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DISCRETIONARY DECISION MAKING ON THE RUN:
WHAT ARE THE RELEVANT FACTORS
IN DECISION MAKING?

A REVIEW OF RESEARCH
BY
SHIRLEY L. COATES, R.N.
A THESIS SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS (EDUCATION)
in the Faculty
of
Education

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SIMON FRASER UNIVERSITY

December, 1987

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Discretionary Decision Making On The Run:

What Are The Relevant Factors In Decision Making?

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ABSTRACT

Recently, nursing decisions have been disputed in litigation proceedings. This study examines decision making processes in light of analytic and intuitive decision making models, connatural knowledge, and ethics and moral development to determine the feasibility of formulating a teaching module to assist graduate nurses faced with discretionary decisions made "on the run".

The premise of this thesis is that a synthesis of affective connaturality and intuitive thinking yields the "desired" qualities in order to facilitate the integration of prudence and caring into non-routine intuitive discretionary decisions.

Emphasis is placed on one type of connatural knowledge, affective connaturality, which incorporates the characteristics essential to caring, ethical, intuitive decisions. In affective connaturality, a "habitus" is "co-natured" to the decision maker, thus addressing some needs of nurses who make discretionary decisions on the run.

Emphasis is also given to intuition and in particular, Tony Bastick's theory of intuitive thinking processes and his twenty properties of intuitive thinking.

Connatural knowledge and intuition are reviewed in detail as are analytic thinking and ethical behaviour before this review synthesizes the principles of these four fields of study into an instructional model based primarily on affective connaturality.

The teaching module of this thesis incorporates aspects of Bastick's twenty properties of intuitive thinking, whole brain thinking of Wonder and Donovan, and the logic of intuitive thinking by Agor, incorporated with ethical principles, and the affective component of connatural knowledge. Andragogy, the principles and practices of adult education, will be the educational structure upon which the learning component will be based.

Implications of this proposed instructional module are discussed and areas for further research are elaborated.

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DISCRETIONARY DECISION MAKING ON THE RUN

CHAPTER 1

The nature of a dilemma is to see both sides
and see that both are credible.

1. Introduction

Recently, nursing decisions have been disputed in litigation proceedings. In light of this atmosphere of conflict and uncertainty, this study will examine a variety of decision making processes.

Problem solving is divided into rational and non-rational modes of decision making. The rational decisional mode is considered a linear, logical, verbal, analytic process which is attributed to left brain functional areas. The non-rational decisional mode, sometimes called a "second sense", is seen as perceptually wholistic, non-verbal, intuitive process attributed to right brain functional areas. This gives rise to the terms left brain thinking and right brain thinking which are assumed to denote the types of decision making processes within the cerebral hemispheres. To be able to switch from one cerebral hemisphere [right brain] to the other [left brain] as required, is called "whole-brain thinking."

Problems arise in communication, listening, memory, management, organization, and stress. These problems occur because they cannot be solved by logic, discipline and attention to detail alone. "They require not only those valued skills, but also intuition, free-spirited invention and comprehension of the overall picture" (Wonder and Donovan, 1984, p.10). Jacquelyn Wonder and Priscilla Donovan believe that the secret to peak job performance and satisfaction is possible when one learns how to use both sides of his/her brain. This brings both the rational, left brain, thinking/decisional mode and the wholistic right brain decisional/thinking mode into function during thinking/decision making. This will allow the decision maker to use both sides of his/her brain. This will allow the individual to be able to combine detail and logic with a sense of overview and intervention.

This thesis will discuss both logical and intuitive thinking as it relates to decision making. Whenever logic and efficiency of the left brain rational thinking is referred to, this will represent the logical, analytical, linear, verbal mode of thinking/decision making skills. Whenever the intuition and inspiration of right brain non-rational thinking is referred to this

will represent the wholistic, visual, non-verbal mode of thinking/decision making skills. Both are forms of thinking and decision making but they differ in the internal methods used to arrive at the decision. Wonder and Donovan believe that it is essential that the individual "learn to recognize the thinking styles of others, and to alter or adapt to them" (ibid.).

Analytic, logical, rational, decision making is taught throughout the educational systems. Unfortunately intuitive decision making skills are seldom discussed or taught within the educational systems. This gives rise to the feeling that intuitive thinking is inappropriate thinking. Whenever the innate ability to use intuition is brought into function, it is seldom mentioned by the individual decision maker who utilizes his/her intuition because s/he is fearful of being "attacked as irrational" (Agor, 1986, p. xii). Weston Agor states that in his research into management decisions, he continuously encountered individuals who have an "uncanny ability" to perceive intuitively how to make the right decision at the appropriate time, "even when information on which to base important decisions was incomplete or totally inadequate." (idem., 1984, p. xii)

Another type of non-rational decision making utilizes connatural knowledge, a type of spiritual or mystical knowledge which is acquired by a predisposition or synthesis, concord or connaturality, in which the intellect is not totally in charge but is swayed by inclinations and the nature of the will. Connatural knowledge, then, is not rational knowledge nor is it knowledge through the conceptual logical and discursive exercise of reason. (Maritain, 1932, 1939, 1941, 1946 a,b&c, 1951 a&b, 1953, 1956, 1959 a&b, 1962). [a little known category of decision making which will be explained in Chapter 4]

Connatural, according to Roget's Collge Thesaurus, means "another", "yet the same"; "all one body", "we", "one in hope", "one in doctrine", "one in charity", "now and forever", "one and inseparable". These definitions denote a unity or togetherness that appears to exist between the decision maker and the individual influenced by the outcome of the decision. A subsection of connatural knowledge, affective connaturality, is similar to intuition but contains a more controlled direction to the outcomes. [more will be said of this in Chapter 4]

A client's future could be affected by the non-rational intuitively based decisions of the professional. If the

intuitive decision could be made by affective connaturality the outcome would be more controlled thereby avoiding the probability of dogmatic, non-prudent, harsh or arbitrary, wrong decisions which would lead to litigation. This controlled intuitive decisional ability could be a desirable skill for acute care nurses who are required to make discretionary decisions.

Discretionary decision making occurs when decisions are not covered by rules, unfortunately this is where the "most frequent injustice occurs" (Davis , 1979, p.v) Discretionary decisions frequently give rise to possible conflict and litigation. This is examined in detail in Section 2.5.4. [Decision making under ethical codes is discussed in Chapter 5].

This study will be conducted to determine the feasibility of formulating a teaching module to assist graduate nurses make competent careful right intuitive decisions when faced with the need to make discretionary decisions "on the run." The premise of this thesis is that a synthesis of affective connaturality and intuitive thinking yields the "desired" qualities in order to facilitate the integration of prudence and caring into non-routine intuitive discretionary decisions.

1.1. Background

Decision making is relevant to all fields of study and all walks of life. As there is a universal need to be able to make appropriate decisions, many scholars have developed models about decision making. Much of the literature on decision making has dealt with analytical style. Little has been written about decision making styles using insight or intuition other than to link the intuitive to what is "elusive" (Polcoff, 1985, p.43) or "instinct", or that "gut" feeling. Even less has been written about connatural knowledge.

In specific fields such as education, law, medicine, and administration, professionals are constantly faced with the need to make immediate decisions that will affect the lives of other persons. A client's hopes, fears, and aspirations may be directly controlled by decisions made by those with decision making authority. Decisions, professionals are required to make, are not only in a rational/logical mode but also in a non-rational/intuitive mode combined with the non-rational mystical experience of connatural knowledge. Again little is known about this sub-type of decision making. [More will be said of this in Chapter 4]

Medical practitioners frequently need to make immediate intuitive decisions in situations in which there is discretionary latitude. These decisions must not only be medically correct but they must also be prudent, moral, ethical, compassionate decisions.

Presently, nurses are not taught how to make non-rational/intuitive decisions. Although present nursing curricula contain a study of ethics, it is a subject separate from the study of decision making models. Morality and ethical decision making are specific components of nurses rational, analytic, decision making instruction. Time constraints often preclude analytic decision styles, this gives rise to the need to make instant, spontaneous, non-rational discretionary decision that are morally correct but also compassionate.

Compassion and empathy are taught, in nursing curricula, but not as an integral part of the decision making process. "Prudence" is considered an archaic biblical term which is not fashionable in this latter part of the twentieth century. The present increase of this nursing dilemma will be discussed further in section 1.4. [and Chapter 5.]

This study will examine traditional, rational, analytic decision making and these neglected aspects of decision making for the purpose of synthesizing the principles of intuitive decision making with the moral, ethical, prudent, caring factors of affective connaturality, also considered a non-rational type of thinking. Prudent, caring factors, of connatural knowledge, are qualities which can become a co-natured predisposition of the decision maker, [Chapter 4].

1.2. Function of this thesis

This study will examine the literature which deals with the major precepts of; (a) logical/rational/analytic decision making and, (b) non-logical thinking and decision making by intuition and/or affective connaturality. Non-rational thinking will be examined; first from rational/empirical sources, focusing on the research of Tony Bastick (1979, 1982), his "twenty properties of intuitive thinking" and his "Theory of Intuitive Thought Processes" along with the work of Agor (1984, 1986), and Wonder and Donovan (ibid.); secondly, from the non-rational/spiritual sources which describe the concept of connatural knowledge, seen mainly in the several works of Jacques Maritain (ibid.), Mary Lambur (1952), and Ellis Joseph (1975). These authors base

their philosophical writing on the non-rational/spiritual phenomenon first detailed by St. Thomas Aquinas a moral consequentialist or utilitarian philosopher who believed in "the greatest good for the greatest number"

(Simms-Jones, 1986, p. 24). "Aquinas stands at the center of the Roman Catholic natural law tradition"

(Veatch and Fry, 1987, p.7). Natural law thinking is one answer to the question "what makes right acts right?"

Natural law thinking is not incompatible with consequentialism. [Aquinas' principles will be discussed in chapter 4.]

This study is to examine the research into;

1.2.1. Decision making in general

Chapter 2 --consisting of: an overview of the literature on intellectual skills and cognitive strategies which underly the decision making models for logical analytic thinking, a discussion of present nursing decision making teaching models.

1.2.2. Intuitive thinking and decision making

Chapter 3 --consisting of: an examination of the general definitions of intuitive thinking, an outline the

highlights of Bastick's theory of the processes of intuitive thinking.

1.2.3. Decision making utilizing the process of connatural knowledge

Chapter 4 --consisting of: a background to understanding connatural knowledge, an outline of the processes of affective connaturality which is useful in decisional situations.

1.2.4. Decision making under moral codes
The present thinking about morals and ethics
general and nursing in particular

Chapter 5 --consisting of: an examination of decision making under ethical codes, an outline current "felt" inadequacies in present medical decisional teaching models concerning discretionary decision making, particularly in the intensive care areas in a tertiary hospital.

1.2.5. Theory of intuitive thinking by
affective connaturality

Chapter 6 --consisting of: a definition of intuitive thinking whereby thoughts are coded by feelings and associated by their common feelings, an outline of how, when things are mystical or divine they too can be immediately incorporated into the individual's thinking

like a gift of instantaneous wisdom, a part of a "God-love" known by the ancients as connatural knowledge. Here the union of compassion in decision making attains a mystical wisdom which is made more united to the individual through caring and therefore immediate "right" decisions are intuitively perceived. This is contrasted to intuitive decisions which "need not be correct" (Bastick, ibid).

1.2.6. Selection of instructional modules

Chapter 7 --consisting of an explanation into the required characteristics of; individuals entering this instructional environment, the scope of the teaching model, the optimal training environment, the learning principles of andragogy, the adult learner, the teaching behaviours, the processes in andragogy, and the characteristics of the facilitator of adult learning. Finally the desired learning outcomes, as expressed in the preceding chapters, will be listed.

1.2.7. Teaching models

Chapter 8 --consisting of: the teaching models which will suit the learning environment of hospital inservice of continuing educational seminars and induce the desired learning outcomes. The proposed instruction modules will

be directed towards the facilitation of enhancing the use of intuitive thinking in discretionary situations using affective connaturality.

1.2.8. Conclusions, benefits, future research

Chapter 9 -- consisting of; the conclusions drawn from this literature study, an outline of the benefits which could proceed from the use of affective connaturality by the nursing profession, and suggestions for future research.

1.3. Objectives of this study

1. To create a unified theory about prudent information processing and judicious discretionary decision making which synthesizes the properties of intuition. [Chapter 3] with those of affective connaturality; [Chapter 4]

2. to propose a classroom teaching model which will demonstrate ways in which an individual may tap into his/her innate ability to develop the ability to use affective connaturality, [Chapter 7]. This model will be specific for teaching nurses how to use affective connaturality when faced with the need to make prudent and caring intuitive discretionary decisions in normal work situations; [Chapter 8]

3. to suggest models of teaching/learning such as role play and simulation which would facilitate this learning process. It is proposed that this learning will be reinforced by the process of mentoring so that the nurse will continue to function in the mode of intuitive affective connaturality even when s/he is under duress.

Although there could be a universal applicability of these skills, this study will focus the proposal on critical care nursing. [Chapter 8]

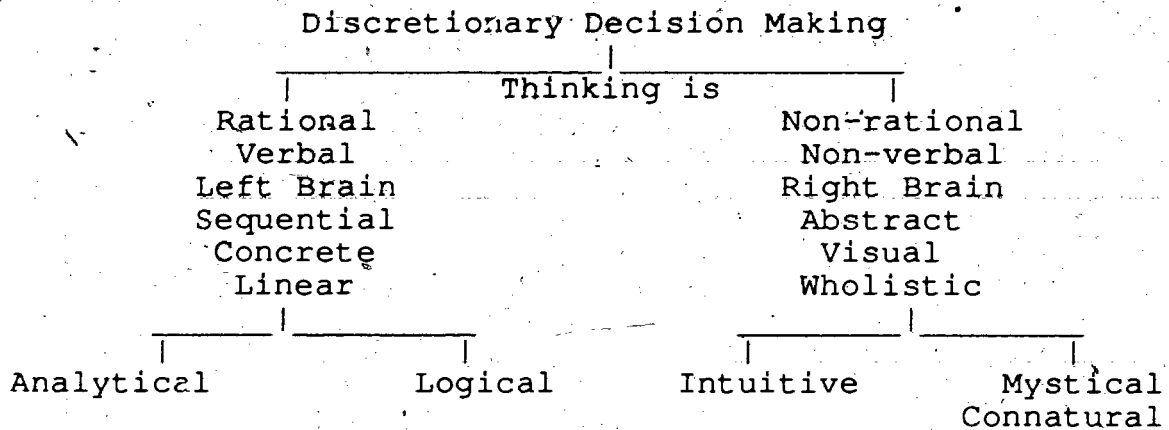


Fig. 1.1. Thinking and decision making modes

Carrying out these 3 objectives will produce a means whereby the nurses in acute care unit will no longer be torn between the need for immediate, intuitive, prudent, caring decisions and his/her ability to make such decisions. Head nurses should be the first staff member to be taught these skills, s/he will then mentor the staff nurses and encourage their learning intuitive discretionary decision making by affective connaturality [I.D.D.M.A.C] A by-product of these skills might be a decrease in intensive care staff's turnover ratio [a possibility for further research].

This thesis will mention a problem that concerns experienced practitioners, and that is the rise of "secular humanism" within the individuals applying for nurses training and the apparent loss of the caring motive which propelled individuals into nursing in the past, and raise the questions; "how was this lost?" "did it occur within the school system today which is philosophically based on secular humanism?" or, "did it occur because humanity has lost its humanity?" "lost its faith?" "lost its soul?" This thesis will examine some of the problems faced by acute care nurses in present day tertiary care hospitals and the currently available decisional methods nurses utilize, as nursing decisional strategies, to deal with these problems.

1.4. Background in the nursing profession

Modern technology has drastically changed the life/death ratio. Today, medical practitioners are faced with decisions not encountered a generation ago.

1.4.1. Decision making in the nursing profession today

This exploration of professional decision making stems directly from the author's working life as a nurse within the tertiary care hospital's emergence department, and other high risk areas of nursing care. Because of these

experiences "the question of the relationship between the kinds of knowledge honored in academia and the kinds of competence valued in professional practice" (Schon, 1983, p. vii), has emerged for many conscientious, caring, experienced professionals. This is not explicitly a problem of nurses, Donald Schon (ibid.) makes his comment on business and industry. He expresses a "need of inquiry into the epistemology of practice" (ibid.). What kind of knowing does the competent practitioner need? What kind of knowing is it? How is this professional "knowing" like and unlike the kind of knowledge presented to the nurse in academic textbooks, scientific papers, and learned journals? Is this intellectual rigor in professional practice all the emerging professional needs to know?

Nursing professionals are frequently required to make successful, discretionary decisions, quickly, where situations cannot always be anticipated. There is a need for this decision making ability in stressful situations, where the nurse must constantly make choices in turbulent environments which may be found in certain hospital areas [such as: emergency, intensive care, post anaesthetic recovery, and trauma]. This ability is essential because situations cannot always be anticipated and detailed in

the nursing care plan. If one could replay the vignettes of practice in this kind of situation, s/he would have to come to grips with the question, does this vignette demonstrate that the competent practitioner knows more than s/he can say? Is s/he demonstrating a kind of "knowing-in-practice" (ibid.), most of which is tacit? Nurse "practitioners themselves often reveal a capacity for reflection on their intuitive knowing in the midst of action and sometimes use this capacity to cope with unique uncertain, and conflicted situations of practice" (ibid.).

The cornerstone to a modern emergency department, frequently the portal of entry into the health care system, is built upon an effective triage. "Triage, literally translated, sorting or selecting, was coined during the Napoleonic War (1812) because of the large numbers of casualties" (O'Boyle et. al. 1985, p.1). Triage systems are now present in most contemporary emergency departments. The modern triage is where the nurse rapidly assesses and prioritizes care in the often congested waiting areas, s/he then directs the client to the area which provides the physicians who will make the medical differential diagnosis, supervise the required care, the technical machinery, and the staff to

facilitate treatment. Effective triage implies that viable alternatives of care are available within or near the emergency department to provide appropriate and expeditious treatment and the nurses on staff are ready and able to make adequate immediate primary diagnostic decisions.

The individual who first assesses the client requires excellence in all perceptual skills including adroit observation and almost immediate tentative diagnostic ability. This must be produced in rapid fire succession which is often too fast for rational, analytic thought. Experience is necessary. The myriad of possible illnesses the presenting client's signs and symptoms display create an intellectual puzzle that requires more than experience, it requires a practical competence and professional artistry of "reflection-in-action" (Schon *ibid.*) in a dynamic situation. According to research into cerebral assymetry, this situation is best resolved by the wholistic, visual, non-verbal ability of the right brain function called intuition.

To give an example of one possible vignette: the emergency triage nurse wonders, "is that unconscious, obese, woman being wheeled down the hall on a stretcher, the victim of an accident, a stroke, or is she in

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diabetic coma, or drug overdose coma?" And so the questions race through the nurse's head, but there is no time for the algorithms procedure s/he was taught because two ambulances have just pulled up outside the emergency door with the victims of a head on collision. The ambulance dispatcher had already alerted the department that two traffic victims were "touch-and-go" cases of severe multiple trauma, and another a small child with head and chest injuries. Another ambulance will be along, later, with the less seriously injured. At the same time as the ambulances arrive, a woman walks in with a sewing machine needle protruding through both sides of her right index finger. She appears distraught and in obvious discomfort. This is Christmas Eve and the start of a wonderful holiday for some but not for the nurse facing the need to make all these decisions right now! To make matters almost impossible, the mobile television van has also pulled up at the door, they will try to catch the "drama" of this traffic carnage.

In most other areas of nursing care the "nursing process" is probably the most dominant theoretical component in today's nursing education and practice. The nursing process assists the nurse focus on human beings as "whole persons while using technical skills and applying

intellectual judgments" (Kenner et al., 1985, p.26). This is a highly theoretical patient-centered, problem-oriented, goal-directed process which makes the following statement about nursing: nursing is best defined as sequential process in which each step of the process gives information that contains and directs the choices to be made in the next step. Nurses are taught, via the "nursing process", which is "a specific adaptation of the organized problem-solving approach of other disciplines" (ibid.), to use a six phase process which interrelates with the approach used by other health care team workers in the multidisciplinary/interdisciplinary setting of the modern acute care hospital. The nursing process allows the professional nurse to create behavioural objectives which cover most nursing decisions by:

Phase 1) formulating the client's health status: "so that problems can be identified with the use of the data collected" (Kenner et al.).

