reason.

2. Conditions when nurses visit the bedside without a reason and there is no interaction.

3. Variations in interactions that are affected by variations in conditions.

4. Pre-interacting phase could be the context of interaction.

5. Intervening conditions vary the properties of interaction.

6. Cues could be part of pre-interaction phase or could be a phase in interaction. Cues could influence properties of interaction properties:

   Type - Presence   → Technology
            - Verbal   → Person
            - Non Verbal   → Routine
            - Quality   Relative
            - Inclusiveness
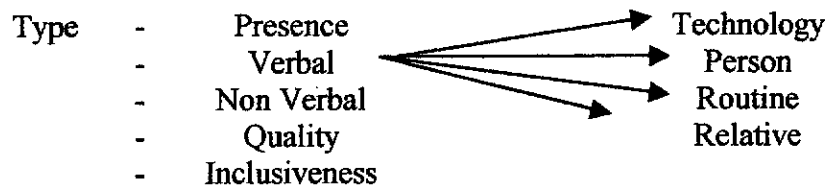
   Link each of these properties back to condition, write hypothesis and then check in data.

7. Property on interaction could be cues ie. It describes the process of interaction.

8. What is an appropriate outcome for each condition and sets of conditions.

9. Study content carefully and look at characteristics that make certain types of interaction okay.

10. Consequence in terms of satisfaction of care (patient & nurse). For nurses it could be Standards of care. Find out most important properties for satisfactory outcome.

    "Presence of nurse being dictated by technology"
    "Technology dominated nature of care"

11. Find conditions influencing this problem – four bedded room.

12. Problem could exist as a range – from when technology is not demanding to when too much technology.

13. Write down effect of presence of nurse and how they feel when there is no presence.

14. The core process will have to do with presence component of interaction. Ie. Appropriately having interaction.

These could be — presence in a room; infrequent, meaningful presence.
— meaningful and appropriate compensation

Process — "Compensating for Technology"
— "Creating a meaningful presence"

The process could have different levels within different contents.

The negative aspects of interaction can be then described in terms of the problem. eg. Not talking while administering iv drug can be a problem in a patient who is able to communicate.

Use of humour on visiting the bedside often can be compensating for technology.

APPENDIX 2

NURSES AND PATIENTS DEMOGRAPHIC INFORMATION

DEMOGRAPHIC DATA (PATIENTS)

Please check the space that most accurately describes your background/situation or enter details as requested.

1)   Sex: 1) Male:----   2) Female:----

2)   Date of Birth: / /

3)   Type of family support:

4)   Total number of previous admissions:

        ----

5)   Length of hospital stay during this hospitalization:

        ----

6)   Type of hospitalization:
        1) --------   Emergency
        2) --------   Booked/Surgical
        3) --------   Booked/Non-surgical.
        4).--------   Other-state.

7)   Diagnosis:

        ----

8)   What wards/units were you nursed on during this hospitalization?

9)   When did you come home from the hospital?

This questionnaire was completed by the investigator during the interview.

DEMOGRAPHIC DATA (NURSES)

Please check the space that most accurately describes your background/situation, or enter details as requested.

1. Sex: 1) Male:----   2) Female:----

2. Date of Birth: / /

3. Type of Organization:
    1)--------   Teaching Hospital
    2)--------   Private Hospital
    3)--------   Nursing Home
    4)--------   Other-state

5. Basic Nurse Education:
    1)--------   Hospital Based Nursing Course
    2)--------   Tertiary Institution

6. Highest level of education completed:
    1)--------   Hospital Certificate
    2)--------   Diploma (College of Nursing)
    3)--------   Bachelor degree (non-nursing)
    4)--------   Bachelor degree (nursing)
    5)--------   Graduate diploma
    6)--------   Masters degree
    7)--------   Doctorate
    8)--------   other-state.

7) What post-basic nursing courses have you completed?
    1)--------   Mid-wifery
    2)--------   Child health
    3)--------   Other-state.