This is the systematic approach to the nursing assessment that is guided by the conceptual model of nursing. The problem faced by critical care nurses is that "'timing' is often crucial" (ibid.).

Phase 2) formulating the nursing diagnosis which: analyzes, synthesizes, and interprets the data collected from the biopsychosocial assessment to formulate the nursing diagnosis which identifies the client's

immediate, long term potential and actual health problems.

In critical care units, "within 3 to 4 minutes of the patient's arrival a brief systematic examination should be performed" (ibid.).

Phase 3) identifying patient outcomes, the goals of nursing care which:

contains specific and concise patient outcomes which are written to provide the desired goal, standard, or objective that the care giver believes the client can realistically achieve as a result of nursing care (ibid., p.28).

Phase 4) care planning outlined which consist of:

prescribing treatments and therapies as nursing orders which are specific written directives for nursing action. These are the on going plans for nursing care which cover; (a) physiological, (b) psychosocial, (c) prevention, (d) patient teaching objectives.

Phase 5) care implementation which may be called: nursing intervention or nursing actions. This involves carrying out the nursing orders for each nursing diagnosis. Nursing actions are also needed to carry out the physician's orders which the nurse is responsible for performing. In making decisions, the nurse must use sound judgment based on knowledge before deciding what action is to occur, when it is to occur, and how it is to occur using intellectual, interpersonal, and prioritized technical skills.

Phase 6) evaluation of patient outcomes which:

looks at immediate, intermediate, and long-range patient behavioural expectations of the client relative to the established client outcomes. This is a continuous process of evaluation and reevaluation

because of the dynamic nature of the human beings and the frequent changes that occur during an acute illness. The nurse is taught to examine the accuracy of the patient assessment, the logic of the selected nursing diagnoses, the fitness of the goals selected, the adequacy of the therapy planning and the skill demonstrated in applying the therapy.
[see Kenner et al, pp. 27-30]

These six phases of the nursing process take the nurse from assessment through evaluation. The tools used in terminal evaluation of the nursing process are case studies, nursing chart audits, and nursing quality control systems which analyze patient outcomes by setting standards of outcomes as criteria to which empirical patient outcomes can be compared.

The nurse combines thought and action and is paid to think, decide, and enact his/her decisions. Without action, the nurse is ineffective. But actions must be based on intelligent decisions which, in turn, must be based on appropriate assumptions about the nursing environment, patient/clients, health, and nursing procedures. Unfortunately the nursing processes cannot always cover every situation. Although rational decision making is taught, through lists, text books, and step-by-step procedures, there is an almost universal impression that discretionary decision making is too

elusive for study and teaching purposes. "The further we go toward the rules end of the scale the greater the quantity of useful literature; the further we go toward the discretion end of the scale, the fewer the books and articles" (Davis, 1979, p. v). Davis comments that he knows of no systematic scholarly work which penetrates discretionary justice. At the professional level many of the decisions are discretionary, a fact which appears to argue for the need to teach such skills.

As mentioned before the aspect of decision making recently come into favour is "whole-brain thinking" (Wonder and Donovan, 1984). In whole-brain thinking the individual is taught to use the left side of the brain for organization and discipline and the right side of the brain for intuition and inspiration. Wonder and Donovan have taught how to move from one cerebral hemisphere to the other to be able to work from both sides of the brain to achieve peak job performance in business. They have been successfully teaching these skills for almost ten years. Weston P. Agor, (1984, 1987) also teaches the integration of left and right brain management skills for intuitive business management. These authors have based their work on the Nobel Prize winning work of R.W. Sperry (1968, 1969, 1973, 1974, 1977, 1982). This author is

proposing a third dimension to their work by adding the prudent, caring, compassionate functions of affective connaturality. [Their work will be part of the teaching module, discussed in Chapter 8, which deals with Instruction in I.D.D.M.A.C.]

Instruction in this aspect of wholistic thinking for health care practitioners is suggested as whole-brain "modes of learning" for critical care nurses. Nurses are encouraged to consider the client's body-mind-spirit. Cornelia Kenner, Cathie Guzzetta, and Barbara Dossey (1985, p.13) suggest a "dual approach" (left brain, right brain) as a rational basis for the approach of "client relatedness" in order to see patients in "subject-object terms" and in "unity-connectedness" as complementary methods of nursing. This type of thinking will allow the nurse to "help the patient to deal with near death experience in order to view the experience as a path of growth, understanding, and unity rather than anxiety and fear." (ibid.) Although this encourages empathetic projection [an important facet in Bastick's Theory of Intuitive Thinking which will be discussed in Chapter 4] these authors do not appear to suggest the possibilities that the nurse utilize the duality of the brain functions for intuitive discretionary decision making. Catherine

O'Boyle, Karl Davis, Barbara Russo and Terri Kraf,

(1985,) suggest that when dealing with an unknown

etiology "clinical algorithms" are the "most helpful" for the "triage nurse" to determine a course of actions. This method of decision making is logical and sequential.

Health care discretionary decisions, when required, must not only be correct but they must also be prudent and caring. Not all discretionary decisions involve life and death situations but they do affect the life of the individual involved. For instance, they may be about allowing visitors at non specified hours of the day. As such, they effect the inner being of individuals and may cause severe distress.

1.4.2. Nursing related problem which cause lack of confidence when discretionary decisions are required

When nursing situations are not covered by the behavioural objectives based on the "nursing care plans" formulated by the "nursing process," professionals, even with a broad knowledge base, may feel a lack of confidence when discretionary decisions must be made. This lack of confidence is usually heightened when the nurse is under stress and/or faced with unique situations. For example, when the efforts to postpone death and alleviate suffering causes an even greater

suffering, what can the nurse do to alleviate the emotional anguish of both client and his/her family? How will this family react? Do they wish life at all costs or do they appreciate a relief from suffering in death, with a better life in the hereafter? General duty nurses frequently must "carry out the decision made by others often with very little input into the decision-making process" (Sims-Jones 1986, p.26). Staff nurses often find they have the responsibility to deal with the client and the family after a major decision has been made. How these individuals are handled is usually left up to the nurses' discretion. Nurses need to resolve ethical issues for themselves so that they can support the decision which has been made; "those who have thought through the morality of a particular decision will be better able to invest themselves in the care" (ibid., p.24) of the client and the family.

Examples of some moral decisions facing nurses may be seen in the following cases: like the one where the nurse watches as a doctor delivers the baby of a mildly retarded minority racial group teenager and then performs a tubal ligation without consent from the teenager or her parents. What should this nurse do? In a recent case a nurse in Baltimore was charged with murder. This nurse

disconnected the respirator of a terminally ill patient who would have died within a few hours anyway. Is this morally different from deciding not to resuscitate? Then there is the case where a Canadian nurse was also charged with murder arising from the administration of a discretionary dosage of digitalis to several infants with high risk congenital heart problems. Over a period several infants died of digitalis overdose: who is responsible for these deaths? how should the nurse react to discretionary decisions left open to him/her? is this a medical error or a nursing error? who is to blame?

Nurses "deal with death more than any other health care professional." (DeCosta, 1987, p. 2) They are well versed in the theories about the "dying process". Early in their professional careers nurses are frequently worried about saying the wrong thing, it is essential for them to keep in mind that although this may be a nurse's biggest worry, it is not their client's. Without elaborating, DeCosta quotes a death and dying specialist, Joy Ufema, who tells nurses to trust their intuition. It's what got them into nursing in the first place.

Then there is the situation when the nurse is called in to special a patient because the doctor had severed the major artery to the gall bladder during an elective

cholecystectomy, the nurse is instructed not to divulge: that the patient's situation is in critical condition or why the patient must have twenty-four hour special duty nurses. The thing that the nurse found most frustrating was that she was not to correct the patient when she continuously praised the "skills" of the offending doctor for saving her life.

Another similar situation, this time in the trauma unit where a person was admitted to emergency after a car accident, the patient is first given a hasty tracheotomy and during the procedure a major blood vessel was accidentally severed. This surgical procedure was performed by a sleepy, somewhat disoriented resident at the end of a forty-eight hour term of non-stop duty. To add insult to injury, the oxygen tank malfunctions shortly after the patient was attached to a respirator. Two days later the patient dies -- not because of the injuries sustained but because of the "errors". What is the nurse to say when the relatives ask "Why"?

1.4.3. Examples of intuitive decisions made by nurses

CASE A

This woman had nursed full time, in a busy emergency department, until well into the third trimester of her

pregnancy when she was forced to commence her maternity leave, several weeks prior to the planned date, because she was displaying signs of toxicity of pregnancy. This caused grave financial hardships for the family because the husband was a student and the wife the wage earner. The enforced rest did not improve her raised blood pressure nor was there any lessening of the proteinuria, albumen in her urine. Because she was in a dangerous state of pre eclampsia, her doctor admitted her to hospital and prepared to induce an early labour. The induction and delivery went well and she delivered a healthy baby. Normally, following the termination of the pregnancy, the kidneys start to eliminate the toxins and the vital sign return to normal and in a few days the danger is over. Routine nursing orders are for vital signs to be checked hourly until the patient is no longer in danger, along with other routine post partum safety checks such as voiding, bleeding and level of the fundus of the uterus.

In this case, the nurse, who was caring for the woman following delivery, had this ominous feeling that she could not leave the woman unattended more than for ten to fifteen minutes, so she took the vital signs every ten minutes until the end of her shift. She reporting to the

oncoming staff she mentioned her premonition and made the foreboding prediction that this woman was getting closer to eclamptic convulsions even though the vital signs did not indicate that her case was critical. She cautioned the nurses to continue to watch the woman more frequently than ordered. It was a good thing that she had had this premonition and that the other staff had heeded the warning because the woman did go into a major eclamptic convulsion in the wee small hours of the morning. But the staff was alerted, the emergency cart was at her bedside and the intern was on the floor at the time of the convulsion. Because of this nurse's intuitive diagnosis a tragedy was averted.

CASE B

This case deals with intuitive perception in interpersonal relations, where most of the nurses intuitive thinking is done. It also deals with caring prudent decisions as described by affective connaturality.

This experienced intensive care nurse was uneasy about this man, for, although he appeared to be handling his third heart attack with emotional stability, the nurse intuitively knew that this burley truck driver was

putting on an bluff front of calm when he in fact was in emotional turmoil. The nurse intuitively knew that he was withholding some vital truths about his personal life. This is not beneficial for the victim of a heart attack because emotional stress increases the risk of further infarcts for a person who has had a major coronary occlusion. The man's condition was critical and because of this nagging feeling that his anxiety was a major impediment to even the slimmest hope of recovery, the nurse decided to ask medical records for his old charts. In the old charts the nurse noticed that on his previous admissions, the man had given two different home addresses and two different spouses as next-of-kin, one in the East and one on the West Coast. She then cautiously and caringly approached the man about his marital status and suggested that she would like to have permission to notify one of these women of his admission so that his family could come in to visit. She simply asked him which woman was his present wife and which one could she notify. The man admitted that he was married to both women, both had family by him, and both were supported by him but most of all he wanted all his family to be with him. Neither woman was aware of her husband's bigamy. Prudent, caring, non-judgmental interaction was essential in this case. Think how you would hand this

type of situation. This woman's compassion and caring perceptive skills were essential as was her ability to know what to do.

It was the nurse's intuition that led to her discovery of the bigamy and her use of affective connatuality led to its resolution. With the man's permission, the nurse notified both women. The West Coast wife and her family came to be with their loving husband and father and so did the family from Toronto. He had his loved ones beside him when he died. The nurse worked with both women because she intuitively knew that the initial shock of the husband's critical illness, coupled with the shock of discovering that there was another wife and family, would be a touchy situation. The women came to appreciate the other wife and her position within this bigamous relationship. The nurse used all her perceptual skills to anticipate the emotional responses of the actors in this human tragedy and frankly admits that without intuition and compassion this could have been an ugly scene. When the man died the women were able to have a joint funeral and support each other emotionally during their grieving process.

An aside, fortunately the man had had the good fortune and the good sense to have provided homes for each wife and he had separate large insurance policies for each wife and family, so all his children could be provided for. The man had the comfort of the "important others" to be with him when he died, rather than dying alone as he had initially determined he would have to do. In his own way he dearly loved his wives and families.

How many situations are left unanswered because the nurse does not have the courage to listen to this inner voice? How does one teach nurses to intuitively perceive the frustration of the person who does not understand the "why's" of cancer, to trust that their response will help to facilitate passage through the "stages of dying"?

(Kubler-Ross, 1969) How can one teach nurses to be compassionate in a way that will also protect them from becoming too emotionally involved in the case? Sometimes there is nothing else to do but weep, it may seem useless, but frequently there is nothing else one can do. Particularly when one cares. Being around people who collapse emotionally and physically has a certain demand to it. "It is the multiplied encounters with profound sadness that can wound to the level of deep cynicism".

(Ducklow, 1987) Health care workers must use all their

strategy tools to avoid this level of functioning, but how can nurses do this if they have not been taught all the "tools of the trade"?

How do health professionals protect themselves from excessive emotional wear without becoming "hard" or "calloused"? This type of problem solving and others faced specifically by the caring professionals requires a special kind of decision making process.

1.5. Significance of the question for today's nurses

Canadian nurses "have been in the media spotlight on occasion in recent years" (Youell, 1986, p.26). Nurses are concerned with the "ethical dilemmas" which arise from nurses' discretionary actions. This apprehension gives rise to a felt need for increased ability to make prudent, moral, ethical, caring, discretionary decisions that are also right decisions legally.

As we approach the dawn of the twenty-first century nurses must ask a crucial question: "Can critical care units provide adequate opportunity for healing to take place as they become increasingly more technical?"

(Kenner et. al., p. 3) Linda Youell feels that "the technology of health care has changed so rapidly that previously unknown dilemmas are now being presented to

professionals, patients and family alike." (1986, p.26)
In a different time or a different place, nurses would not be required to deal with the complex ethical issues which they face today. In a less affluent or technologically advanced society, many ethical issues which arise would not exist. For example those decisional problems related to the potential to save lives of very premature or defective infants and adults. Not too long ago sick infants were simply laid to bed and watched, perhaps a nursing sister would pray over the child but nothing else could be done; resignation was routine. "With glorious new tools in hand the specialists grant life to even the most hopeless, the most failed." (Tisdale, 1986, p.26) Today, inside the modern hospital, both the clients and the caregivers are caught in the "mysterious cycle of wellness and sickness."

Although nursing has always been a physically demanding occupation the decisional pressures of the job have increased dramatically since penicillin was first discovered in the 1940's. This allowed infections diseases to come under some control. Before antibiotics the chance of dying from diseases like Rheumatic Fever were common, and pneumonia was the number one killer of

all ages. Following a sore throat infected by a hemolytic streptococcal bacteria, the valves of the heart were destroyed by the bacterial toxins. Children frequently came into pediatrics at the age of six or seven with hearts so enlarged from malfunctioning heart valves that they filled the entire chest cavity. Nursing care was palliative. And there was the death by bacterial endocarditis which would kill in twenty-four hours following the removal of an infected tooth.

Before the heart and lung machine was perfected a "blue baby" had little chance of reaching the age of six or seven. It was common to see the little fellows have to squat while watching the other children play because the imperfect heart could not supply blood to the body while standing. Antibiotics changed the prospects of surgery, a method was devised to allow the heart to be stopped and open heart surgery to be done. This also allowed experimental surgery such as organ transplants.

In the forties and fifties the medical profession could only stand by and watch strong young men succumb to the ravages of uremic poisoning, dialysis was yet to be tried and organ transplant an impossible dream. At that time the orthopedic surgeons were known for their vile tempers, the chief surgeon of a local hospital would

throw instruments if a student nurse, with her black shoes and stockings, dared to poke her nose into his operating theatre. She might break technique and the threat of bone infection meant an amputation. The changes have extended life beyond the wildest imagination but they have complicated the life of the nurse who has become a technician with decisional responsibilities which have spiralled.

Progress in medicine produces a constantly outwardly shifting border. A good part of the limit-pushing takes place in the emergency and intensive care units, where there is a stop gap morality which is a combination of stops pulled: each meant to stave off, hold back, forestall, one isn't cognizant that these measures will effect a cure. In emergency or intensive care units (I.C.U.) one finds people hanging in the balance, or clinging onto life by a thread, "it is a place to explore and create if you are the doctor." (Tisdale, p. 211) The nurse finds the barely alive in stretchers beside the undiagnosed, the uncertain, and/or the unable, making a bid at survival, unfortunately often without asking.

Tisdale mentions the example of the nurse working in a high pressure pediatric intensive care unit with a death rate of forty-four percent. Every parent hopes for

survival for the infant involved. The nurse must care for each child to the best of his/her ability, anticipate the concern for the families despairing over the hopeless condition of their children, and deal with personal "needs" too.

Where nurses are faced with Baby Doe situations in which parents choose to forego aggressive treatment for the defective baby and the court rules in favour of surgery for the child, the nurses are the people who must care for both parents and child following the decision.

With today's dramatic technological and medical advances, a virtual revolution in biomedical ethics has occurred and will continue to advance and change. Today in medicine, so often the answer to the question "now what?" is "all we can do." The answer to the question "How much?" is "everything possible." By the simple process of repetition, expectations change; "what was once exotic is now routine. What is now exotic is rapidly becoming ordinary -- even necessary." (ibid., p. 211) Medicine appears to exist to keep the dying alive as long as possible. Dying starts when we start living, the body is always dealing with failing health. It is now everyday stuff to give hemo-dialysis, cancer treatments and organ transplants. Equal access for all is demanded,

regardless of the material, emotional or physical costs. With today's dramatic technological and medical advances, a virtual revolution in biomedical ethics has occurred and will continue to advance and change. From this and from the individual's philosophical, psychological, sociological, religious base the person forms his/her own personalized "world view."

What one person determines to be an ethical problem may not be for someone else. "It all depends on the individual's knowledge base, judgment and problem-solving skills." (Youell, p. 26)

The nurse has a special relationship to patients families, physicians, and other health care workers, s/he is in a unique position right on the center of the stage. How can nurses, who are in a quandary about what to do in crisis situations, be confident about their ultimate decisions?

1.6. Summary

The purpose of this study is to address some of the stated present nursing decisional problems, those which can possibly be handled by prudent caring intuitive decisions. This problem will be addressed by examining intellectual skills and strategies, to see if; (a)

present decision making instruction can be expanded to include discretionary decision making and the non-traditional thinking methodologies, (b) intuition would be useful when uncertainty is high or when concrete facts are limited, (c) the mysterious, non-rational, spiritual, connatural knowledge can be incorporated in the above to form a teaching module for graduate nurses in high stress areas. Prudent, caring, ethical, decisions can be made on the spur of the moment by affective connaturality.

DECISION MAKING OVERVIEW

CHAPTER 2.

An Old Chinese Proverb says:
"Tell me, I'll forget. Show me, I may remember.
But involve me and I'll understand."

2. Introduction

Thinking occurs in the human brain which is the ultimate endeavour of the neur anatomy. It is an evolutionary miracle and it is the human brain that has made us sapians. Somewhere and somehow in the past "a nervous system became a mindful system" (Smith, 1984, p. xiv) from which consciousness arose. Without "consciousness of a kind - there can not be conscious choice" (ibid.).

Within the human brain there are two behavioural programmes, the instinctive or closed programme and the choice or open programme, each capable of triggering the "skull projectionist" who is ready to "screen before our eyes only a short one-reeler that forecasts or retells a particular happening" (ibid.).