8) Total number of years in nursing:

    ----

9) Present area of work:

    ----

10) For how long have you worked in the present area?

    ----

11) Please state areas you have worked in previously and length of time worked there.

This questionnaire was completed by the investigator during the interview.

APPENDIX 3

CONSENT FORM

CONSENT FORM

PROCESS OF NURSE-PATIENT INTERACTION IN THE PRESENCE OF TECHNOLOGY

My name is Selma Alliex. I am a post graduate student in the School of Nursing at Curtin University. I am doing this study in order to complete my Doctorate of Philosophy in Nursing. The purpose of this research is to develop a theory explaining the process of nurse-patient interaction in the presence of technology.

The study involves nurses working in various areas of nursing and clients discharged from hospitals. Interviews lasting about sixty minutes will be conducted at a mutually agreed upon location and time. Follow-up interviews may be required. Tapes will be erased following transcription (ie:typing the contents of the tape). No names will appear on the transcribed interviews. Extracts of interviews may be used in the research report but you will not be identified in any way. Participation is voluntary and you may withdraw at any time. There are no risks involved with your participation nor will you be disadvantaged by refusing to participate in the study.

If there are any questions or concerns you have regarding this project, please do not hesitate to contact me on 447 0889/351 7117. My supervisors Dr. Audrey Martins and Dr. Vera Irurita can also be contacted on 351 3201 and 351 2191 respectively.

PARTICIPANT'S STATEMENT

I, (print full name)--, have read the above information on the study relating to delivery of nursing care. I know the nature and intent of the study and have had the opportunity to ask questions. I understand where to direct any future questions that I may have. I have received a copy of the consent form. I understand that my participation is voluntary and that I may withdraw at any time without disadvantage.

SIGNED: ------------------------------------   ------------------------------------
                         (INFORMANT)   (RESEARCHER)

DATE:

APPENDIX 4

EXAMPLE OF A CATEGORY AND ITS PROPERTIES: DETERRENTS OF INTERACTION

DETERRENTS TO INTERACTION

These are also evident in both nurse and patient transcripts.

CATEGORY	NURSE		PATIENT	
	Property	Dimension	Property	Dimension
Deterrents to interaction	Patient condition	Awake to coma		
	Consequence	Frustration to ignoring		
	Comm. Probs	Patient probs Nurse probs		
	Knowledge of Patient	Lack of knowing patient	Institutional constraints	Patient load Patient allocations
	Admission status	Tragic to elective		
	Relatives	Presence to absence	Relatives	Presence to absence
	Placement of equipment	All around the bed		
	Other staff	Presence – absence	Other staff	Presence – Absence Familiar – unfamiliar dealing with other patients
	Time	Lack of to abundance	Time	Constraints
	Comfort levels	Discomfort to comfort		

APPENDIX 5

INDICATORS FOR THEORETICAL SAMPLING

28/9/95

N#7

Presence Of Technology Nurses Perspective:

The first few preceding pages deal with the presence of technology from the nurses perspective. Again this can be taken as another aspect of the same category or as a separate category. There are some properties, dimensions, conditions and consequences of the presence of technology for the nurse.

Properties	Dimensions
Type	Cue provider Assisting patient Monitoring patient
Action oriented	Quick vs Slow vs Vigil
Reliance	Too much vs too little
Necessity	Dispensable vs indispensable
Nurse advantage	Cues Lie easier Time saving
Amount	Lot vs little
Consequence	More time to interact/"gas bag"
Condition	Lot → Serious patients Little → recovering patient

I have to ask other nurses what the advantages of technology are and if they save time, ask then what hey utilise available time. Also ask N#7 about "gas bagging"

7/10/95

N#5

Another condition of the presence of technology for the nurse is that depending on the type of technology on the bedside, it takes the nurse away from other patients bedside's eg. If one patient is ventilated and the other is not, the nurse does not have time to interact with the other patient, as she is kept busy with the ventilated patient. This would apply also to the ward where if the nurse has one patient who has technology and another who does not have any technology, then the nurse spends more time with the patient who has none". Ask nurse on ward and observe.