The sapian lump of neural tissue has a soul which makes the difference between animals and man. In the past the soul/mind dicotomy has evoked much philosophical

dialogue. This dialogue became clouded because differing languages do not have equivalent words. Descartes uses "l'esprit" to cover the three English nouns of mind, soul, and spirit. "Esprit", "intelligence", and "Tete" are the French dictionary translations for the English "mind". The Russian behavioural scientist, Ivan Pavlov, encountered the same problem of translation with the Russian word "ym", for mind. Pavlov chose to drop this term, to replace this "mind" function term with the phrase "highly nervous activities".

Most neurologists welcome this term because it frees them from the conflict about the relationship between body and mind. The soul is seen as an abstraction, the brain as an organ and the mind as a blend of the two. The English term, the mind, encompasses both the brain and its functions. This more encompassing term will be used in this chapter because the concern here is with the conscious intellect which allows humans to understand the whole brain. The importance of this distinction between brain and soul will be discussed in Chapter four when the connatural knowledge of the mind is discussed. At the moment, the point of introduction to sapian's ability to make conscious choices is paramount.

Consciousness is the totality of an individual's thoughts and feelings in a waking state of mind. Awareness or thought are present in the state of being conscious. Knowledge, which the mind has of everything, filters the perceptions received from outside world as these perceptions go through the inside framework of the brain.

"No one really knows what consciousness is" (Restak, 1984, p. 5). The argument whether unconscious and comatose are truly without consciousness arises when one tries to define consciousness. The word consciousness itself comes from the latin "conscientia" which means "with knowledge". The equivalent Greek word is "syneidesis". Scientifically, consciousness is seen "as the concept of wakefulness, alertness and responsiveness to stimulation." (Smith, *ibid.*, p. 129) Sperry (*ibid.*) considered consciousness as the most unified brain function capable of subordinating interneuronal processes to its own integrative states. Sperry, is well known for his study of the functions of the cerebral hemispheres, these principles of cerebral functioning will colour the learning principles of this study, but a detailed examination of Sperry's work is beyond the scope of this study.

It is the function of intellectual skills and strategies which give rise to conscious thought. These skills and strategies will introduce this chapter concerning human decision making skills. It is said that an individual is confronted with a problem when s/he wants something and does not know immediately what series of actions s/he can perform to get it. Cognitive scientists contend that "all thinking is an effort to arrive at some desired goal" (Hunt, 1982, p. 236).

Many cognitive scientists have come to consider "thinking" in a rather narrow sense, as formal, logical reasoning or, perhaps, problem solving. In professional conversation, some will avoid the word "thinking" altogether while others still use it but, without consensus, assign to it some precise and scientifically workable meaning like "pure reasoning", "problem solving", or "decision making".

The various theories of brain functioning in complex problem situations, such as political decisions, suggest that brain functioning involves all of the following: dealing with factual news, drawing upon stored information and preconceptions to interpret the news, making predictions, deciding on a course of action, and

resolving conflicts that appear during the course of thinking. But, it is when one does not have all the information s/he needs that the individual engages in serious problem solving.

Cognitive scientists see an arbitrary distinction between solving problems one knows how to solve with "knowledge base performance" and those that one doesn't know how to solve, considered "real or non-trivial problem solving". When problems are neither wholly trivial nor wholly without knowledge base they require the individual to perform two distinctly different kinds of mental activities, algorithms and heuristics. It is "the latter of these that is so characteristic of humans" (ibid., p. 238).

An algorithm is a working plan or procedure that has been learned or memorized [this decisional model is one of the types of decision making presently taught to critical care nurses]. Heuristics, general strategies for getting there, are utilized when the individual possesses some but not all of the requisite knowledge to reach a goal. It is heuristic thinking, not algorithmic performance, which cognitive scientists find interesting. This is because it is "the kind of exploratory, unprogrammed mental

process that is species-specific to mankind" (ibid., p. 239). Is this similar to intuitive thinking and/or affective connaturality?

Humans seem to have an almost limitless ability to solve problems. "Modern medicine and public health practices, for instance, are solving problems of disease and untimely death but vastly increasing those of overpopulation, malnutrition, and poverty" (ibid.). It is medicine's unique type of problem solving dilemmas which initiated this study into problem solving. Can the human mind spontaneously reason along the lines of formal logic, or does it have a different natural logic of its own?

2.1. Theories

This section will focus on some of the theories designed to examine the functioning of the human intellect. This study will first examine three cognitive aspects: intellectual skills, verbal information, cognitive strategies, then these cognitive aspects will be discussed as learning outcomes. Information, attitude, and motor skills will then be discussed as varieties of learning.

2.1.1. Learning outcomes

When considering learning it is often wise to work backwards from the desired learning outcomes. For this reason human capabilities which can be established by instruction will be discussed first.

2.1.1.1. Intellectual skills

Intellectual skills are required for the individual to be competent, enabling him/her to respond to conceptualizations of the environment by symbols. The prime capability in the individual as a thinker/learner is his/her intellectual skills which permit the individual to carry out symbol-based procedures.

Intellectual skills are the capabilities which enable the individual to respond to conceptualizations of his/her environment, they make the individual competent. (Gagne, 1977) They make up the most basic, and the most pervasive, structure of formal education. "They range from elementary language skills ... to advanced technical skills" (Gagne & Briggs, 1979, p. 49).

Learning how to do something of an intellectual sort is an intellectual skill. This contrasts with learning

about the existence of something and/or its properties. This is verbal information. When the individual has learned an intellectual skill, there is ordinarily a resultant, observable performance (Gagne & Briggs, 1979, p. 52). An intellectual skill would be the ability to identify a sonnet by its rhyme pattern. It is possible for the individual to learn to identify a sonnet without being able to describe the sonnet's rhyme pattern, which is a verbal informational skill. It is important for the teacher to maintain this distinction between the student's knowing "how and knowing that, even while recognizing that instruction often involves both as learning objectives" (ibid.).

Language, numbers, and other kinds of symbols represent the objects which comprise the individual's environment. Words stand for objects and represent relations among objects. Numbers represent the quantity of objects in the environment. Various symbols, such as numbers, are used to represent relations among these quantities, while other symbols, lines or circles, are used to represent spatial relations. Symbol-using, one of the major ways individuals remember or think about his/her environment. This allows the person to communicate aspects of his/her

experience to others. Language skills, one of the types of intellectual skills, allow communication to occur. Intellectual skills could be called "the 'fine-grain' structure of human intellectual functioning" (ibid., p. 61).

Intellectual skills are categorized by complexity, the intricacy of mental process that may be inferred to cause the human performance which is not very complex. What has been learned by intellectual skills and can be later be recalled is classified as a "discrimination."

A greater level of intellectual skill is "rule-governed" because this intellectual skill requires applying a "rule." The different levels of complexity of intellectual skills cut across types of subject matter. To think, the individual must first make a "discrimination" as a prerequisite for making "concrete concepts" which will identify an object property or object attribute such as colour or shape. This allows the individual to define the concepts by demonstrating the meaning of some particular class of objects, relations, or events. Many concepts can only be acquired as "defined concepts" because they cannot be defined by just pointing them out as one can with concrete concepts.

An example of a defined concept is the term "sidewalk" which draws to mind the "walkway beside a street."

When an individual's behaviour has a kind of regularity over a variety of specific situations, s/he is demonstrating a "rule." The ability to make a sentence involves a rule for the proper structure of a sentence, or as in science where rule using behaviour is mandatory. Once simple "rules" are learned the individual then has the intellectual skill to progress to "higher-order rules" which are required in problem solving. "Higher-order rules" may be invented for the purpose of solving a practical problem or class of problems. Once the individual works out the solution to a problem which represents real events, s/he is engaging in the behaviour called "thinking." The individual may generalize the workable solution to a number of possible solutions which have similar formal characteristics. This is the ability to formulate a new rule, or perhaps a new set of rules. Previously acquired rules may be brought together by the individual to achieve the solution to the presenting problem. Once this is achieved, the individual has learned a new, more complex rule which will be stored in the memory for use again to solve other problems.

Essential to this sort of learning in a problem solving event is the absence of any learning guidance. The individual has discovered or invented the solution. S/he is the instigator of the of the problem solving rule combination. These "strategies" may have been learned in different situations but the individual recalled a combination of relevant rules and combined them to form a new "higher-order rule."

2.1.1.2. Verbal information

Verbal information about the environment is manipulated within the cerebral cortex to arrive at a verbal or non-verbal outcome. Verbal information is readily available information in memory, such as the names of months, days of the week, letters, or numbers, geographical or historical facts and figures which is highly organized information. This information may be stored in the individual's memory, it is the "gist" of the situation and is not necessarily "memorized" because it does not have to be repeated verbatim.

Robert Gagne and Leslie Briggs consider "verbal information" a necessary factor which is readily available in the individual's memory. This information

is highly organized and may be acquired from formal instruction or from incidental learning. Without "verbal information", any subject would have no continuity or "substance". One of the functions of such information is to provide the individual with directions on how to proceed in whatever s/he is doing. This "skill" is necessary for stating facts and communicating information.

2.1.1.3. Cognitive strategies

Cognitive strategies are the capabilities that govern the individual's learning, remembering, and thinking behaviour. Such strategies are the internal methods used to get to the heart of the problem by self-management behaviours which allow the individual to solve problems. This collection of strategies can be learned and generalized and determine human performance.

Cognitive Strategies are considered the "crowning accomplishment of a great deal of specific learning" (Gagne and Griggs, *ibid.*, p. 71). A special kind of intellectual skill, cognitive strategies are called into play when the individual defines and thinks through a solution to a highly original problem. This special

intellectual skill is of particular importance in problem solving. Gagne and Briggs consider this an internal process by which the individual selects and modifies his/her way of attending, learning, remembering, and thinking. This is an internally organized skill which allows the individual to control his/her own intellectual processing. Attention control and remembering, by encoding information, are internal cognitive strategies of thinking which can develop out of specific learned intellectual skills by a process of generalization.

A cognitive strategy is the induction of a concept. It may be a mode of solving a novel problem. Induction strategy may be used to arrive at the simple explanation of what makes smoke rise or a more complicated explanation which requires advanced thinking and learning. With cognitive strategies, the individual is capable of solving a variety of practical problems by efficient means. The individual will frequently approach a new situation by working backwards, in stages, beginning with the goal to be achieved.

2.1.2. Varieties of Learning

A continuation of the varieties of human capabilities, which may be learned as classes of objectives as learning outcomes. This goes beyond informational learning and includes such learning outcomes as the establishment of changing of attitudes, and the acquisition of motor skills. Part of the teaching module of this study will be directed towards attitudinal change.

2.1.2.1. Information

Information consists of the facts which are the organized knowledge of the world. This information is stored in the individual's memory.

The information acquired by intellectual skills make it possible for individuals to respond to the environment through symbols. The individual is then able to communicate aspects of his/her experience to another individual by using such symbols. Symbol-using is one of the major ways the person remembers and thinks in the world in which s/he lives (Gagne and Briggs, *ibid.*, p. 61). By categorizing by complexity, a person's intricate mental processes may be inferred. As mentioned earlier these skills are indicative of the intellectual.

development of the individual which flows from the ability to make discriminations which are prerequisites to the ability to form concrete concepts and defined concepts. A concrete concept identifies an object's property or attribute. When the individual can identify a stimulus as a member of a class having some characteristic in common, even though such stimuli may otherwise differ from each other markedly s/he is working with a defined concept. The formulation of rules is the ability to respond with a class of relationships among classes of objects and events. This does not mean that the individual is able to state the rules verbally, something which occurs in right brain thinking or intuition. Once rules are learned, the individual is capable of progressing towards higher-order rules and problem solving.

Educators agree that the characteristics of intellectual skills are demonstrated by the individual's performance. This performance will be influenced by the individual's internal conditions. The external conditions which provide stimulation to the individual may be visually-present objects, symbols, pictures, sounds, or meaningful verbal communication. Both internal and

external conditions may stimulate or impede the performance of the desired behaviour. This allows for contiguity conditioning towards or away from a behaviour. In contiguity, or adjacency, it is necessary that the response follow the stimulus within a short time-span to be an effective learning factor. Tony Bastick (1979, 1982) considers this factor important in the formation of intuitive thinking. This topic will be raised again when reference is made to Bastick's Theory of Intuitive Thinking.

Reinforcement is of particular importance when the individual differentiates from right and wrong responses. A response indicating a correct perception between "same" or "different" stimuli is followed by a pleasant familiar activity. When a response which is incorrect, there is no such activity. When reinforcement occurs in this manner, the ability to discriminate will soon be learned. The individual is able to perceive a distinction between stimuli. Repetition allows for stimulus differentiation. Additional repetitions are essential when multiple discriminations are being learned because several different objects must be distinguished at one time.

The individual's attitude towards the seeking and learning of new skills and knowledge affect the intake of stimuli. Negative attitudes cause the information intake to be slanted or biased against that information while positive attitudes enhance the intake and storage of unbiased information.

2.1.2.2. Attitudes; the affective domain

"Attitudes are complex states of human beings which affect their behavior towards people, things, and events" (Gagne & Briggs, *ibid*, p. 85). Attitudes are a system of beliefs which vary in intensity, they are the internal affective states that influence the individual's action and choices toward or away from an action. Conflict or disparity in beliefs are the negative cognitive aspects of attitudes, they are feeling components of the mind. An attitude may arise from some complex of beliefs which give rise to feelings that will be manifest by emotions. The question here is will the emotion enhance or repel the learning situation.

The affective domain modifies an individual's choice of action. It is an other factor in Gagne and Briggs' theory of capabilities and human performance. They

suggest the effect of an attitude amplifies an individual's positive or negative reactions toward some individual, thing, or situation. The strength of an individual's attitude toward some item may be indicated by the "frequency with which s/he chooses that item in a variety of circumstances" (ibid., p. 50). Attitude influences the choice of action toward a class of action toward a class of objects, persons, or events. The observed attitudinal incidents would be the basis for inferring the degree to which the individual tends to use or not use something. It is an important factor which will be discussed in the chapters on intuition [chapter 3] and connatural knowledge [chapter 4].

2.1.2.3.. Motor skills

Motor skills are the psychomotor response to the brain functioning and are organized to accomplish purposeful actions.

"Motor skills", part of human functioning are "learned" by the competent individual. Motor skills mediate motor performance and allow the individual to carry out the motor activity in a variety of contexts. As will be seen

later, motor activities are instrumental in monitoring intuitive thinking.

Having looked at these 6 factors in terms of human performance in general, it is appropriate to examine adult performance and learning.

2.2. Adult learning

W.A., Wickelgren (1974) described the strategies employed by adults in solving verbally stated problems. They are the ability to 1) infer transformed conceptions of "givens"; 2) classify action sequences, rather than randomly choosing them; 3) choose actions at any given state of the problem which propel the individual closer to the goal of the action; 4) identify contradictions which prove that the goal cannot be attained from the givens; 5) break the problem into parts; 6) work backwards from the goal to new statements which imply the goal statement.

If at least six strategies are used by adults to solve one type of problem, and if adults must make major decisions of the sort previously described (with reference to nursing), then it seems appropriate to examine more closely research into how adults learn.

2.2.1. Androgogy, the art and science of helping adults learn

It is well-accepted that adults can and do learn throughout their entire lifetime. Malcolm Knowles (1970, p. 38) popularized the term and concept of "androgogy", from which he proposed four crucial assumptions about the characteristics of adults learning ability which are different from the assumptions which premise pedagogy. These assumptions are that as an individual matures his/her self-concept moves from one of being a dependent personality toward one of being a self-directed human being. S/he also accumulates a growing reservoir of experience that becomes an increasing resource for learning. His/her readiness to learn becomes oriented increasingly to the developmental tasks of social roles. Finally his/her time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his/her orientation toward learning shifts from one of subject centeredness to one of problem centeredness.

All of these assumptions are predicated upon the idea that people think both logically and intuitively.

2.3. Logical thinking

Logical reasoning is usually considered reasonable, sensible thinking. Thought patterns are well-outlined, coherent, consistent, unified, clear, and sequential. Reasoning can be traced step-by-step. There is a detached, analytical justification for all decisions. In fact, this type of thinking is what is commonly valued in Western Society. As an example, Peters and Waresman comment: The "numerative, rationalist approach to management dominates the business schools" (1982, p. 29).

A person "knows" when he/she has made assumptions, or taken liberties with the data of the problem. Evidence is verified and only that information which is pertinent to the case is admitted. Inferences and generalizations are made and conclusions are drawn. The individual is conscious of his/her thoughts throughout the process and knows the likelihood of errors in inferences and the bounds of his/her generalizations.

Logical thinking follows the rules of logic. Decisions are based on good evidence. This does not mean that, in

the facile, clever thinker, some of the intermediate steps are not jumped or short-circuited.

2.4. Analytic thinking

Analysis involves a conscious, purposeful effort directed to determining the proper choice. Information, however scanty, and individual preferences, are used. The concepts of analytic decision making models are then illustrated by concrete problems to show how factors like risk, uncertainty, and information operate. These form the basis of modern theories of economics, finance, accounting, marketing, and operations management. When there are four or more factors the problem is complex enough to make some form of analysis attractive. More than one decision maker and multiple attributes and uncertainty, lend themselves to factor analysis however, this does not rule out using intuition.

Analytic thinking takes the situation apart and looks at its many pieces. It sees relations between the pieces and then proceeds "to synthesize and to build up the abstractions and generalizations" (Bouthelet, 1948, p. 18).

The steps by which the thought takes place and the bonds that hold together the logical structure are "visible". Steps taken to solve a problem consist of locating and diagnosing the problem, of making the hypothesis, and of testing the hypothesis. Rules of logic that are the guidelines for "correct thinking".

Induction is applied during the process. Induction is the open system of reasoning from particulars to universals or of arriving at generalizations and deduction being characterized as the formal or closed method of arriving at conclusions by following implications of a proposition.

Rules of induction carry no explanations of how they come to be. The thinker starts at the highest principles, the self-evident truths. These principles are considered so compelling that they need no generalization process by building up of instances either because the self-evident truths are so potent or because they are felt to be intuitive. But even "self-evident truths" need testing. How does one test them because to test something, that something must be made explicit, and verbal, and logically coherent. In induction the point of induction in thinking, is dependent upon something like intuition

-- upon the sudden appearance of what was not there before.

With this general outline of intellectual skills and strategies completed, it seems appropriate to look at on-the-job application of these same skills and strategies.

2.5. Decision making

Most people approach decision making by laying out options available for dealing with various outcomes. Numerous scholars have developed models which describe how decisions are made. There are methods and techniques for modeling decisions and choosing among alternatives, but there seems to be agreement there is no single "best" method for every situation. There is a spectrum in decision making which goes from programmed analysis to instinctive decision making. Analysis is an alternative to making decisions based strictly on a toss of the coin. With analysis, expert advice and available data are factored into the choice. Analysis is used when decisions are complex and alternatives differ substantially from each other. These are "one-of-a-kind" decisions. Out of analysis comes policy for recurring

decisions to lessen the need for discretionary decision making. When decisions arise either once or so infrequently that no policy or procedure is developed for them then the individual must use his/her discretion.

2.5.1. Influences in corporate decision making

Decision making is defined as choosing between alternatives or choosing to accept or reject a single alternative. Individual and organizational processes fall into three basic categories:- 1) processing which follows a predelineated and highly specified set of actions to achieve a desired objective; 2) decision making which chooses the path to be followed or chooses to accept a single alternative; 3) problem solving which determines when actual input does not equal desired output then finding a path that will achieve the desired objective. This latter course relies on decision avoidance because the individual is responsible for avoiding situations that pose potential problems. This is usually accomplished by means of a feedback loop in the internal and/or external environment.

Another avoidance factor, raised by Peters and Waterman is against "wrong-headed analysis" seen to be too complex

to be useful and too unwieldy to be flexible. This analysis strives to be precise (particularly at the wrong time) about something inherently unknowable. These are situations in which action stops while planning takes over, it is what they call the all-too-frequently observed in the "paralysis through analysis" syndrome.

Many "how to" texts suggest that the way to assume -- and maintain -- full control of the job and the future is to utilize a problem/solution format, by 1) improving analysis habits and attitudes; 2) identifying bottlenecks to productivity; 3) solving the problems of paperwork, time, and task management. These are all considered as the "art" of being the boss.

2.5.2. Qualities of managerial problem solving and problem types

An assessment suggests that, managerial problem solving is characterized as being non routine for a variety of reasons. Within the organizational hierarchy, problem solvers are often faced with different informational input to resolve. For instance the employees at the top of the hierarchy tend to work with non routine information, while employees at the lower levels tend to

work with routine information and problems surrounding that type of information (Knight & McDaniel, 1979, p.139).

Continuous introduction of new technology, another facet of present day problem solving, is discussed by Alvin Toffler in his text Future Shock (1970). This is an aspect of the problem solving dilemmas faced by the medical professions today. This requires the individual to develop new systems and new kinds of information processors for problem solving. The "Peter Principle" (Laurence Peters and Raymond Hull, 1969) describes a management problem which results when there is a mismatch between the employee and the job. The individual's mismatch occurs when s/he is a process follower (routine) and not a problem solver (non-routine). What is needed is an individual who is capable of discernment, an individual who can determine when the present situation is not equal to the desired objective, adapt the thinking mechanism, and come out with the answer.

Weston Agor (1984, p. xii), became fascinated by certain managers who seemed to have the special ability to know when to ignore the financial analysts' advice and the

computer printouts when they made "marketing decisions -- and be right!" He began to study what intuition is and how it has been used particularly with non-routine decisions in management. His work will be discussed later.

Management differs from other levels in an organization by the fact that management often is called upon to make decisions affecting the future of the organization. Yet little is known about the variety of strategies and tactics that are used to perform this important task.

"Part of the difficulty is that the very definition of decision making is unclear" (Knight & McDaniel, p. 130).

In contrast to Peters and Waterman's injunction, Knight and Mc Daniel suggest that in some situations the manager can make a personal decision or s/he can utilize an "appropriate" decision structure. When faced with a choice situation there is a universal impression that the worst thing that a manager can do is nothing, in reality, there are times when this is the best strategy available, given the manager's overall task of achieving a desired result. One such time is when all of the available alternatives are disastrous for the system.

✓ Weston Agor, suggests that managers need to integrate rational and non-rational, management decisional skills.

Jocquelyn Wonder and Priscilla Donovan (1984) suggest that the manager should develop integrative networks between his/her rational and non-rational thinking to achieve peak job performance. Their theories will be discussed later.

Once the decision not to decide among the alternatives is made, the individual may continue to explore for new alternatives. A second instance in which managers should not engage in choice making is when they are clearly not accountable for the outcome. When the one who is accountable is both competent and working on the situation, other individuals getting involved often hurts the situation rather than helps it.

Individuals are often forced to make decisions without benefit of consultation or without of the involvement of others. This situation can occur either when the individual cannot share the information, as in the case of confidential information, or when the individual does not have a cohort within the organization who can comprehend the situation's technical aspects.

At other times, the individual in charge must decide because there is no appropriate decision structure available. The lack of time to share the information with another calls for the decision maker to have the ability to exercise the prerogative, as seen when a relief nurse, without special skills training, lacks the knowledge to concur on the most appropriate critical care procedure, s/he must base his/her decisions on what "feels" to be right. But, if there is an organizational decisional structure, like "routine orders," then the individual should utilize it.

When faced with decisions an individual has several decision making structures to choose from as noted in the next section.

2.5.3. Decision structure

Where they exist, collegial, political or bureaucratic decision systems are all possible organizational decision making structures. They are not separate entities within the organization but are useful tools for different kinds of choices.

Collegial decision systems, where decisions are based on shared value systems, can be utilized in nonroutine,

continuous information situations, which are characterized by a continuous flow of information which has a lack of a pattern, a high degree of uncertainty, and a low level of familiarity. Non-routine information is not easily classified by the receiver. To understand the complete meaning of this information the individual must frequently conduct an involved search, for this reason non-routine information is often treated as noninformation or routine information to avoid the time required for the search. Consensus may be sought rather than reliance on rules. Standard operating procedures, or shared value systems such as this example of a hospital situation when several physicians are caring for one individual client. Each physician is interested in his/her own specialty but they concur on a treatment sequence because of a "shared value system".

Another type of decisional structure utilized on nonroutine discontinuous information situations is the political decision structure. The outcome is negotiated. Errors can be made by treating non-routine information as routine and by treating routine information as non-routine. The value of the collegial system arises when errors can be made by treating nonroutine

information as routine and by treating routine information as nonroutine. Now if values are shared and the information is nonroutine continuous, then the collegial system is usually appropriate. If values are not shared and the information flow is nonroutine discontinuous, then the political system is generally most useful.

In political decision structures, the individual member of the decision structure is involved with determining which participants are concerned about outcomes of the decision. In nonroutine discontinuous information situations the decision made is based on control of resources (including information) and the willingness of the parties affected by the decision situation to use their resources for bargaining. City school boards are excellent examples of political decision structures.

The parties involved will determine which participants will be concerned and/or influenced by the outcomes of the choice or choices. What resources are controlled by the concerned individuals and/or group? How willing are they to use their resources? What bargaining skills do they have?

The bureaucratic decision system, a hierarchy of control, contains arrangements of standard information processors dealing with routine information that utilize "rules" to make routine decisions. Bureaucratic competence comes from technical knowledge of the system and the standardized operating systems. There is a set of rules for choosing between alternatives, this requires the ability to make fair application of the rules to every situation. Many organizations function in this manner. A nursing example can be seen in the use of an institutional philosophy, procedure manuals, and the "nursing process".

Bureaucratic managers, with different backgrounds and values, negotiate the future direction of the institution, hospital, or government bureau. The individual who obtains the greater share of the resources, heightens his/her stature and future on his/her area of management. This in turn increases the work environment esteem of his/her subordinates.

The most expedient times to use collegial or political structures to effect choices are when the organization is faced with scarce resources and when the organization has an excess of resources. The question asked in the first situation is "what can be effectively eliminated without

destroying the functional effectiveness of the organization?" In the second instance, the management can ask "Can we do something that we haven't been able to do before?" When the organization feels the need for improvement in their "systems", collegial decision making may also be used. The question here is "what can we improve upon in our present functional mode?"

Some cautionary notes are appropriate, having presented the positive features of decision making as a group. Since more than one individual spends time on a decision, the social pressure of the group can lead to perceptual distortions. One individual may dominate the process or manipulate the group into a "band wagon effect" in which participants go along with the decision against their better judgement. Even more consensus can force the "best" decision out in favour of a decision everyone can accept. Also groups tend to make a social rather than a technical evaluation of ideas. And, finally, group decision making is costly in terms of man-hours.

Because of these disadvantages, most organizations have relatively few decision makers except managers at the higher levels. For this reason, progressive management

educators include functions other than analytic decision making skills in their curriculum.

Kenneth Blanchard and Spencer Johnson (1984), suggest "three easy-to-master management techniques that are guaranteed to change the individual's life, they are one minute goal setting" because people who feel good about themselves produce good results; one minute praisings" because the individual who wishes to help people reach their full potential knows they need to be caught doing something right; one minute reprimands" are needed because everyone is a potential winner although some individuals are disguised as losers. This unique way of solving problems creates an atmosphere of tolerance and understanding in which intuition is likely to emerge. Goals begin behaviours but is the consequences which maintain behaviours.

2.5.4. Discretionary decision making

Discretionary decision making occurs when judgments are not covered by rules. The professional, for example, is free to choose among the possible courses of action. He/she is not limited to what is authorized or restricted to what is legal. People are familiar with the phrase

"use your own discretion" which implies that the decision maker has "good sense". Another phrase for discretion is "within the effective limits" (Davis, 1979). Judgment may require someone to sort through conflicting evidence or interpret an unclear law. If judgment is to be prudent, it needs the facts of the case, and the facts to guide the exercise of discretion.

Perhaps the greatest discretionary decision is the decision not to take an action. Discretion occurs whenever the effective limits on the individual's power leave him free to make a choice among possible courses of action or inaction. Discretion is not limited to what is authorized or what is legal but "includes all that is within 'the effective limits' on the officer's power" (ibid. p. 2).

Kenneth Davis suggests that if all decisions involving justice to individual parties were lined up on a scale, those governed by specific rules at the extreme right, those involving insulate discretion at the extreme left, and those based on various mixture of rules, principles, standards in the middle then discretion, which is in the middle of the scale, is where there might be the most serious and the most frequent injustice (1979, p.v). He

contends that rules and principles provide guidance for most decision making but where discretion abounds these decisions may become biased by emotion, political favouritism, or other personal imperfections of the decision maker.

Discretion occurs whenever the effective limits on the individual's power leave broad freedom to make a choice among possible courses of action or inaction. Discretion is not limited to what is authorized to what is legal but "includes all that is within the effective limits' on the officer's power" (ibid., p. 2). Individuals who can solve problems with extraordinary rapidity are "those who almost immediately penetrate them and see the relationship without reasoning" (Bouthelet, 1952, p. 25).

How can one make practical management decisions successfully on the basis of their feelings alone? Because individuals need all the tools of the decision making, including intuitive decision making skills, this study will now examine intuitive decision making.

THE CONCEPT OF INTUITIVE THINKING

CHAPTER 3

"Efforts to describe in words the meaning, nature and function of intuition must fail because intuition must be understood by intuition" (Burden, 1975, p.10).

3. Intuition

There are many definitions of intuition, most of them contextual or operational. As such, these definitions are limited. A further limitation is that the history of the concept of intuitive thinking is found primarily in the realms of theory and philosophy. Research into problems closely related to intuitive thinking have had considerable attention but, because of the connotations attached to intuition, the results of experiments on thinking that might have been interpreted as intuitive have been given another name or else, have not emphasized the intuitive aspects

3.1. Dictionary, operational, and related terms

Dictionary definitions, such as the New Webster's English Language Dictionary define intuition as "knowledge

discerned directly from the mind without reasoning or analysis." The Latin root is "intuitor" or "intuitus". It is a truth or revelation which is arrived at by insight; the power or capacity to perceive truth without apparent reasoning or concentration.

Lorraine Bouthilet (1948, p.4) suggests that intuitive reason sees into the invariables and eternities that cannot be demonstrated because it "grasps the first principle." This suggests some kind of generalization or principle rather than logic. She sees intuitive thinking as characterized, in part, by an occurrence in thinking which "short-circuits speech or which happens so readily that there is no time for speech to make the necessary record of what happened" (ibid., p. 42). Intuition is a discrimination without awareness where correct reactions to stimuli (which are not sensed) have more than chance proportions of judgments which are made on the basis of "guesses." There is the gradual, hunchlike emergence of the "recognition of classificatory schemes and relationships all suggest that what may be called intuitive thinking would appear under suitable conditions" (p.49).

A. Henderson (1946) sees intuition as discovery by mental lighting flashes where there is a God-like quality which sparks the intellect into action. Intuition is a powerful human faculty, does not come about by logic or by demonstration, although it is intellectual, intuition does not act, or make, or do anything and, despite the fact that it involves the specific case, it implies some kind of generalization or principle, like a faculty of thinking or mental behaviour. A. Poincare (1929, p. 208) suggest that individual's prove by logic but discover by intuition.

If something is known intuitively, it is known without having to think about it. There is no reason, no logical steps, no sensible or perceptible antecedents to the process which is easy and swift. The whole problem appears to be one never met before. The intuition appears in a new situation and it allows the individual to know what to do. Learning and memory do not direct the outcome (Bouthelet, p.1).

Frances Vaughn (1979) sees intuition as a "way of knowing ...recognizing the possibilities in a situation."

Extrasensory perception, clairvoyance, and telepathy are part of the intuitive function." It is a wisdom of the

heart that some consider a much surer guide than the head. Intuition is considered "the sixth sense" when there is an immediate apprehension of a spiritual truth, perhaps "our ancestors caught a hemline of truth as it skirted away from them" (Burden, p.xii). This spiritual aspect will also be examined in the course of this thesis.

3.2. Psychological and Gestalt terms

Non-philosophers, such as Jung (1926), see intuition as an immediate awareness of relationships which can not be established by sensating, thinking, or feeling at the moment of orientation. His conception of intuition is dependent upon the acceptance of the unconscious as one "strata" of the mind. This aspect of thinking seems to be applied to a kind of inferred behavior that cannot be explained except to call it intuition.

Gestalt Therapists use "insight" in its common sense meaning: the basic point of a problem which, when restructured, is seen in a new way. According to Gestalt theory, prior to or in the early stages of the thought process, people often have a whole-view of the situation as well as a view of its parts, even though this "whole

view" may appear to be somewhat superficial. Since even solution appears to involve change in the given situation, the "psychological totality of the situation (e.g. certain emphasized regions) ... is changed" (Ducker, 1935, p.34/35). Therefore the basis of problem solving is restructuring which changes the context of the problem. Components, previously separated as parts of different wholes come into a new totality. Though the answer appears to be quietly sitting there in the midst of "supposed" chaos it takes a quiet mind to sense the presence.

Max Weitheimer (1925, 1945), one of the founders of the Gestalt school of psychology, argued that the basis of problem solving is restructuring. The problem solver should only view the situation as "organized wholes, rather than a collection of parts" (Ohlsson, 1984).

A situation without organizational difficulties is seen as a stable situation. A problem exists when stresses are set up by unequal forces. Restructuring precedes an insight and is accomplished by seeing the situation as whole. The problem solver steps back in order to take in the "whole" situation. Intuitively s/he will collapse the situation into an emotional state which forms a new

structure with fewer gaps. This is important in problem solving because it is the prerequisite of restructuring. Restructuring just happens rather than being the result of something the problem solver does. It is a passive action and precedes an insight. "Restructuring occurs in the perceptual field, an entity which, in Gestalt terminology, is neither completely objective or completely subjective" (ibid., p. 71). Gestalt Therapists see thinking as implicit, covert, unobservable behaviour. It may be that by the introspection method, the concept of "mental set" or "Einstellung" in thinking arose.

3.3. Philosophical terms

Early definitions of intuition come from philosophers such as Spinoza who considered intuition a "superior way of knowing ultimate truth without the use of prior knowledge or reason." (Westcott, 1968, p.11) He believed in the intuitive method of gaining knowledge and attaining truth but his method was not clear. He saw the product of intuitive thinking, intuitive knowledge, as bringing about a sense of satisfaction to the mind, a feeling of "rightness". Henri Bergson "believed that

intuition was more fitted to achieve truth than reason."
(Michner, 1955, p.24)

The literature on mental activities which relate to intuition mentions Aristotle's "intellectual virtues". Among the virtues Aristotle proposes is one called "intuitive reason" which requires neither reasoning nor demonstration. Intuitive reason is not scientific knowledge therefore it does not require demonstration, Nor is it practical wisdom which deals with the "flux of living". Nor is it art that makes things and which therefore requires reasoning. St. Thomas Aquinas (1915) suggested that one model of the intellect is intuition, which he linked with connatural knowledge. (Connatural Knowledge will be discussed in Chapter 4)

Jacques Maritain states that "Intuition is intellectual". (1946a, p. 46) He feels that there is "no intellectual intuition without concepts and conceptualization." (Maritain, 1946b, p.51)

Intelligence has an insatiable hunger for reality which causes it to surge into itself for a sense of being which is "the deepest thing in the intelligence, and to achieve an intuitive discernment which is the act itself of intelligence." (ibid., p.52)

A problem-solving exercise is part of the thinking process. When there is no innate, habitual, or learned way of responding to a situation, then the individual is faced with a problem to solve. The problem may be either novel or difficult or both. The novelty of the situation and the degree of difficulty are both essential to the arousal of thought.

If intuition is a cognitive advance which may benefit the learner, it would appear logical that the learner's intellectual development would involve more than merely the assimilation and organization of conceptual systems whose dynamics are explicitly determined by definitions and combination rules. This would not exclude the instruction of concepts because there is no intellectual intuition without concepts and conceptualization, even when the conceptualization "in which it finds expression and in which it takes place can be mistaken or illusionary." (Maritain, 1946, p. 51)

Maritain suggest that it is human to attempt to solve problems at the lowest level of abstraction. He feels that central concepts are meant to be worked with rather than to be worked upon. Practical people intuitively know that explaining fundamental issues makes things more

complicated. It is better to use intellectual tools than to examine them. The intelligence can achieve a "sense of being" which is considered by the sages to be the "deepest thing in the intelligence." (ibid., p.52) He feels that in intuitive discernment, the intelligence sees by and in concepts and seizes intelligible reality out of possibilities,

Maritain suggests that when the mind achieves an authentic, infallible intuition. The mind reaches reality by and in signs produced and patterned under the aegis of a pre-existing concepts, this insight may expressed in somewhat erroneous statements. "This will be the case as long, at least, as our general scheme of concepts has not been recast, perhaps by virtue of that very intuition and the ruptures it produces." (ibid., p.53)

Intuition in relation to morals, religion, and esthetics is also recognized. In religion, of course, how else can so many religious feelings, moral laws, and esthetic qualities be explained. (ibid., p. 27) Some people are aware they they perceive sensations external to themselves. This they attribute to mystical forces such as extrsensory perception, the will of God, or, for the

Christian, the Holy Spirit. Abilities and wisdom arise from the soul of the inner man, considered by some to be the ego, the heart of the psyche of the subconscious self.

3.4. Tony Bastick and other wholistic approaches

Intuitive thinking does not advance in careful, well planned steps. Rather it tends to involve manoeuvres based on what seems to be an implicit or indirect perception of the the total problem, which carries a feeling of credence because of the "wholistic" perspective.

Tony Bastick (1979, 1982), synthesized a list of twenty properties of insight and intuition which, he felt, satisfied a consensus meaning of intuition. From this list of intuitive properties he formed his operational definition and theory. His numbered properties of intuition and insight are seen as;

- (1) a quick, immediate, sudden appearance. W.D. Hamlyn (1961) likes Ockham's distinction of perfect intuition which is "constituted by an immediate experience" and imperfect intuition which utilizes past experiences (p.64).
- (2) an emotional involvement, which leads to the formation of emotional sets.

- (3) a preconscious experience, with subliminal perception and information recall which is not consciously directed during primary process thinking.
- (4) a contrast between intuitive thought and abstract reasoning. These are not on a continuum but in separate modes of thought.
- (5) influenced by experience. R. M. Gagne (1965) suggest intuitive thought requires a wide knowledge of the subject matter in which the problem occurred. He states that "... great discoverers almost always had a great grasp of the field in which they were working."
- (6) an intuitive understanding by feeling, which allows for feelings of relation, feelings of confidence, and feelings resulting in intuitive products, through a self sensitivity to feelings, on a multitude of physiological dimensions.
- (7) having associations with creativity.
- (8) having associations with egocentricity.
- (9) not needing to be correct, but, there is a subjective feeling of certainty which accompanies intuition.
- (10) having the subjective certainty of correctness, which is accompanied by a feeling of confidence and subjective certainty resulting from a reduction of tension.
- (11) recentring, which allows divergent thinking by the combination of emotional sets.
- (12) empathy, which is used to evoke feelings used in the intuitive process.
- (13) an innate, instinctive knowledge or ability.
- (14) a preverbal concept, since, the verbal mode is inadequate for intuitive perception, intuitive processing and communicating intuitions.

- (15) a form of global knowledge, with redundancy in multi-modal information which contributes to the physiognomy. This is accompanied by subliminal perception and minimal peripheral cue utilization in a regressive ego state. Bastick categorizes global information by emotional sets.
- (16) incomplete knowledge. V. Burden sees intuition as "a key to pertinent knowledge" (1975, p. 7).
- (17) hypnogogic reverie, is "the seemingly chaotic associations of images and ideas that occur during very relaxed, near sleep-like states" (Bastick, 1982, p. 341). It is a useful part of the intuitive process.
- (18) a physiognomic perception gives a sense of relations to intuitive thought, particularly in mathematical research.
- (19) "dependent on the environment."
- (20) a cross modal "transposition" which facilitates "transfer" and intuitive thought.

Tony Bastick (1979) describes intuition as a process which contains emotional involvement dependent upon past experiences and the present situation of the intuiter. His study has lead him to conclude that intuitive thinking is directed, primary thinking in which thoughts and behaviours are viewed as decoded versions of emotionally encoded information. These thoughts and feelings are associated by common feelings which are juxtapositioned and which appear to be recalled when these emotions are reconstructed.