APPENDIX 6

EXAMPLES OF MEMO'S

18/4/96

METHODOLOGICAL MEMO

Major Categories from Patients:

Just as there are categories coming out of nurses transcripts there are certain categories that are coming out from patient transcripts. My hypothesis is that these are related. My purpose in writing this memo is to first tease out the categories from the patient transcripts and then try and relate them to the categories from nurses. I will go through each patient transcript and pick out the categories. I will list them first and then look for properties and dimensions in each.

P#1
High patient satisfaction,
Strategy to compensate

P#2
High Patient satisfaction
Patient dissatisfaction

P#3
High patient satisfaction
Strategy to compensate
Technology focused core 4
Deterrent to interaction – 4
Patient dissatisfaction
Conditions for interaction – 4

P#4
Presence of nurse – 2
Patient dissatisfied
Technology focused case
Deterrent to interaction
High patient satisfaction
Interaction enhancing factor – 1

P#5
High Patient satisfaction

P#6
High patient satisfaction
Presence of the nurse
Forgotten Patient 4
Deterrent to interaction
Patient dissatisfaction
Strategy to compensate
Conditions affecting interaction

P#7
Conditions affecting interaction

Presence of technology
High patient satisfaction
Strategy to compensate
Forgotten Patient

P#8
Lack of attention
High patient satisfaction
Strategy to compensate
Deterrent to interaction
Patient dissatisfaction
Technology focused care
Conditions affecting interaction

P#9
Strategy to compensate
High patient satisfaction
Presence of Technology
Routine focused care
Presence of the nurse
Technology focused care

Patient Dissatisfaction: (Akin to behaviour patients don't like)

This is another category that is becoming evident. I am going to tease this out now.

Category	Property	Dimensions
Patient dissatisfaction	Compliance level	Compliance – non compliance Impatient – Brusque – Gentle – Rough
	Nurses approach	Loud voice – angry – unsmiling – indecisive
	Presence	Immediate – delayed Long – short
	Attention	Routine – technical – patient ignored
	Caring	Clinical – humanistic
	Patients feelings	Nuisance - cared
	Meeting needs	Met – unmet
	Patient forgotten	
	Relatives care	Ignored - cared

Interaction Enhancing Factor:

I m sure I have written a memo on this before but I feel compelled to write another one.

This factor is the number of patients in the room. Other patients (P#6, P#9) have also mentioned this ∴ the more patients in the room the more the nurses presence in the room and ∴ this enhances the patients interaction with the nurses. The other advantages of this is patients use one another's help to get the nurse in the room and usually technology (call bell) is used to craw the attention of the nurse to the bedside. This is also corroborated in the obs.

6/5/96

THEORETICAL MEMO

Story Line   (Nurses Perspective)

I think the story line might have changed slightly. I was convinced that exclusion of the patient was a problem for the nurse but on thinking about it and talking to Vera it does not appear to be so. Vera said that why should exclusion of the patient by a problem for nurses. It is actually a strategy they use to manage another issue. When looking back, it could be the constraint put on nurses by the profession and the institution. But they why don't nurses who don't have those constraints placed on them, why don't they interact in a holistic way? This is a question that begs for an answer. Is it their personality or disinterest ∴ just the constraints is probably part of something larger.

All the nurses data has said that time is a huge problem with them. Seems to me like the phenomenon is one of managing interaction opportunities because the opportunities are there to interact but how the nurses utilise these opportunities is of importance. What can be the issue for nurses in this management? Some will use the opportunity at the bedside to only focus on the technology while others will incorporate the patient in their interaction. What is the issue for nurses? Could be a technical use of interaction opportunities?

High patient satisfaction and strategy to compensate seem to go hand in hand. After teasing these out I will compare with nurses categories. High patient satisfaction has come out in every interview. These will have t be teased out further.