Bastick's later broader definition (1982) suggests that similar information is associated with different emotions causing the thoughts and behaviours associated with these "emotional sets" to increase redundancy, thus assuring content duplication. Bastick states that intuition is a fundamental process of thoughts and behaviours that result from this organization. Thought and behaviour result from "processing information coded by feelings and organized by being associated as response tendencies to overlapping emotional sets" (p.354).

What Gestalt Therapists call emotional states or mental sets, Bastick calls "emotional sets". He uses the phrase "recentering emotional sets" when speaking of restructuring. He considers this latter aspect of intuitive processing a vital facet of his Theory of Intuitive Thought Processes. He also considers the "general mental attitude of the thinker" in his research experiments.

When a situation is "restructured", or "recentered", one or more of the following subjective experiences accompanies the restructuring. The problem is seen in a new way. As the situation is perceived differently, a re-interpretation alters the exegesis of the entire

situation and not just part of exposition. This is the critical step in intuitive thinking for both the Gestalt Therapists and Bastick.

The factor of redundancy by "recentering" and Bastick's twenty properties of intuitive thought will be basic principles of intuition further discussed in this thesis. His principle of contingency conditioning, the accepted concept upon which he bases his theory, will also be discussed later.

3.5. Related terms

Roget's University Thesaurus suggests that the major terms which are synonymous to intuition are; "mind," "unreasoning," "knowledge", and "subconscious." But the mind is equated with the "intellect" and "cognition" which uses "intellectual faculties" such as "discursive reasoning." It is the "seat of thought," where the "mentality" resides along with "instinct" and "intuition." The "absence of reason," "unreasoning," suggests "intuition" and "instinct" as the first two synonymous nouns. "Knowledge" is equated with "cognition," "experience," "insight," "comprehension," "recognition," "appreciation," and "intuition." While

the term "unconscious" is listed under "psychic research," where things are "abnormal," "supernormal," "mystic," or "subliminal." "Intuition" is listed between "secondary consciousness" and "multiple personality" which gives the illusion of "functional disintegration." For this reason it would appear reasonable to examine some of the possible synonymous terms for intuition, that may appear related but possibly are not.

For instance the adjective, "intuitive," is synonymous with "instinctive," "impulsive;" it is "independent of reason," or "anterior to reason;" it is seen as an act which is "gratuitous" or "hazarded". This gives an atmosphere of "unconnectedness" to intuitive acts.

The first term to be examined is "instinct" which is frequently associated with "intuition" in the literature, possibly because intuitive thinkers recognize instinctively which of several courses of action to take. Their conclusions arrive so fast that there is no time for calculating. "Intuition" and "instinct" are not synonyms, yet they have certain qualities in common.

Another parallel between instinct and intuition is that "intuition" has been described as "innate knowledge" even though this description is disputable. For the present

purposes instinct will be considered different from intuition because there is the connotation of the conscious intellect being activated. The intellect consciously understands, reasons, and thinks. It denotes a rational mind with faculties under the control of the will, but, it may also suggest the absence of reasoning, such as a "rule of thumb" or an intuition.

The similar term, insight, is a psychological concept that closely relates to intuition. The Webster's New English Dictionary (1984) describes insight as the "act or power of grasping or intuitively understanding the essence of something; discernment; penetration; perception." Other dictionary definitions of "insight" are: "mental vision", "penetration", and "intuition." Lorraine Bouthélet (1952, p.6) sees insight as a synonym for intuition, another synonym of insight is discernment. She defines insight as a "seeing into" something where there is an understanding or a realization which is used to describe a particular kind of "behavior that can be observed, and also to present a subjective or private experience." If insight is a seeing into something by way of an understanding or a realization, then there has been a move away from intuition although not a great

distancing. Intuition is a restricted type of insight, an association that has become disinterested, self-conscious and capable of reflecting and of enlarging upon its objects indefinitely. An important criterion of insight is that there has to be an "awareness of consciousness". Insight involves not only seeing into the inner "How" and the inner "Why" but it implies an "awareness", a "knowledge", a "consciousness" of the principle or of the "Why" (Bouthelet, p.6).

Tony Bastick (1979) suggests "insight" is "merely the name given to the operation of a sudden increase in the number of correct responses on a learning task" (p. 502). Although insight represents a subjective or private experience, having an insight can mean that one comes to an understanding which can be expressed in behavioural terms. There is an action that can be observed or there can be a private, subjective, experience. In insight, there is "an organization of what were discrete parts into a totality, an integration of what is many into one, a unification that is meaningful and makes sense" (Bouthelet, *ibid.*). Insight brings understanding, often gradually as if there were a series of step by step minor insights which preceded the later major revelation.

Virginia Burden (1975, p.2) suggests that each "moment of insight quickens the slumbering inner life into activity". With insight it is possible to gain wisdom, not available through the intellect, in this respect insight is similar to intuition.

Intuitive judgment may be made "instinctively" or it may be made "subconsciously". Reasoning is not part of an instinctive action or an intuitive action. Instinctive patterns of action are inherited or innate or physiological or intrinsically within the nature of the individual. Both intuition and instinct are alike in their juxtaposition to thinking, to considered action, and to judgments with an explanation and a rationalization (Bouthelet, *ibid.*).

The major difference between instinct and intuition is that instinct is a physiological response while intuition, a mental-emotional process, is instinct on its mental side. As soon as one limits intuition to the mental, it takes on the characteristics of other mental activities.

3.6. Other similar terms

Intuition has been described as innate knowledge but this description is probably not generally acceptable because it is too uncertain. In the case of conditioned response, the behaviour has been learned; it is not been instinctive or innate. Customarily an intuitive judgment is not considered quick and automatic simply because it is learned or conditioned, but, one could surely argue this explanation.

Not all of the tests of concept formation are concerned with the process involved and the effect of various conditions upon the formation. Objective tests of induction or reasoning have been developed not so much to diagnose as to appraise an individual in conformity with his mental capacity at concept formation. Since intuitive thinking has been related to the process of induction, it is congruous to ask by what means inductive thinking is measured and whether there are any clues to intuitive thinking in such measurement (Bouthilet, p.39). Does the process go on much more rapidly, more "intuitively" without explicit logical and verbal reasoning?

The subconscious mind, another synonym suggested by the thesaurus, is able to arrive at a verdict, an intuitive diagnosis, or a subconscious recognition. All these phrases are applicable to intuitive thinking, and, equally, to common sense. Some clues concerning what is meant by intuition and intuitive judgment are suggested by the context in which they appear.

Bouthelet states that "common sense ... seems to mean the same, or almost the same, as intuition" (ibid., p.2). Common sense allows the individual to come to a sensible decision without having conscious knowledge of how the decision is made. This leads to the various connotations and usages of "unconscious" and "unconsciousness."

Included in Bastick's twenty properties for intuitive thinking. Unconscious has been equated with "not involving insight." This definition makes intuition at variance to insight, although "in being opposite they are related. Intuition, it may be said, is unconscious insight" (Bouthelet, ibid.). When one makes a sudden, snap judgment in what seems to be an intuitive manner their explanation may be that s/he has forgotten, in some way, the antecedents to the judgment and so one says, s/he acted on a hunch.

"Undiscriminating" is a synonym of "unconscious". The intuitive individual frequently acts as if s/he were not discriminating, and if according the intuitive individual's verbal report, he/she is not discriminating, yet suddenly s/he does something to indicate that all along discrimination was taking place to account for the resultant behaviour. References to "woman's intuition" bear witness to this behaviour. Intuitive thinking is considered unconscious when its processes and antecedents are undiscriminated at the observable level.

Intuitions come without voluntary or conscious control, just as conditioned responses happen without voluntary control they are both an involuntary action. "This definition comes rather near to the meaning of unconscious that equates it with conditioned" (Bouthelet, *ibid.*, p.11). In this case, however, the behavior has been learned or conditioned, it is not innate.

Subliminal stimuli are received by the brain without the individual being aware of the message. Subliminal stimuli have certain characteristics and happen under different sensory conditions. Telepathy or extra-sensory stimulation and perception are included in this area of perception. Responses can be made to subliminal stimuli

and that subliminal stimuli can be discriminated and that behavior is affected by many stimuli or conditions of which the individual is not aware. If "intuition is instinct on its mental side, perhaps we can say that subliminal discrimination is intuition of its sensory side" (ibid., p.12).

This discussion implies that intuition is some kind of "higher mental process". Clues to the definition of unconscious come from the studies of the cerebral assymetry. It is widely understood that the right brain is the feeling, sensory, intuitive, non-verbal, part of the brain where wholistic perceptions are received and acted upon without verbalization and conscious awareness. The left brain deals with linear, logical situations which it is able to communicate by verbalization.

As has been noted, to act involuntarily is to act instinctively. Automatic behaviour is apparently unconsciously controlled by the individual. Intuition "comes without warning and without prompting; it cannot be willed; it is involuntary" (ibid., p.11). When behaviour is conditioned or learned, there is no voluntary or conscious control, it is not innate.

Intuitive judgment is not considered quick or automatic

simply because it is a conditioned response but, Bastick does consider contituitiy conditioning an important factor in the formation of intuitive ability by conditioning rudundant emotional sets. This will be discussed later.

There would appear to be a "higher mental process" involved in intuition. In the traditional sense, a "higher mental process" includes the activities of thinking, problem solving, reasoning, abstracting, generalizing and the like. Thinking shows some degree of originality, or some way of dealing with a situation in which there is a degree of novelty. When one is thinking, ideas as ideas are dealt with in the formation of concepts, or combining concepts into higher and higher concepts, discerning the relations among them, forming judgments or prepositions into an ordering and use in the construction of doctrine regarding life and the world.

In a new situation, the individual does not have a set of actions to fall back on, nor a set of behaviours for the presenting kind of situation. The individual has to think along, out of, or through the situation or problem. A further characteristic of thought is that customarily it is considered to be implicit behaviour. Talking

aloud, or with others, enables the actor to put the problem into spoken words so that others can hear and understand the mental process. Unconscious can mean "unable to communicate" or "not communicated". Thinking is unable to progress without "communication" even if the communication is of such low intensity that it cannot be heard, even by the speaker. At the same time, there is no mention of the fact that intuition can be verbalized. Intuitive thinking "...may be verbalized, but either it may be uncommunicated or the thinker may be unaware of his verbalizing. So whether or not verbalization is taken as a necessary concomitant of thought is unimportant" (Bouthelet, *ibid.*, p. 14).

The final definition of unconscious, "unsensing" seems to imply something on the physiological side, a lack of sensory stimulation because of a neurological disorder of the sense organ rendering it incapable of receiving stimulation or receiving garbled stimulation with "noise" or "bias" in perception, all these factors can influence the individual's ability to think intuitively.

There are other aspects of thinking and its theories that must be considered in relation to intuitive thinking

before Bastick's theory of intuitive thinking processes is discussed.

3.7. Other theories about intuitive thinking

K. W. Wild (1933) considers intuition as a way of approaching reality while reason is contrasted as an alternate method. Henri Bergson (1944) attempted to establish intuition as a separate mental function, a faculty of mind, a way of knowing which is different from either instinct or intelligence but more effective in understanding the prime reality. This may be seen as similar to imagination or empathy. There is a kind of synthesis of perceptions and judgments, supported by many different experimental details, that is applicable to intuition. Maritain feels that concepts may prevent intuition even though concepts may arise from intuition. Intuitive thinking and logical thinking are similar in that both approach new problems or new solutions, reaching conclusions, making judgments, and deciding on actions. They are different in that logical thinking is verbal and intuitive thinking "often seems to be subjective and qualitative rather than objective and quantitative" (Bouthilet, p.18). It may also be said

that one is intuitive in judgment and logical in development. "How we think" can be inferred from "what we think". When the product of thought is a judgment, a solution, a rule, a principle, or a concept, induction may be applied to the process. Induction has rules but there is no explanation of how they came about. They are self-evident truths which are potent simply because they are felt intuitively. The origin cannot be traced and the propositions and principles are accepted without question, as a general rule, in a special case, in terms of sense perception and their retention in memory of generalization.

3.8. Measurement of intuitive thinking

Bouthilet's review of the meaning of intuition showed the "futility of attempting to encompass the concept of intuitive thinking into one all-inclusive definition."

(p. 50) She concluded that it would be possible to devise experiments to study intuition. She devised and presented a situation "that a form of behavior from which intuitive thinking may be inferred, can be demonstrated."

(ibid., p. 49)

While Bouthelet's study was rather primitive and simple, the study by Tony Bastick (1979) was not. Bastick suggests that studies of intuition, both theoretical and operational in various fields, have tended to restrict the information base to their own field of study, although researchers infer their results to intuition in a general context. [Bouthilet had made the same observation thirty years prior to Bastick's study]. In the intervening years, it appears that no one sought to correct this situation. Bastick was also concerned that studies have rarely cross-referenced "relevant research findings from other categories. However, cross references out of context have been made and are misleading to subsequent researchers." (ibid., p. 16) Bastick argues that intuitive thinking can be demonstrated.

3.9. Bastick's conclusions about intuitive thinking

Bastick's research (1979) demonstrates that intuition is a reorganization of experience through "recentering emotional sets" where responses are common because of common feelings rather than because there are logical connections between the problem and the solution. The conditioned responses from the two emotional sets are

similarly coded, they are connatural, they coalesce on many physiological dimensions, highly redundant responses conditioned to an emotional set which rise to the conscious mind giving that intuitive "Aha!" which is an awareness of feelings which accompanies the increase in redundancy as the emotional sets coincide. There is a synthesis of emotional sets which produce a terminal emotional set, the intuitive solution.

Intuitive types tend to be introspective, a necessity of egocentricity and empathy. The true relation between intellect and intuition is that intuition is the creative advancement toward reality.

In the simplest of terms, Bastick suggests intuitive thinking is directed primary thinking. Thoughts and behaviours are the decoded versions of emotionally encoded information. These thoughts and behaviours are associated by common feelings which are juxtaposed and which appear to be recalled when these emotions are experienced again. Motivating anxiety is resolved by learned and instinctive body responses. It is this sudden resolution of internal tension which awakens the intuitier's consciousness to his/her new feelings and associated thoughts "engendered by his responses."

(Bastick, 1979, p. 578) From this, he has developed a theory to describe the entire process.

3.10. Overview of Bastick's theory of intuitive thought processes

In intuitive thinking thoughts are coded by feelings and associated by their common feelings by transient preconscious identification of a problem situation.

"Preconscious temporary identification with the problem situation evokes disquietening feelings in the intuiter."

(ibid., p. 578) These "common feelings" will evoke disturbing feelings in the intuiter. Learned and intrinsic body responses are inherently enacted to resolve this motivating anxiety. The instantaneous dissolution in tension cause the intuiter to become aware of new feelings and associated thoughts established by physiological responses. "It is these feelings and thoughts which is the intuition." (ibid.) From this, a potential operational definition of intuition arises: intuition is composed of feelings and thoughts.

Similar information can be associated with different emotions. Thoughts and behaviours increase redundancy assuring content duplication. Intuition is a fundamental

process of thoughts and behaviours that result from this organization. Consideration of thought and behaviour results from processing information which has been coded by feelings and "organized by being associated as response tendencies to overlapping emotional sets."

(Bastick, 1982, p.354) Thoughts are the cognitive components of the responses which come to conscious appreciation when the individual is in a particular emotional set.

Cognitions are part of the response tendencies defining emotional sets. The body's emotional state is constantly changing as the multitude of stimuli change. The interdependence of the individual changes monitored by the body's regulatory feedback systems results in conglomerations of stimuli changing in accord. These mass physiological changes give a succession of similar emotional states called an "emotional set". Emotional sets are concordant mass changes which give a succession of similar emotional states. "The combination s of these emotional sets models a general theory of thought. (ibid. 1979, p. 578) Groups of stimuli within an emotional set act so much in accord that they give a gross behavioural

response called "response tendencies" as the "tend to become 'behavioural' responses." (ibid. 1979, p. 580) Some groups of stimuli within an emotional set act so much in accord as to give a gross "behavioural" response, called response tendencies because they have tendencies to become "behavioural" responses. These tendencies are not always realized in any particular emotional set.

The combination of emotional sets in the direction of increasing redundancy is the intuitive process. This process is felt as a successive resolution of the evoked tension initiation the process. Intuitive products result from these directed combinations of emotional sets.

When the emotional sets overlap one another and as the individual drifts from one emotional set to another thoughts and behaviours change. The emotional set which most overlaps the previous emotional set will be the one to which the individual gravitates. "During the change the duplicated response tendencies will be reinforced, making the path or drift more probable in the future."

(ibid. 1982) Redundancy, duplicated or common information, is the overlapping duplication of response tendencies which occur between emotional sets.

Contingency, the proximity or association of ideas, is dependent on chance or the fulfillment of some condition, an adjunct in a state of touching or a tangency. Since instinctive response tendencies initially define an emotional set (ibid. 1979, p. 563) through touching and joining [contiguity], other stimuli and responses become conditioned to emotional sets. (ibid., p. 580, [also see pp. 150 & 173])

Conditioning occurs because, in life, suitable responses receive "rewards" which condition the developing individual to act "increasingly appropriately to a greater variety of environments. (ibid.) At the beginning of development the instinctive response tendencies are available when the body is in the relevant emotional set but with increasing experience the conditioned response tendencies are also available then the individual is emotionally/mentally in that particular emotional set (ibid., p. 581 [also see pp. 253 & 194]).

"Primary-process thinking may be described as a result of combining highly redundant emotional sets whereas secondary thinking may be described as a result of combining 'smaller' less redundant emotional sets."

(ibid. 1982, p. 355) Intuitive thought, primary process

thinking , is directed by the need to resolve an initial "non-ego-threatening anxiety" caused by a problem situation which evokes different emotional sets in the intuitive person. These different emotional sets have conflicting response tendencies which give rise to cognitive dissonance.

Reduction of this initiating anxiety is accompanied by increasing redundancy. The resolution of anxiety is the only way by which the individual is "aware that he is on the right tract, without knowing the goal, and by which he identifies the final intuition." (ibid., p. 356)

Bastick differentiates between intuitive and non-intuitive individuals by the highly redundant formation of emotional sets available to the intuitive individual but not to the non-intuitive individual.

Self-evoked anxiety or curiosity allows the emotionally self-sensitive, intuitive individual to evoke the initiating anxiety which crystalizes the intuitive process, this precipitates the anxiety resolution and the future choice of this mode of thought.

Controlled empathy projection is a necessary ability for intuitive thinking and creativity. Bastick views the

whole body as a dynamic group of systems which are interrelated where homeostasis is maintained by integrated feedback stimuli from the external environment which produces responses which act as further stimuli for the internal environment.

The human body monitors hormonal, visceral, motor and cognitive internal stimuli in order to react to them. This awareness, is preconscious unless there are gross changes which rise to the conscious awareness. Bastick's "wholistic" view also considers cognitions as compound stimuli/responses inextricable integrated with the "myriad stimuli whose self detectable individual amplitudes and rates of change defining the emotional state of the body at any instant in time." (ibid., pp. 579/580 [also see p 455 and p. 161])

The organization of information by emotional sets requires the use of empathy to evoke feelings subjectively appropriate to the information, often initially emotionally neutral information from the environment. Attributing the processes information to the appropriate situation, requires projection of these feelings to the objects associated through empathy with

the feelings. Hence empathetic projection is a necessary ability of the intuitive type. (ibid. 1982, p.356)

The intuitive individual is emotionally variable. S/he has an ease of emotional drift whereby he/she is adroit in combining emotional sets.

Control and change of the level of redundancy at which the intuitive processes his/her organization is facilitated by control of ego state. It is this control which differentiates the intuitive from the creative. The creative individual has control over his/her ego state which enables him/her both to keep constant and to shift more easily between directed primary thought (intuitive processing) and secondary thinking (for analytic processing). This is how Bastick sees the intuitive process used to furnish the "original idiosyncratic inspiration and to guide the analytic verification of creativity." (ibid.)