Category	Property	Dimensions
High patient satisfaction	Nurse characterisations	Concern for patient knowledge, caring, skills sharing personal information
	Explanations	Depth of preparatory
	Attention	Individual Spending time Doing things for Immediate Delayed
	Focus of nurse	Patient – technology – equal
	Demeanour/Approach	Serious – Breezy
	Personal touch	Humour
	Presence of nurse	Consistent – Inconsistent (popping in)
	Picking up cues	
	Nurses response	
	Care of relatives	
	Doing job	
	Providing comfort	
	Meeting needs	Technical – emotional
	Problem solving	
	Direction of communication	One way to two way

APPENDIX 7

EXAMPLE OF THE ETHNOGRAPH FORMAT

P#4

This interview was conducted in the   3
patient's home about 4weeks   4
postoperatively The informant was   5
comfortably seated on an armchair.   6
Her leg was in plaster and she had   7
the zimmer frame nearby.   8

R:Okay Mrs T can you tell me   10
   something about your   11
   hospitalization this time?   12

I:Well it is different to having a   14
   baby. At first I didn't feel very   15
   you know having a baby is pretty   16
   emotional sort of (Mmm mmm). This   17
   was nothing emotional I was happy   18
   to have if fixed up (mmm mmm) I   19
   knew it had to be done, you know I   20
   was nervous about the operation I   21
   thought I might be and I didn't   22
   mind anything, didn't feel anxious   23
   about being in there for so long   24
   for quite a while until it was   25
   getting near the end of the three   26
   weeks and I began to realise that I   27
   was doing what everybody does I   28
   suppose, (hmm hmm). I was getting   29
   really, all I had to think about   30
   was when is the next meal or what   31
   are we going to have to eat or even   32
   I didn't have anything to talk   33
   about when I had the visitors,   34
   (hmmm hmmm) and I got anxious about   35
   that and I began to think I am   36
   never going to feel any different   37
   and one of my children was going   38
   overseas and I very much wanted to   39
   be there to see her and I began to   40
   think I am not going to get there   41
   (hmmm hmmm) and so I began to get   42
   very anxious about home and they   43
   kept saying (changing volume and   44
   tone of voice) "Oh you'll be   45
   alright, you'll be okay. We don't   46
   mind we'll get you to the airport   47
   to see her and come back" but I   48
   didn't want to do that and all of a   49
   sudden I wanted to go home. That's   50
   probably it.   51

R:(Hmmm) so you were there for the   53
   three weeks, when did they operate   54
   on you?   55