There are different aptitudes which contribute to artistic creativity as compared to scientific or mathematical creativity. It is not the content specific technical ability which creates the basic difference in types of creative ability but it is the "combinations of the degree of ego control of the creative and the

redundancy of emotional set." (ibid., p.357) The individual's level of intuitive ability is determined by the degree of redundancy and the freedom with which the individual is able to accept the initial problem constraints.

To summarize, Bastick's theory of the processes involved in creativity suggest that the controlled thinking change from primary to secondary, or secondary to primary and allows a "tolerance of incompleteness not acceptable in secondary thought." (ibid.) Sparcely redundant emotional sets are used from secondary-process thinking but the combination of highly redundant emotional sets are required in primary-process thinking of intuitive thinking. Intuitive types are able to utilize this redundant structure by evoking an initial anxiety in a low level of redundancy then combine it with emotional sets of a higher level of redundancy to produce the intuition. Bastick considers the intuition the response tendencies in the terminating emotional set. That is creative individuals are intuitive individuals who are able to control constancy and change of ego states to determine their level of redundancy.

If the initiating non-ego-threatening anxiety is not available in a relaxed ego state then other phenomena of thought and behaviour appear rather than intuitive thought and behaviour. This allows the combination of emotional sets at a high level of redundancy.

Bastick feels that intuitive individuals build hierarchical networks in their emotional sets. Phenomena such as cognitive style, personality type, and creative, intuitive and empathetic ability, may be described more precisely in terms of this hierarchical network of emotional sets and also in terms of how the intuitive process this structure by their progress through it.

Bastick's illustration of emotional sets looks like a ripe bean pod. Where this wavy band shape expands it represents all the detectable stimuli amplitudes and stimuli changes to which the individual is self sensitive. Where the band is narrow represents the areas between connected bands of emotional sets. Stimuli such as hormonal, skeletal, visceral or muscular, at that moment, are what make up the totality of the emotional set, this is constantly changing. The integrating regulatory feedback system of the body does not allow the myriad detectable stimuli to change independently but at

some times conglomerates of stimuli act in accord to retain homeostasis. This co ordinating stimuli precipitates integrating resonses and so on and so on. Groups of stimuli precipitate resonses which act as further responses. Because internal stimuli and responses may both act as stimuli Bastick make no distinction between them and he refers to them as internal stimuli/responses. These "common characteristics of the emotional states are preserved over time" (ibid., p. 358).

Bastick refers to the more lasting characteristics of transcient emotional states as a physiological set. The changing range of stimuli/resonses will either reinforce or cancel each other. This results in a building and decay of the common characteristics of specific emotional sets over time.

Integrated response tendencies are the combinations of conglomerations of stimule acting in accord. Cognitive response tendencies, physiological response tendencies, and visceral or hormonal response tendencies are associated with the physiological sets. For example fear and hunger get their names from their response tendencies.

For the Theory of Intuitive Thought Processes, much less extreme response tendencies of physiological sets than fear or hunger are considered. These response tendencies may be either conditioned or instinctive or contiguous stimuli/responses which "if conditioned will become future response tendencies. Together with the physiological set of these response tendencies comprise the emotional set" (ibid., p. 359).

Since the alteration in emotional sets is progressive, the next emotional set will have many common stimuli with the present emotional set. There is a natural tendency to change to the most redundant emotional set, the emotional set with most response tendencies in common with the present emotional set. Bastick suggests this as a "process of primary thought" (ibid. 1979, p. 582.).

[also see p. 381] He considers analytic or secondary process thinking as similar but the individual advances through the emotional sets by a disconnection of emotional sets so that "during secondary process thinking less inclusive emotional sets are combined" (ibid.).

Response tendencies which resolve the present stress are of high value, therefore if two emotional sets have equal redundancy to the present emotional set of some stress,

then the next emotional set will probably be the one which has response tendencies which will alleviate the stress. "This directed combination of redundant emotional sets is the proposed intuitive process" (ibid., p. 583,). [also see pp. 250 & 270]

The individual's total knowledge is represented by all his/her response tendencies, therefore the more s/he has the more s/he knows. Two similar emotional sets which contain the same response tendencies in common give redundancy. The occurrence of a particular response/stimulus gives the possibility of evoking the emotional set to which it is conditioned.

The transition probabilities between emotional sets define a network or interwoven chains of probable association. Bastick's diagram of this phenomenon looks like a handful of bean pods dropped in a compact lump upon a table. Where these chains are linked by highly redundant emotional sets with many response tendencies in common with more than two emotional sets, looks like one expanded seed pod of the bean lying on top of another expanded seed pod of another bean. This represents what Bastick calls the transition probabilities between emotional sets. It creates the consecutive linking of

emotional sets which are the most hopeful paths of association.

The emotional sets which form nodes of Bastick's "network" are highly redundant because they have many response tendencies in common with many "adjacent" emotional sets of high transition probability, rather than having responses in common with two emotional sets, namely one on either side as in a linear chain" (ibid., p.361).

Bastick considers emotional sets as "unconnected" when their transition probabilities are low. In these cases it is unlikely that the individual will occupy two such emotional sets consecutively. The nodes or junctions of the network "allows us different ways to associate our knowledge represent our understanding" (ibid.).

"Understanding" is seen as ways of associating knowledge. Bastick sees the nodes as redundant emotional sets and considers an increase in nodes in an increase in understanding.

Compartmentalization of knowledge occurs when similar knowledge is conditioned to two emotional sets with low transition probability. Compartmentalization does not

allow for association and/or understanding. One knows this and that but cannot understand a similarity between this or that because he/she cannot associate it.

Similar knowledge is conditioned to two emotional sets with high transition probability to form a "link" which gives a means of associating this similar knowledge. The "link" is a means of better understanding their similarity.

"A neighbourhood of linked emotional sets represents a concept" (ibid., p. 362). The concept may become more diffuse as more of the network of emotional sets with low transition probabilities are included. The whole network is redundant concepts, it consists of overlapping concepts. Each concept has its own emotional set, a neighbourhood of hierarchical emotional sets may be considered one concept defined by its emotional set.

It is possible to have an overall attitude about something in a relaxed state when one does not have to consider the more detailed aspects of that "something". When one looks in detail at such an overall attitude one finds it is ambivalent because such an overall attitude consists of so many redundant emotional sets which

overall contain dissimilar response tendencies. The complex network of emotional sets may be considered at this higher level to be associated concepts each defined by an "extremely redundant emotional set whose large integrated response tendencies are the smaller emotional sets comprising the concept" (ibid., p. 362). One's overall attitude to that "something" will be the emotional contexts which form the links between chains of emotional sets which are on a lower level of redundancy.

It is possible to move between a great many extremely low-level redundant emotional sets which correspond to the possibilities of continuously considering a great many details which are composed of less information and therefore have less in common with each other. Analytic work requires more concentration on details and one must not allow their minds to wander on higher levels of redundancy as one could in more relaxed state. As the individual relaxes, s/he goes higher and higher in redundancy levels to include the attitude about that "something" within a very general attitude, within in one's emotional set of one's "way of life". Therefore it is possible to "move between fewer extremely redundant

emotional sets at this higher level of redundancy which represents concepts of concepts" (ibid., p.363).

Bastick states that the ability to combine emotional sets is facilitated by hierarchical embedding of two similar emotional sets into an encompassing emotional set. This may be accomplished by drifting through emotional sets or by combining by recentring which "produces the most redundancy" (ibid., p. 377).

During problem-solving Bastick suggests that one or all of these methods of combination may occur as the problem-solver changes the hierarchical levels of redundancy in which s/he works. At low levels of redundancy, during secondary thinking, the method of combining emotional sets is accomplished by successively embedding only two most similar emotional sets at a time. Bastick does not consider this intuitive thinking.

Bastick's Theory of Intuitive Thought Processes

formalizes related psychological concepts by defining intuition in one specific objective incorporated in the global objectives which allows applications, explanations and testible predictions relevant to general psychology.

The literature, Bastick reviewed, in his investigation of

these properties, included "suggested instruments for testing the theory, and suggestions for fulfilling the applications objectives (ibid., p. 30). Specific teaching methods that use intuitive ability in mathematics education and generate computer intuition.

In Bastick's unified theory the redundancy principle suggests that this tendency of our thoughts and actions to increase redundancy is a fundamental principle of thought and behaviour. [see pp. 388-391 for his formula equations]

CONNATURAL KNOWLEDGE

CHAPTER 4

Work of the nurse may, in a way ,
become part of him/her by virtue of having
the habits of choosing the right means co-natured
to him by by virtues of having the habits
of choosing the right means co-natured to him/her.

4. Introduction

The work of St. Thomas Aquinas contains the earliest reference to connatural knowledge, except for the work of John of St. Thomas (1883-1886), the subject remained largely undeveloped until this century when Jacques Maritain (1946c, 1951a) treated the subject in depth. From his discussions on the topic, one can conclude the importance of the role played by connatural knowledge in both speculative and practical knowledge (Lambur, 1952, p. ii).

Maritain states that mystical experience "has a second characteristic: it is a knowledge by connaturality" (1959, p. 260). This is a knowledge which is acquired by predisposition or synthesis, concord or connaturality, in which the intellect is not totally in charge but is swayed by inclinations and the nature of the will. Hwa Yol Jung (1960, P.3) states that Jacques Maritain's philosophy reveals the presence of a close relationship between Christian theology and politics. He feels that

it is the moral foundation of Western democracy. Jung sees Maritain as the precursor of religious faith beyond the cognition of empirical justification. He believes that Maritain's philosophy "is a great challenge to the claims of a 'value-free' science of politics" (ibid.).

Ellis Joseph feels that the concept of connaturality was concerned with the thinking of men in general. He saw a connection with the behavior of those in society who have a great deal of responsibility and authority and the use of connatural knowledge (1975 p.6).

For Maritain, ethical norms are an incentive for action, he believes that what should be, creates the incentive, to make something be. This moral aspect is pertinent to knowledge by affective connaturality which will be discussed later.

4.1. Connatural knowledge

Connaturality is similar to intuition but there is a more controlled direction to the outcomes in which the concept of love is of central importance in aiding the individual to identify their inherence with the inherence of his/her fellow man and consequently with those things which are

of value for the well being of his/her fellow man.

(Joseph, p. 7)

The two main types of connatural knowledge are intellectual connaturality and affective connaturality (Maritain, 1941, pp. 256, 263.). Mary Lambur (1952) distinguishes knowledge by intellectual connaturality from affective knowledge [or knowledge by affective connaturality] in order to show how knowledge by intellectual connaturality and affective knowledge function in moral but caring practical knowledge. It is this compassionate but moral aspect of connatural knowledge which will be the focus for this thesis.

4.2. Intellectual connaturality,

St. Thomas saw the speculative intellect as ordered to the consideration of the true and the practical intellect as ordered toward the direction of human acts. He was speaking of the same intellect under two different aspects. The intellect seeks knowledge, or truths, for their own sake, to remain in the mind to perfect it. The intellect also seeks knowledge with a view to operation, for making or doing something.

Maritain speaks of knowledge as a combination of elements, with intuition as one of the properties of

knowledge. According to Maritain, the ancients thought intellectual connaturality was essential for the perfect functioning of the human intellect, the understanding and reasoning part of the mind. They believed that the human intellect, weak by nature, was dependent for its perfect functioning on the frame of mind of the subject (Lambur, 1952, p.4). This "frame of mind" colours how the world is perceived by the individual and creates what is called the person's "world view." This in turn influences how this individual will react to the needs of those under his/her care.

The knowledge, which remains within the intellect to perfect it, is part of the speculative intellect, that part of the intellect marked by questioning. It is able to rest in truth and enjoy it; it is concerned with what is and enjoys being. The speculative intellect has eyes only for being, but neither the good or evil of the subject, nor the needs and conveniences of the subject, matter little to it (Maritain, 1962, p.5-6).

Knowledge acquires truth for the sake of truth alone and proceeds from discourse in a logical fashion from knowledge of one thing to knowledge of another as in cause and effect. A certain natural inclination of the human intellect, even though it does not perceive it as

having the character of truth comes to know truth by the mind's reasoning power in intellectual connaturality (Lambur, p. 10).

Knowledge, like mathematical knowledge, is sought by the practical intellect in order to put that knowledge to use. Practical intellect is designed for useful action rather than thought. There is a view of doing something with it. The practical intellect is not content to rest in truth and enjoy it as such.

Joseph feels that the speculative intellect of man is disposed to the consideration of the true, and the practical intellect is disposed in the direction of human acts (ibid. p.38).

In intellectual connaturality, knowledge functions in the mode of "pure" knowledge, the knowledge such as is possessed by a scientist. This knowledge allows the thoughtful, meditative, reflective man to become capable of immediately seeing consequences of a principle. It is necessary for the perfect functioning of the intellect, particularly in times of inadequacy and may be dependent for its consummate functioning on the dispositions of the individual (Maritain, 1938, p.112-113). This pure knowledge, forms a sympathy or connaturality, between the

individual and the object of his deliberation, which is exclusively intellectual and has no interference from the moral life of the subject or from any feeling or affection, similar to most knowledge examined today.

4.2.1. Habitus

Acquinas called "dispositions" virtues or habits which created a connaturality, a sympathy, between the subject and the object. This is considered purely and exclusively an intellectual process, belonging to the natural activity of the intellect, from the moral life, or from love.

The term habitus (habit) is derived from the Latin, habere (to have). The term may be applied to an individual who is disposed to act in a particular way. The action has become "second nature", and is added to the rational powers in order to dispose powers to act in a certain way. In connatural knowledge, certain operative habits or virtues become co-natured as a second nature, this formation of habit is an important factor because a virtue can incline only to good. The presence of such virtues is necessary to goodness, for the manner of the action follows the disposition of the individual

and, as a man is, so are his works (Maritain, 1962, p.12).

This formation of a habit of authoritative goodness, allows a resolutions of uncertainty so that honesty and decency can prevail, is essential for all authoritative positions. There is an even greater need for the individual in the health care team because s/he is in an authority position over the one who is ill and possibly unable to make decisions for him/herself. Persons in authority need to acquire a set of habits, knowledge, skills and strategies, particular to his/her field of endeavor which will be enabled by this habitus in making caring, prudent, choices.

4.2.2. Types of intellectual habitus

Acquinas saw science, wisdom, and understanding as intellectual habits or habitus, which he considered as belonging to the reflective or speculative intellect. He saw art and prudence as part of the practical intellect. The speculative intellect has for its object what is true. It corroborates the truth once it is known.

The practical intellect has for its ultimate object a "good", something "which, as St. Thomas suggests, is related to the work of a spiritual power other than the

intellect, and which is the beginning of action. The practical intellect develops knowledge in an analytic way, it develops the principles of application in making and doing.

The reflective intellect, which proceeds by way of conversing, will acquire knowledge of truth for the advance of truth. Discussions of cause and effect at times tends towards the truth by certain non-cognitive inclinations even when the perceived direction was not thought to have the character of truth in it. It veers towards truth by intellectual connaturality.

The habitus of art is right reasoning about things to be made; the habitus of prudence is right reasoning about things to be done. Art has to do with exterior works; it confers a certain aptitude to make things. Prudence, on the other hand, has to do with incarnate acts; it confers not only a certain aptness to do things, but also the right use of that aptness. This last condition belongs to the habitus of the inclination or desire of the individual. It requires a "rectitude of the appetite. That is why prudence is both an intellectual and a moral habitus" (Lambur, p. 8).

In essence, the reflective intellect is ordered to the consideration of the truth while the practical intellect is directed towards the management of human acts. These are the same intellect but viewed in different facets of their functioning. In the first case, the intellect will seek knowledge for its own motive, with this knowledge remaining within the mind to effectuate it. This knowledge produces further thought and brings about the intended result. In the second case, the intellect proceeds from the knowledge of one subject to the knowledge of another. The intellect will also seek knowledge to put into operation, knowledge which can be used in doing something, to see cause and effect.

To use a simple example, a mathematician understands mathematics and is able to see a self-evident mathematical truth from an axiom. S/he is capable of quickly drawing a conclusion, which to him/her is obvious, but which would be missed by a novice. The beginner struggles to learn axioms and mathematical truths in order to be able to draw conclusions by logical demonstration while the expert is able to perceive a solution to the problem even before contemplating how the solution has been reached. The mathematician is prompted solely by his intellectual habitus.

In the case of a metaphysician or a philosopher s/he becomes connaturalized to things of metaphysics [that branch of philosophical inquiry which treats the first principles of things] or physics [that branch of science that deals with matter and energy] by an intellectual connaturality which is derived from the play of knowledge. This play of knowledge appears in the mode of pure knowledge. According to Maritain, the contemplative and the reflective person is therefore more and more able to see the consequences in a principle. When a learned person is unable to account for how a new truth has been intuited, it is attributed to revelation, to the heart, rather than to the intellect. The heart of the intellect, the inclination from which the discovery results, is the natural tendency of the intellect towards the truth. This heart of the intellect was thought by the ancients to be necessary for the perfect functioning of the human intellect, it is a connaturality thought to be purely and exclusively intellectual with nothing extra-intellectual about it. Supposedly, it operated exclusive of any interference from action, the moral life of the subject, or love.

4.2.3. Types of practical knowledge

Practical knowledge judges both prudential matters and the subject him/herself. This is accomplished by the inner inclinations of the subject, it is a "synderesis [comes from the Greek word to watch over or guard, it is a function of conscience which serves as a guide to conduct], the habitus of knowing first principles of morality" (ibid., p.14). This is another aspect of the habitus of understanding. Much the same as the speculative intellect has formed some concept of being, understanding formulates the first principle of the speculative order, whereby a thing cannot be and not be at the same time under the same aspect. Therefore synderesis, after the speculative intellect has formed the concept of being as good, formulates the first practical judgment, relating the good to action: For example, do good and avoid evil.

The various types of practical knowledge in the moral order are seen as "degrees of practical knowledge", or the various types of knowledge in the moral order, which starts with the most remotely practical knowledge, "the conclusion that knowledge of the precept of natural law is had by mode of inclination or affective knowledge" (Lambur, 1952, p. iii).

Prudential knowledge, the most practical knowledge, is knowledge by affective connaturality and functions in the daily life of man. The practical sciences fall in this area with the moral science of ethics next to knowledge of prudential judgment and the true sciences.

Prudence regulates human acts in accordance with right reason; justice is the rendering of each one his due with constant and perpetual will; fortitude controls the contentious nature by giving people the strength to follow the dictates of reason despite fear and hardships; and temperance controls the impure desires according to reason restraining the inordinate love for sense pleasures. These belong to the moral virtues which the Apostle Paul calls "the fruit of the Spirit ... [which] is love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, self-control; against such things there is no law" (Galatians 5:22,23, R.S.V.). It is a mystical knowledge, "which is directed towards things divine" (Joseph, p. 36). Maritain (1956, p. 78) states that mystical knowledge "in which God is known by union and by connaturality of love ... [this] becomes the formal means of knowlege of the divide Self."

Prudence has to do with inherent acts; it not only

confers a certain aptness to do things, but it also confers the right use of that aptness. The right use of that aptness belongs to the habitus of the inclination and requires an integrity of ambition. For this reason, prudence is both an intellectual and a moral habitus. It is evident, then, that habitus plays a cohesive role in knowledge by affective connaturality.

4.2.4. Natural law

The first practical principle can be multiplied into many primary principles contained in the reason habitually. These are the first common principles of natural law which are the same for all men in the manner of their being true and to their being known. Natural law is not written, it has increased "little by little as man's moral conscience has developed" (Maritain, 1951b., P.90). According to St. Thomas, the habitus of the moral science of ethics assists man in arriving at secondary moral principles which regulate his voluntary acts and keep his moral acts in accordance with reason.

Moral virtues are incorporated with one another and a prudent person is prudent only if s/he is also temperate, just, etc., such a person will form his/her prudential judgments in the mode of pure knowledge, like a moral

philosopher, and in the mode of instinct or inclination where s/he is guided by his/her interior leanings -- the habitus of temperance or of justice which are present in him/her and which are him/herself or something of him/herself. This knowledge of the things of human life "by means of instinct or an inclination covers an immense territory" (ibid., 1946b, p. 226).

Human reason comes to know natural law not by way of rational knowledge but through the guidance of inclination, by congeniality and connaturality.

Natural law is an unwritten law which coexists with the whole field of natural morality. Although an individual may not have knowledge of moral science as such, s/he instinctively knows what to do.

4.2.5. Forms of knowledge

Social pressure of the group can lead to a perceptual distortion but awareness of emotional depth affect how a person responds to group pressure at work. Consciousness of this internal position, which is the complex substance of his being, allows the individual unmitigated choices. At work, or on the nursing ward, the individual's choice may be influenced by emotions, bias, competence (or lack of it), fickleness, moral recititude, passions, stresses,

and that medium of subjective vitality which alone lends meaning to each act. There is an imperfect portional ~~knowledge~~ of subjectivity which comes from inclination, sympathy, or connaturality, not knowledge. This "knowledge" has three distinct forms.

First, there is the practical knowledge which uses the inner inclinations of the individual and judges both prudential matters and the individual himself. Poetic knowledge, the second type, is revealed in the created work. It is in the creative intuition-emotion that the subjectivity and the things of his/her world are expressed. The third, mystical knowledge, is directed towards things divine "in which God is known by union and by connaturality of love, ... [which] ... becomes the formal means of knowledge of the divine Self" (Maritain, 1956, p.70).

4.2.6. Habitus of direction

The intellectual inclination is spiritual and rational. It is determined in regard to its ultimate end which is for "man's good". The intellectual inclination is free to choose the particular means to reach this end but habitus is necessary to give man the power of directing choices with the four moral virtues. These four moral

virtues are prudence, justice, temperance, and fortitude, and they operate in different spheres. The moral habitus regulates moral acts and directs them in conformity with "right reason". The habitus of justice induces the will of the individual to give to each one his/her due, putting order into man's performance in relation to others. Fortitude controls the pugnacious nature [a disposition to fight], giving the individual the strength to follow the dictates of reason in spite of fear of danger or labour. Temperance is the habitus which controls the contentious nature according to reason; restraining the inordinate love for sense pleasures.

4.2.7. Empathy

Empathy occurs when an individual "lives" the action on the stage or in the sports arena or in real life and does not merely try to comprehend it in a purely intellectual way. This emotional identity is like stepping into an other person's shoes or taking on the feeling of an other person. The part played by habitus in knowledge by connaturality creates an interrelation with the object.

In the case of knowledge by affective connaturality, the habitus of the person of action creates a connection with

the object of the judgment to be formed. This means that the desire of the prudent person or of the artist becomes connaturalized with the object contemplated. This connaturality facilitates judgment by mode of inclination in contrast to judgment by mode of knowledge already possessed.

4.3. Affective connaturality

Affective connaturality differs from intellectual connaturality because it is not required for the natural activities of the intellect, rather it uses "extra-intellectual means" (Lambur, p.5). Affective connaturality requires the spiritual aspect of the personality to be allowed to function. The individual's soul is allowed to rise and join with his/her spirit.

The role of love in affective connaturality is significant because love enables the individual to know another individual in a way besides as an object. This love is not only for self but also for the one loved. English is restricted in that it has only one word for "love". To illustrate affective connaturality Greek must be used.

The Greek language has three words for love: "philio" for brotherly love; "eros" for sensual love; "agape" for

parent-like caring which puts the good of the individual before oneself, it is a God-like love. The combination of philio and agape love is required in affective connaturality.

The operations of affective connaturality allow the individual's "work" to become a part of his subjectivity. Here, "work" is not just a means of monetary gain or passing pleasure or emotion, it defines the person's life. This connaturality allows the individual to judge rightly in two ways: either by means of a precise use of discursive reason or through a certain connaturality with those things about which judgment is to be made.

Affective knowledge is not limited to a particular phase of the individual's life. For the professional, knowledge in a speculative way is knowledge by reasoning from the principles which govern operations of the profession. Practical intellect functions when one is faced with a decision to make here and now, a decision which will direct the will to act.

Given a situation demanding action, the individual will judge according to natural inclinations by following his/her heart where the law regulating desire is the same as the law of virtue. The nurse since s/he is payed for

actions, and since his/her actions should be directed towards the good of the client should follow the law of virtue and encourage the prudence aspect of the reflective intellect to grow.

This is a judgment, according to the person's natural volition, with spontaneous reference to the universal principles of practical knowledge governing his/her actions. This judgment may be said to be the result of knowledge by affective connaturality. It is acquired by experience and not by the art of reasoning. A "perfectly practical knowledge" which is just. It is a habitus and becomes 'second nature' to the individual who possesses it.

The term "affective," refers to the emotions and it takes us to the realm of the intellectual and sensitive inclinations. "These are powers of the soul which come under the direction of the practical intellect" (ibid., p. 7).

The sensitive inclinations are irrational by nature but when they function under the command of reason it is said that "they ... have habitus by their relation to this higher faculty." (ibid.) On the other hand the intellectual inclination is spiritual and rational by nature but it is free to choose the particular means to

reach its determined ultimate end -- the good. The individual will need habitus to give him/her the power of directing choices in accordance with his/her final^o end.

Affective connaturality allows the habitus of the person of action to create a relation with the object of the judgment to be formed. The desire of the artist or the prudent man becomes connaturalized with the object which the intellect is to judge.

4.3.1. Decision making in unique situations

When making decisions about unique situations, without guides, when little deliberation is possible, when discursive reason is not used, the decisions could become purely speculative or slanted by bias. Joseph (1975, p.2) sees connatural knowledge by affective connaturality as a solution to this problem. Certain administrative virtues must become co-natured into the individual, they become his/her "second nature." Only when these virtues are "second nature" to the individual, is s/he able to identify his/her subjectivity with the subjectivities of those under his/her care.

4.3.2. Moral virtues

Maritain considers moral virtues an essential part of affective connaturality. He feels that they must become "conjoint" with the decision making individual. The "moral" individual will form his/her prudential judgments not only by mode of pure knowledge, like a moral philosopher, but also in the mode of instinct or inclination and guided by his/her interior leanings (ibid.).

For the individual to function in affective connaturality it is essential that certain virtues or habits be part of his/her character. These habits of thinking allow the person to be able to act swiftly and easily even when the choices are difficult. A careful integration of factors, which allow the individual to spontaneously form a concept of what is "good" with little reflection or comparison when the principles are held "dear" can be done when "good" of the work is a unity within the individual making the decision.

The moral virtues of prudence, justice, temperance, and fortitude can become co-natured to all men. When secular humanism holds sway, the topic of "virtues" is unpopular because virtues might infringe upon an individual's

"personal liberties". However, those in authority do infringe upon an individual's "rights" and "liberties" by the mere fact that decisions must be made which will affect the individual's very life.

When prudent knowledge becomes "second nature" and it enables the individual to make the requirements and demands of the job a part of his subjectivity through "love" and shapes his/her "world view." This refined world view allows the individual to manipulate people with compassion. S/he is able to. The client is the reason for the existence of the professional individual's administrative powers, therefore it would appear that it is the emotional ties, rather than the functional ties, that connect the helper to the one helped (helpee). These "ties" define many of the mutual rights and obligations of the individuals in the process.

4.4. Poetic connaturality

The third aspect of connatural knowledge is poetic connaturality where a habitus of art is the insight into the things of this world as "known". This knowledge together with insight is the creative emotion. This cognition allows the individual to see the right reasoning about things made, not in a word or concept but

in a created work. The "work" is classified as creativity. Although this is a vital aspect of connaturality it has no relevance in this thesis.

4.5. The professional nurse and connatural knowledge

If the nurse has a true compassion for the personal well-being of those under his/her care, then clients are not just objects, they are part of the care giver's "love" by subjectivity. This personal sense of well-being resides in the professional individual as "another self." For instance, efficiency for efficiency's sake is not a part of the individual; but efficiency as a good willed for the personal well being of the client for whom s/he is responsible may be said to be a part of him/her (ibid. p. 49).

For efficiency, the professional can rely on knowledge by affective connaturality. If the professional acts responsibly and makes good decisions, by the mode of affective inclination, towards his/her patient's "good", then the acts and actions which follow must be "connaturalized" one to the other.

4.5.1. Types of professional knowledge

It is possible for any professional to tap into connatural knowledge if s/he is willing to apply general knowledge and natural law to his/her professional knowledge.

4.5.1.1. General knowledge, natural law

The person in authority who has absorbed the precepts of natural law may be more able to make discretionary decisions about any practical problem. The better the professional knows natural law, the better that person knows the common good and welfare of those in his/her care. The better s/he knows the common good of clients the better s/he may be able to administer to the patient's and staff's common good and welfare. This will be addressed further in chapter 5 which deals with ethics and the kind of acts which are to be considered "right."

4.5.1.2. Human rights

When certain fundamental human rights are in jeopardy, it is the responsibility of the professional to eliminate the lack of good will and the presence of excessive passions in so far as it is humanly possible for him/her to do so. This is his/her responsibility, because if

there are certain rights inherent in individual's nature, there are also certain obligations which must be a part of the authority person's being; "for rights and obligations are closely related, and natural law imposes obligations" (ibid.).

The doctrine of natural law has been evidenced in all the great societies of the past as well as modern jurisprudence. But what has become law by jurisprudence is not always what is just. The person with authority must weigh what is right and what is wrong, what is fair and what is just, not simply what is legal and what is not.

There are two basic principles of natural law: first, recognition that there is a moral law and that it provides the only proper sanction for man-made laws; and second, every human individual has dignity and worth which no man-made law, no human power, can remove.

4.5.1.3. Levels of law to be recognized

When the individual in the authority position becomes aware of the natural law s/he must also recognize three levels of natural law. First, the principle of law is the ultimate reality, preparing the way for practical judgment. Second, the precepts of natural law are

immediately and necessarily drawn from the principles. While the precepts (or injunctions) contain the means for cognition of the good which is expressed by the principle, precepts are incapable by themselves of governing action for principles only specify the end, and action depends on specification of the means. Precepts specify the means, but only in a general way and without reference to contingent circumstances which are always involved in actions in a given situation. Third, the positive rules which govern specific cases are ordinances of reason for the common good made by the individual in authority and then disseminated. Joseph suggests this third level is necessarily tentative and relative.

4.5.1.4. Ontological and gnoseological elements

Ontology is the study of the nature of existence and being in the abstract. Therefore the ontological aspect of natural law is "the normality of functioning which is grounded on the essence of being" (1951a, pp.87-89). The individual has natural obligations or rights of which humanity today has no idea and of which humanity might become aware in the distant future when the "divine" is reached.

Ontology embraces all the prudential principles which can be known but which are not necessarily known, for natural law is not written law, and many obstacles may corrupt the judgment of the individual or the individual may be immature because s/he has not yet had a chance to exercise too many judgments in very many experimental situations. Ontology is the aspect of natural law which embraces all the prudential principles which can be known by a decision maker, but which are not necessarily known by all decision makers because natural law is not written law, many obstacles may corrupt the judgment of the decision maker and s/he may be immature from the standpoint of not yet having the chance to exercise too many judgments in very many experimental situations.

Gnosis is knowledge, especially a special knowledge of spiritual things. It is knowledge which is divinely revealed as is attained in faith. Therefore the gnoseological element of natural law is considered "as known, and thus as measuring in actual fact human practical reason, which is the measure of human acts" (Maritain, 1951a, p.89).

The person in authority, who can distinguish new topics between ontological and gnoseological elements of natural

law, can be more effective in applying the precepts of natural law.

4.6. Knowledge by mode of inclination

Maritain and Joseph, in discussing the ontological and the gnoseological elements of the natural law, established that the precepts of the natural law can be known by the decision maker. They believed that if these precepts can be known, they are known by mode of inclination. The judgments in which Natural Law is made visible to practical reason do not proceed from conceptual, discursive, or rational exercise of reason; they proceed from a particular connaturality or congeniality through which "what is consonant with the essential inclinations of human nature is grasped by the intellect as good;" (Maritain 1951b p. 478) and with what is dissonant, as bad. These precepts of the natural law are known as the concept of a law, which is natural. It expresses the normality of functioning of human nature, insofar as it is naturally known, where it is known through inclination or through connaturality and not through conceptual knowledge and by way of reasoning.

4.7. Practical knowledge

These precepts of natural law can be known through connaturality. Joseph feels that one should investigate the type of connaturality involved for the decision maker in his/her knowledge of such precepts. He differentiates two degrees of practical knowledge for the individual, first, remotely practical knowledge and, second, proximately practical knowledge (discussed under "synderesis" in Section 4.2.3., Types of Practical Knowledge).

Knowledge for proximately practical knowledge is to be put to immediate use. Although it might have been learned by the individual and held to be used at some future date if the need arises, it can be used as part of the individual's immediate actions. Proximately practical knowledge is in the realm of prudence. Joseph states that it is the intellectual habitus of prudence which perfects the individual's practical reasoning about specific acts. Unlike ethics, prudence solves the individual problems of the administrator by applying principles to a particular situation (ibid., p.71).

It is prudence which co-ordinates the individual's principles known with practical knowledge and which

requires the individual to solve a given problem by acting rightly. It is in the realm of practical knowledge that knowledge by affective connaturality must function. For it is the realm of prudence which is most common in human life, directly concerned as it is with individual human acts which are being constantly brought into existence.

It is directly concerned with individual human acts and compassion which are part of the professional's duty. Knowledge by affective connaturality is effective when the individual is in a situation which requires answers to these questions: "What do I have to do, here and now, in the midst of this unique, unprecedented circumstance, in order to preserve the good/virtue?"

The individual is at a loss for s/he has no powers of deduction or induction, no argument which can supply him/her with the final answer except by knowledge by means of "affective and tendential connaturality with the ends of human action" (Maritain, 1939, p. 132) which will provide a quick and effective decision when perplexing problems confront. It is that quality of tending to something which has a spiritual quality.

Discretionary decisions take into account not only all the individual's total scientific and factual knowledge but also elements of evaluation known through inclination, through personal propensities and virtues, if the individual has any.

4.8. Good habits based on natural law

The individual with good habits is capable of judging because good habits, based upon the precepts of natural law, have become innate perfected by the prudential habitus, the individual has acquired the tendency to that particular act. S/he judges "rightly of the end of virtue by mode of affective inclination" (Joseph, p.73).

Leadership requires prudence as well as expertise.

Technical ability alone will not suffice. Virtue will elude the individual who is concerned with "good work" for the sake of self advancement. The affective component coupled with with prudence, is essential to function in affective connaturality. Given these qualifications, nurses in leadership positions should be persons of virtue, with a solid background in human experience, and therefore with an understanding of humanity. "Experts" may be kept in subordinate

positions. Leaders should be "good" persons rather than merely good experts.

Virtue is that which makes an individual good and therefore renders his/her action good. Leadership and decision making belong to the practical order because knowledge has to be used with a view to some work or action. A virtue or habit denotes a more complete conceptualization which is demonstrated in degrees of proficiency that which the individual is able to do. It is a "good habit" which makes the individual skillful in doing that for which he/she has the capacity.

4.8.1. Specific virtues

According to Joseph, "specific virtues" are acquired, or natural, rather than infused. They do not influence the individual to put his/her work to good use. It is prudence which puts his/her good to good use since good is the material object of prudence as it "determines the fitness or unfitness of his choice of the good or end he has in mind" (ibid.).

The "virtue of prudence" is vital to affective connaturality. When it becomes the individual's mode of knowing and of judging the free acts undertaken, then those under his/her care will receive what is good for

them. Prudence provides a directive by which the individual's intellect may rightly judge whether a particular action is done according to the nature and end of those under his/her care. The individual must be able to make "right judgments" in any given situation. New prudential judgment taken before each administrative action demonstrates the significance of the natural habit of recognizing prudential principles. This Joseph regards as the first intuition of the individual's practical intellect where its first judgment will affirm that good be done and evil be avoided. When "good acts" are repeated, prudence, through the experience acquired, increases the ability to judge and command the general affirmations of synderesis to good actions.

4.9. Character -- connatured operational habits

The habit of prudence is used in ordering means to ends. When "good in general" is the inclination of the person in authority then it is necessary to incline them into operational habits. Connaturality is knowledge by mode of inclination, not by mode of discursion. When the nurse in authority's partiality, combined with his/her intellectual power, is inclined by operational habits, they are added on to the innate nature, thereby becoming "second nature" to him/her. These operative habits are

acquired by repeated acts of the same type. Connatured operational habits, like character, represent what must be regarded as an additional property of rather than as something congenital.

4.10. Perfection of the powers of leadership

Virtue denotes a certain perfection of a power. It is essential that human virtue be an operative habit. The perfection of the powers of leadership can be considered chiefly in relation to the ends of those powers which is action. This action forms the individual's habits.

Those faculties which move and command the intellect and the will are operative potencies. Which, when moved by a superior faculty, and when they obey wisdom, are able to move another, either directly or indirectly. It is possible for some powers to be moved but lack the ability to move another.

Operational habits demonstrate a twofold relation. Habit, and imperfect act, is the first act, it does not fully activate the leader's potency as it merely prepares for the complete act which is the operation, the second or perfect act. Habit makes it easier for the nurse in charge to perform. Therefore, any habit the individual may possess is not sufficient in itself for the full

actuation of his/her potentialities to perform operations. The possession of the habit prepares his/her particular potential for the complete act. (ibid., p.84) Joseph considers operational habits accidental forms which are an integral part in an individual's operative faculty and dispose that faculty to perform specific actions with ease and pleasure.

Neither the existence of operative habits alone nor the will, combined with desire, is sufficient to co-nature operational habits necessary for work. As stated previously, connaturality is a knowledge by mode of inclination, not by mode of discursion. The individual's desire, generally, has reference to a movement toward an end. The individual's desire is a faculty which is present from birth and is therefore a part of the individual's nature. Operative habits which incline his/her predilection are not inborn and thus are part of his/her desire or inclination. These habits are added on and may become a second nature. The individual acquires these operative habits by repeated acts of the same type. This appears to be very similar to Bastick's "response tendencies" to emotional sets which when redundant initiate the intuitive response.

Co-natured operational habits, like character, represent what must be regarded as an "added" property of an individual rather than something congenital. There must be a desire which is inclined to a determined object to form operational habits and though this disposition consists of a certain inclination that is desirable, this does not always insure the individual will act prudently.

4.11. Integral parts of prudence

Integral parts of prudence should be examined in order to gain an idea of the diversities of prudence the person in authority should become co-natured in. According to Joseph these "integral parts of prudence" are (1) memory-intelligence, (2) docility-sagacity, [teachableness-wisdom] (3) deductive reason, [deducing a conclusion], (4) foresight, (5) circumspection [considerate, cautious, watchful], and (6) precaution [caution exercised beforehand] (Ibid., p.89).

4.11.1. Memory-intelligence

Memory-intelligence is that part of prudence by which the effects of both memory, which supplies the knowledge of the presenting situation, and intelligence have a synergistic effect. The intelligence combines with memory so that the individual has a combined effect from

experience and intelligence. Here the the decision maker must make a conscious effort to remember past events and past experiences since nothing which occurs in the field of human actions is essentially new. If a conscious effort is made to analyze why a particular event is successful prior to cataloging it into the memory, this will enhance vivid remembrance of past experience:

In the act of prudential decision making, the individual sees at once with a clear vision and a firm grasp of the first principles involved. S/he then intuitively compares the past with the present in order to decide on a future course of action. Joseph considers this exercise of sudden judgment by mode of inclination is indispensable.

For the decision maker, there is an inherent weakness to oscillate between choices rather than to develop a keen sense of critical judgment on which to rely in case of emergency. This informational storage can be likened to Bastick's "emotional sets".

4.11.2. Docility- sagacity

Docility-sagacity is a teachable wisdom that, it is that part of prudence which contains a personal inventiveness. This inventiveness is achieved when the individual

acquires prudential knowledge through judicious practical judgment or extraordinary discernment which uncovers that what is concealed, such as obscure pretexts. This is a higher degree of intelligence, like wisdom, it is a discernment with comprehensive judicious judgment containing subtle prudence. Docility is both the will and readiness on the part of the individual to learn from the experience of others. The ability to discern when to co-consult others about the making of decisions. A holistic intellectual function which has the prudent attitude of the individual to profit from every event and everyone's experience.