APPENDIX 8

EXAMPLES OF CODE WORDS IN ETHNOGRAPH

N	CODEWORD	N	CODEWORD	N	CODEWORD	N	CODEWORD
19	STRATINCL	13	PTEXCL	12	NURESP	12	ROUTFOC
10	TECHFOC	10	DETINT	10	VERBCUE	9	PROCTOU
9	PROCFOC	9	PROPINT	8	PROPTOU	8	METHOD
8	PIVIASK	7	PTRESP	7	PRESNUR	7	NIVIASK
7	PREINCUE	7	ASSISTOU	7	MEDICAT	6	INTERSO
6	PPROCUE	6	NPROCUE	6	STRATEXCL	6	VISUACUE
6	DEPTHINT	6	VERBINT	5	CONDINT	5	NURLEAVE
5	COMPLIPREV	5	TIMINT	5	PTCOMPLY	5	PROPRES
5	SUPERINT	5	SUSCUEP	5	PRESTAFF	5	PRESTECH
4	ASSISTINT	4	DUALINT	4	NVERBINT	4	EXPL
4	KNOWPT	3	PIVITELL	3	NIVITELL	3	PHYSHARM
3	AGREE	3	OFFEHELP	3	BALINT	3	PIVI
3	COMFINT	3	NIVINSTRUC	3	SOCIALINT	3	TECHCUE
3	IGNORPT	3	PTDECISION	3	OFFECHOICE	3	INTOPPOR
3	INTERINT	3	NOINT	3	INTECH	2	NURCOMPLY
2	PROPRESP	2	NVINSTRUC	2	NIVISUG	2	OBSFOC
2	IGNORCUE	2	PROMPTING	2	IMMPRES	2	INAPPRPRES
2	IMMRESP	2	COMFTOU	2	BRUSQINT	2	CONCERN
2	SUSCUEN	2	EDUFOC	2	POSTOP	2	QUALINT
2	NCOMPLY	2	NIVI	2	PHYSFOC	2	PTVRESP
2	INICUE	2	ROUTINT	2	ROUTCUE	2	INTINICUE
1	PROPHUMO	1	STDEVKNOW	1	STMANTIM	1	SMOOTINTER
1	ROUTCOU	1	SMOOTHINT	1	TYPTECH	1	VERBRESP
1	TERMICUEP	1	TECHPRES	1	TERMICUE	1	PTFOC
1	PTNOCOMPLY	1	PTDISSATIS	1	PROPVINT	1	PTCOND
1	REPEATINT	1	REQTECHFOC	1	REPEATCUE	1	PVIASK
1	REASSPT	1	HELPING	1	HUMANINT	1	GENDER
1	ENCOUPRES	1	ENHFAC	1	INAPPRINT	1	INFOSHARPT
1	KEEPREADY	1	INFOSHAR	1	INDEPTINT	1	INDINT
1	EDUINT	1	APPRPRES	1	ASKING	1	APPRHUMO
1	AGEDIFF	1	APOLO	1	CHECPT	1	DOCUMENT
1	DOLITHINGS	1	CONTVINT	1	CONEXPL	1	CONTITOU
1	KNOWROUT	1	NOPTKNOW	1	NORESP	1	NOPRES
1	NNOCOMPLY	1	NONDISTINT	1	NRELUCOMPY	1	PIVCUE
1	PRESFAM	1	OTHSINICUE	1	NURKNOW	1	NURVRESP
1	NIVISHOUT	1	MENTPREP	1	NDISINTER	1	MEDJARG
1	LACKTECH	1	MANAGETIM	1	NININVCUE	1	NIVIHUMO
1	NIVIROUT	1	NIVIEXP	1	NINIVCUE	1	NIVIAPOL

APPENDIX 9

EXAMPLES OF CODED SEGMENTS IN ETHNOGRAPH

N#7   I

SC: NBALSTRAT

#-PROCUE   %-ENCOCUE   *-NBALSTRAT
    :   for a minute leave the call bell   166 -#   -% -*
    :   with them even if a nurse is   167 -#   *
    :   looking after them and if something   168   *
#-NPROCUE   @-COMMTECH
    :   is worrying them you know if the   169 -#   * -@
    :   alarm is off you are not going to   170   *
    :   be paying too much attention so   171 -#   *
    :   give them signs just wave your hand   172   *
    :   or just sort of do this or do that   173   *
    :   to get someone's attention but you   174   -%   * -@
    :   know the nurse will be keeping any   175   *
    :   eye on you. Sometimes I noticed in   176   *
#-DEPTHINT
    :   patients where they become quite   177 -#   *
    :   worried because you can come in   178   *
    :   there and you can one man I looked   179   *
    :   after who you know I said "Im just   180   *
    :   going to get you out of bed now and   181   *
    :   we're going to put you in the chair   182   *
    :   and this man had Guillian Barre and   183   *
    :   he couldn't move any muscles and he   184   *
    :   couldn't stand and he had the   185   *
    :   absolute look of fright came across   186   *
    :   his face and it took us about 45   187   *
    :   minutes to get the word brought out   188   *
    :   you know till he could explain to   189   *
    :   me you know "I can't stand" and he   190   *
    :   was very worried because he didn't   191   *
    :   realise that the nurses who were   192   *
    :   coming and looking after him knew   193   *
    :   that he had Guillian Barre's. He   194   *
    :   just thought that we were nurses   195   *
    :   and we could have come from   196   *
    :   anywhere and he didn't realise that   197   *
    :   we all knew that he couldn't stand   198   *
    :   and we all knew how bad his muscle   199   *
    :   wasting was and his condition was   200   *
    :   and then I sort of realised how   201   *
    :   important it is for you to explain   202   *
    :   to them that you know what's going   203   *
    :   on and sort of to make them feel   204   *
    :   comfortable that you know what   205   *
    :   you're doing.   206 -#   *
    :   *
    : R:Yeah, it's important to get that   208   *
    :   message across isn't it ?   209   *
    :   *

(Continued on next page)

APPENDIX 10

APPROVAL FROM HUMAN RESEARCH ETHICS COMMITTEE, CURTIN UNIVERSITY OF TECHNOLOGY

COUNCIL AND COMMITTEE SERVICES

MINUTE TO : Ms Selma Alliex, C/- Dr A C Martins, School of Nursing

FROM : Maxwell Page, Executive Officer, HREC

SUBJECT : **PROTOCOL APPROVAL - EXTENSION**

DATE : 7 July 1995

The Human Research Ethics Committee acknowledges receipt of your Form B progress report for the project *"Process of Nurse Patient Interaction in the Presence of Technology"*. Modifications to the project as indicated on the Form B have been noted and approved by the Commitee . Approval for this project will expire on **31 December 1995**.

Your approval number remains **HR124/94,** please quote this number in any further correspondence regarding this project.

Thank you.

Maxwell Page
Executive Officer
Human Research Ethics Committee

I:\WORK\HREC\REG94\HR 124-94

APPENDIX 11

APPROVAL FROM HOSPITALS

Note: For copyright reasons, the contents of Appendix 11 has not been reproduced.

(Co-ordinator, ADT Project (Retrospective), Curtin University of Technology, 13.11.02)

APPENDIX 12

NEWSPAPER ARTICLES ON NURSING SHORTAGE IN WESTERN AUSTRALIA

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(Co-ordinator, ADT Project (Retrospective), Curtin University of Technology, 13.11.02)

APPENDIX 13

BACKGROUND OF NURSING STAFF AVAILABLE

Back ground of Nurses available

The nurse-patient ratio differed in the hospitals selected for the study. In the Nursing Home the registered nurse (RN) to resident ratio ranged from 1:10 to 1:30 depending on the severity of the resident's illness. In an area where the resident was fairly independent the ratio was 1:30. In the medical wards of both the private and the public hospitals the nurse-patient ratio was 1:6 on the morning shift. During the evening shifts both areas tended to allocate more patients per nurse to a ward. In both the private and public hospitals the nurse-patient ratio in the surgical wards was 1:5 to 1:6 irrespective of the type of ward. In the step down unit of the cardio-thoracic ward (this is the ward where patients are kept immediately following discharge from the ICU) the nurse-patient ratio was 1:4. In the private hospital ICU the ratio was 1:2 while in the public hospital the ratio was 1:1 to 1:1.5. Other researchers (Ventura 1996; Landesman 1996) have documented that nursing shortages led to nurses caring for more patients. Daiski (1996) states that it is because of increased workloads nurses tend to follow procedural steps as indicated by technological interventions and therefore neglect interpersonal, hands on caring that is the essence of nursing. Similar findings emerged in this research. A nurse explained such a dilemma or the problem of lack of time as follows:

> (N#7) I remember one instance, it wasn't my patient and I was
> really busy. As I walked past this woman said to me,
> "I've got blood pressure tablets. I haven't got blood
> pressure. These silly burgers they don't know what they
> are doing". I really didn't have the time to sit down with her.
> I just said to her, "obviously you are on blood pressure tablets
> for a reason (raising voice), they wouldn't give them to you
> because they like handing out tablets. The doctor will be
> around this morning and if you don't want to take them that
> is fine but when he comes around you can discuss it with him".
> Whereas if I had the time I would have said, "okay, let's have
> a look at your chart, let's have a look at your history, you have
> got a history of blood pressure and this may be a preventative
> measure".

The private hospital in this study had recently installed a software package on the ward computers for the use by nurses, which dictated the number of nurses to be allocated to a