Aristotle calls this a 'quick wit', which, when coupled with the individual's personal inventiveness, enables the decision maker to judge clearly and rapidly when alone. This facilitates quick intuitive judgments to discern the here and now.

4.11.3. Deductive reasoning

Deductive reasoning is an essential part of prudence if prudential reasoning is to avoid drawing shapeless or aimless conclusions. It proceeds from principles immediately recognized as true to particulars. Prudence as "right reason begins its deductive process from the

knowledge of first principles" (ibid., p. 92). The habit of being guided by principles, not individual cases is essential to avoid chaos. The nurse is guided by the "right to life", even when the individual case appears hopeless, may see miracles happen. As one pioneer neurosurgeon suggested, "one miraculous recovery is worth the effort put forth on the other ninety-nine that failed."

4.11.4. Foresight

Foresight considered a virtue in prudence because it enables the individual to plan for future contingent action. Foresight is characterized by a clear-cut conception of the habits of conduct which will guide the individual in future actions. It "must not be mistaken for passivity and inertness, for there is no search, no effort, and no contemplativeness at all in passivity and inertness" (ibid., p. 93). This is the "vision" [a right brain function] of the means which will accomplish an end.

4.11.5. Circumspection

~~Circumspection~~ is the considerate, courteous, watchful part of prudence. It is found within the virtue of prudence, is the act of considering whether a particular

action conforms to the circumstances of the present situation. The circumstances of an action may corrupt the prudential action or make it inopportune. When decisions are carried out to find the answers to the questions: "who?", "what?", "where?", "with what instruments?", "why?", "how?" and "when?". The functioning of the individual's practical judgment with regard to the circumstances which may modify a prudential action is called circumspection (ibid. p. 94).

Problems must be decided in the light of history and tradition, social aspirations, and actual conditions and the recent experience of the profession to which the individual belongs. To not do so might violate the interests of any one of the factors or persons involved and this would result in imprudent action.

4.11.6. Precaution

Caution exercised beforehand is part of prudence, since it is prudent to be cautious, precaution enables the individual to perform a good action without shrinking or being afraid of the extrinsic evil consequences that may follow upon the achievement of the "good action". Joseph cautions that it must be understood that precaution is not concerned with avoiding an evil action, but with

avoiding the evil features of good actions for they may corrupt them or render them faulty (ibid., p. 95).

Some of the undesirable consequences of a good action can neither be foreseen nor forestalled, but prudence prevents the individual from suffering the undesirable consequences, and allows acceptance of those consequences which are inseparable from the pursuit of the good.

If these foregoing six virtues are part of the individual he/she will be able to act with sudden decisiveness by mode of inclination. The habits of virtue are part of the individuals being only through his/her love for their professional endeavours and his/her experience in the field.

All operative habits or virtues increase or diminish according to the participation of the individual, the individual can be more or less actuated regarding the perfection of the habit. One individual may be more perfectly actuated than another because one individual may be better disposed than another. The prepared individual has prepared by more intense effort, or he/she may have a better natural disposition and be more discerning. Joseph feels that operational habits weaken and disappear in the inactive individual, for these

operational habits diminish in the manner that they grow, namely by the degree of participation of the individual (ibid., p.97).

Cultivated intellect, delicate taste, equitable and courteous bearing on the conduct of life are connatural qualities of a large knowledge which can be developed operationally over a prolonged period.

4.12. Can these virtues be taught?

Virtues are essential qualities for they create "total" focus toward solving a given problem. Attitudes are the most important aspect of one's being: the basic skills of a profession can be taught, but individuals can not be taught to appreciate certain valuable attitudinal virtues, it comes by mode of inclination.

To cultivate these all-important attitudes, the professional needs the environment to appropriate attitudes by indirection, by example, inspiration, and transfusion or transference by the principle of mentoring. It is essential that the ethos of the entire academic/professional community be engaged in teaching prospective professionals by right example. This is the principle of mentoring. If this atmosphere is lacking then the ethos of the environment is neutral or hostile.

A virtue only becomes part of the individual through the practice of that virtue.

The argument to this point has been that the leadership/decision making process demands that the individual making the decisions, conatures in his/her being sets of specific virtues or habits, especially in the mode of affective inclination. The role of "love" in relation to a knowledgde by affective connaturality is demonstrated when the individual has co-natured in his/her being, a specific set of virtues or habits which he/she may intuitively call upon when the unique administrative situation presents intself. When this happens the individual is functioning by affective connaturality.

The virtues or habits stressed were: (1) memory-intelligence. (2) docility-sagacity. (3) deductive reason. (4) foresight, (5) circumspection, and (6) precaution, which are guided by the moral virtues of temperance, justice, and prudence.

The teaching methods which propose to facilitate the development of the desire to incorporate intuitive affective connaturality into the discretionary decision

making abilities of nurses, will be discussed in a
chapter 8.

DECISION MAKING UNDER ETHICAL CODES

CHAPTER 5

"Changing technology and changing economy have left behind the old ethical and legal answers by raising new and complex questions" (Stevens, 1985, p.65);

5. Introduction

Recently doctors have been speaking on topics like "Medical Progress and the Ethics of the Unknown" (Crawshaw, 1987). Right and wrong are complicated matters for health professionals today because society is too complex to carry on traditional medical values. Texts like Sallie Tisdale's (1986) The Sorcerer's Apprentice, and Robert Veatch and Sara Fry's (1987) Case Studies in Nursing Ethics outline contemporary moral issues, like; is it more human to let babies with serious defects die? how does bioethics impinge upon those most affected by this judgment? What laws allow medical care for adults who set fire to themselves in a suicide attempt, or who swallow lye and burn their esophagus, or who overdose on a chemical and that leaves them "incompetent?" Is it permissible to allow the individual the right to die? Other new and complex questions such as; lack of informed consent, mercy killing, and wrongful

death are but a few of the dozens of ethical dilemmas, or conundrums, faced by nurses today or soon to be faced in the future.

In times past the elderly Eskimoe, when s/he was no longer contributing member of the group, simply wandered off the trail and quietly waited for death. The elderly, of all races, welcomed pneumonia which they called "the friend of the aged." Today the elderly are not allowed the right to steer their courses to quiet and peaceful ends. Medical associations are so concerned about these dilemmas that they are discussing the right of the "informed" to write a will which specifies when heroic measures to prolong life be discontinued. This will would be written when well, prior to terminal stages of an illness when the question arises today, and therefore the individual's quality of reasoning could not be questioned.

Tisdale notes that regulations require health professionals to provide all available treatment. Exceptions are for those in comas with no hope of emerging, those who will inevitably die despite all treatments, and treatments so "extreme" and so likely to be in vain that they would be inhumane. This last is surely the artifice, for all along that has been the

explanation of the physicians and the family who would withhold treatment, not because of the life involved but because of the inhumanity of the treatment. "The courts are full of contradictions, but they have many times upheld the truism that only life, and not the quality of life, can be considered in treatment decisions" (Tisdale, p. 49).

The development of an approach based on ethical principles include ideas above the nature of human beings and self-determination, the manner of thinking and decision making. Pasquali et al. uses the example of nurses who have as their moral basis "the authority of the Scriptures" (1985, p. 53) which state that the taking of life is wrong and therefore suicide is wrong. Today many believe that actions that deny human freedom are wrong, in that case the view is that suicide is an act of self-determination thus making it a rightful act. This is yet another basis for the modern ethical dilemma.

Most professionals hold strong values concerning the conduct of their work which offer some protection to the public. Ethical codes protect both professionals and their clients. The health care worker stands in a special position of trust, confidence and responsibility to clients. There is a dependence on the confidence of

the public [fiduciary capacity] where truth and good faith [troth] and a disposition towards hopefulness [saguine expectations] is that the professional will not be an inclination to favour one party or individual [impartial], the health care worker will try to alleviate suffering or pain and will not show strong partiality [dispassionate], the worker builds belief, trust, or confidence [credance], in his/her ability to do good which initiates faith and trust in the professional, like a well founded belief or canon. "Change is inevitable; however, certain truths will always remain for us to identify and respond to in our work with the human condition" (C.N.A., 1985, p.ii).

Adhering to ethical codes assures the client that the professional will not exploit the confidentiality presumed in a fiduciary relationship [relationship of trust or reliance]. This enhances the popular belief that health care professionals will strive to be dependable, honest, and caring, holding the good of the client foremost. Ethical codes also protect the professional from unwarranted client accusations.

Nurses are often in the unique position where they are required to follow decisions made by others. The nurse needs to have the freedom to resolve ethical issues for

him/herselves so that s/he can support the decision which has been made. The nurse who has thought through the morality of a particular decision will be better able to invest themselves in the care of the client and family (Simms-Jones, 1986, p.24).

Weston Agor suggests that there are times when one must take the risk of following one's "own intuitive cues in the face of 'facts' that point in another direction" (1986, p.30) even when the decision will put his/her career on the line.

5.1. Ethics in nursing.

"An ethical theory provides a set of moral principles which is to be used in assessing what is morally right and what is morally wrong with regard to human action" (Mapes & Zembaty, 1980, p. 4). Nursing ethics are the codes of standards of conduct based on consensus values that have already been set. Many authors (Curtis & Flaherty, 1983; Davis & Aroskan 1983; Taylor 1975) view ethics as a system of valued behaviours and beliefs about humanity, right and wrong, and good and evil. Rightness and wrongness are not always mutually exclusive, as what one group or individual perceives as right might be viewed as wrong by another.

The views of the relationship between nursing and ethics range from those who hold that "Nursing is a 'moral art'" (Pasquali et. al. 1985, p. 53) to those who believe nurses critically study the standards of judging rightness or wrongness of conduct and nursing ethics by "the systematic study of morality" (Stevens, 1985, p. 65). If behaviour is seen as the predicted effect of prior vector forces [quality of having direction as well as magnitude], then ethical choice is an illusory choice, and ethics becomes merely a label in a world where everything happens because of antecedent causes and nondeterministic philosophies still deny the existence of ethical choice. Ethics is concerned with conduct but ethics can only apply when the individual has a real choice.

Robert Veatch and Sara Fry (1987, p.1) consider the term "nursing ethics" as controversial with argument for and against the term. They put forth the view that "nursing ethics is a legitimate term referring to a field that is a subcategory of biomedical ethics." Ethical decisions made within the biomedical scene may vary from ethical judgments made by physicians to ethical judgments made by nurses. Much of the biomedical ethics as practiced by

the health professions is oriented to the practical questions of what should be done in a particular case.

Hospitals exist because of the need for patient care, and nursing is one of the important aspects of that care.

Nurses combine concern for the client's well-being with technical skills to achieve that end. Concepts involving "standards" and "quality assurance" have incorporated ethical practice into job descriptions to form integrated systems of high practice standards and hospital accreditation. Here the nurse has no choice but to follow the dictates of the institution, there is no need for discretionary decisions, there is only a need to know the policies of the institution and follow them.

Discretionary decisions occur only where there are no written rules to follow. A nursing department is an organization of activities that function as a quality control system. Its general purpose is to evaluate and monitor compliance with standards of nursing practice and to ensure optimal nursing care delivery, the right reason for the right treatment (Stevens, 1980, pp. 287-301).

As the field of nursing grows, the probability of questionable behaviour related to ethics, legalities, and values is increased. But, do ethical choices actually exist, or is there merely an institutional, provincial,

national, and international code of ethics, each expressing different values? These codes express the values shared by nurses, and by which the individual nurse must function.

Many norms and values [within an institute or a professional] are powerful dictums. Values and ethics go hand in hand. Values are individual or shared conceptions of the desirable. Values dictate the choice of goals to which change effort is directed. But it is almost impossible to trace the origins of values or examine them rationally because they are such an intrinsic part of an individual's life experiences and/or institutional past experiences.

According to Veatch and Fry, there are four questions of ethics; (1). What makes right acts right? (2). What kinds of acts are right? (3). How do rules apply to specific situations?, and (4). What ought to be done in specific cases? They saw a continuum which placed the four basic questions in ethics as four different stages of ethical analysis. They saw metaethics dealing with "questions of the meaning and justification of ethical statements" (ibid., p. 11)

Thomas Aquinas and others who "argued that the first principle of natural law is that 'good' is to be done and promoted and evil is to be avoided" (Aquinas, 1915 cited in Veatch and Fry, 1987, p. 7). This stance was arrived at by determining the net good consequences minus the bad ones for each person affected then coming to a mathematical total (Benthan, 1967, pp. 367-390).

In the practical affairs of everyday life, individuals hold many values, but they do not stop to make detailed calculations every time. A course of action is chosen. Common sense and similar situations faced in the past influence the choice of values. In most valuing situations, the individual uses only reasoning and imagination to make a reasonable prediction about what would happen as a result of such an act. But if the individual has conatured values as operative habits and utilized the memory-intelligence part of prudence. Whereby s/he has made a conscious effort to remember past events and past experiences which could become response reactions to emotional sets, there would be a higher probability that the individual would be using I.D.D.M.A.C..

5.1.1. Codes of ethics by nursing associations

To help professionals deal with ethical problems, nursing associations have developed ethical codes. For example, in 1953, the Grand Council formulated the International Code of Nursing Ethics, while the American Nurses' Association Code for Nurses published their latest code for American nurses in 1968. The Canadian Nurses Association's latest revision of the Code of Ethics for Nursing [in Canada] was published in 1985. The

Registered Nurses Association of British Columbia [R.N.A.B.C.] has also produced a Standard of Nursing Practice in B.C. (1984 & revised in 1987) These codes outline the universal need for nursing care which should not be denied because of ethnic, religious, political, social, or national status. These codes specify the primary responsibilities of the nurses for the preservation of life, the relief of suffering, and the promotion and maintenance of health. They also specify the professional's responsibilities as citizens to follow laws, carry out duties of citizenry, and to work with other citizens to improve and preserve the health status of individuals locally, provincially, nationally, and internationally. A nurse may be judged as negligent when s/he fails to meet the legal duty of care determined by what an average, reasonable and prudent nurse would do. Accountability means the nurse is answerable for sufficient; knowledge for the situation, skill in carrying out prescribed procedures, judgment by knowing his/her own limitations, and knowing when to involve others. Negligence arises when the nurse fails to seek reasonable intervention because s/he failed to notify the physician or employer in time to do good and avoid harm.

[The R.N.A.B.C. has produced a binded Nurse to Nurse which contains information for nurses regarding;

charting, coroners inquests, abusive behaviour, negligence suits, independent nursing, and expert witnesses.) Today, because of the threat of litigation, membership in the provincial nurses association is accompanied by group liability insurance.

Some nurses are involved as individual, group, or community consultants, in public health nursing and industrial health care. Although some nurses may function primarily as administrators, each must be an expert, a supervisor, and a teacher in order to carry out the many standard functions of nursing. Nursing codes do not always cover some of the dilemmas nurse consultants face. When there is no code to follow, then professionals resort to examining how medical ethics would deal with a problem.

5.1.2. Medical ethics and conduct

Medical ethics is the study of standards for judging the rightness or wrongness of conduct in the health field and is applied when things are "denoted by terms such as good or bad, right or wrong, ought or duty." (Stevens, 1985, p. 67) Basic ethical dilemmas of nurses center around two major areas: "institutional policies and/or physician's orders that affect quality of client care and

the appropriation of nurses' legitimate authority to make decisions about nursing care (Pasquali et. al., *ibid.*).

Nurses are troubled by the conflicting and contradictory positions taken concerning the meaning of ethics. If ethics concerns conduct, it applies only when the individual has a real choice. A quandary arises because most nursing behaviour is seen as the predicted effect of proper vector forces, then the nurses ethical choice is as illusory as is choice itself. Therefore, in a philosophic position of determinism, ethics becomes merely a label applied misappropriately in a world where all happens because of antecedent causes.

5.1.3. Philosophies about ethics

There are many ways ethical positions have been differentiated. Nondeterministic philosophies deny the existence of ethical choice. Terms like "hedonism," "psychological egoism," or "ethical egoism" describe individual actions in terms of what he/she thinks is in his own best interest at all times. The inference is that although the individual does have free choice, he/she always chooses from self-motivated calculations rather than from considerations of what is right or what is wrong.

Teleological philosophies believe that the ethics of an act can be found in the ends achieved by the act (Stevens, *ibid*). Teleological philosophies further subdivide into philosophies that determine the rightness or wrongness of an action based on the intention of the individual and those that base their principles on the analysis of the actual consequences. * For example, if an individual determined that his/her actions would benefit many, his/her actions would be termed to be morally right by some even if the assessment were incorrect and many persons were harmed by the action. Those holding an alternate position would label the action morally wrong because of its consequences.

Whether the action is judged by its intention or consequences, it is still necessary to question what values mediated the choice. Once again, there are alternate philosophic systems -- the greatest utility or the greatest benefit for the largest number of individuals involved -- the utilitarian position. The other philosophic system of ethical judgment is that of greatest self-actualization.

In contrast, deontological positions believe that the rightness or wrongness of an act is found by determining whether the act preserved some given rules or principles

(Stevens, *ibid.*). The deontological positions stem from different rules or principles that determine the morality of an act. Chief among those chosen sources are the self, "usually termed one's conscience, god (whatever god is espoused by the given system), or law as the societal source of moral principles" (*ibid.*).

The meaning of God and the meaning of conscience differs in various philosophies and religions. One may mean an instinctive sentiment that inevitably allows the individual to know what is moral while another system of conscience may be a learned process which is based on the norms of the society which imbues the conscience. A third meaning of conscience may be based on a "rational principle". Thus, with so many opposing ways of interpreting actions, it would seem appropriate to look more specifically at the impacts of actions.

5.2. Impact on Care Giving

Emmanuel Kant, (1787) suggests that humans should judge their acts based on universal applicability. Thus an individual may act in ways he/she considers to be moral. If these actions appear to differ radically from the way an observer would act in that same situation, the observer should realize that the actor's actions may be

based on an entirely different belief system. Since interpretations of these acts may be in conflict, it can be seen how difficult it is to get a consensus even among persons of the same profession and education.

Again approaches to care-giving differ. For nursing this has an immediate impact. Man is the "total man" (M. Rogers, 1970) with a gamut of human needs. Alternately, man is a sum total of parts in which care-giving is divided into manageable parts. For the latter approach, care-giving which divides mankind into components uses the physiologic systems and follows the medical school model. Other approaches compartmentalize mankind into a schema of potential needs that are dealt with in the nursing process using a nursing care plan. For example, F.G. Abdallah (1960) suggests that, patient centered approaches to nursing, which perceives man's "needs" as components, while A.C. Roy (1974) suggests four adaptive modes which also divides man into components. Yet, a number of researchers (Neman, 1980, 1979; Orem, 1971; King, 1971; Johnson, 1970; Levine, 1967.) emphasize wholeness, still others see the nurse as an external force acting on man, the recipient. Some of the newer approaches examine interaction in which the nurse and the client act as partners in determining the content of

nursing care while others do not include the client in planning the nursing process because the client is a passive recipient. As an example of one of the many differing views of humanity which has an impact on care-giving is that of BBarbara Stevens who states that when the body loses its vitality, there is no existence for man beyond his temporal being. Man is an aggregate experience, a lived-body. S/he cannot be explained by reference to selected parts of his/her being, for parts cannot explain the whole. Nor can man be explained by psychic or physiologic states, since states indicate a standing still, a statisticness that is not consistent with "the continual change experienced by man. Man is a unified and ongoing lived experience." (ibid., p.6)

Each of these views has been used to justify nursing activities. The most dominant theory component in today's practice is the so-called nursing process. It is highly theoretical and "makes the following statement about nursing: nursing is best defined as a sequential process in which each step of the process gives information that constrains and directs the choices to be made at the next step." (ibid., p. 8) This is true whether the process is seen as having few steps or many.

The objectives of nursing activities vary as the perception of man differs. The philosophy of man must be taken into account when applying nursing philosophies and theoretical nursing models.

The concept of health differs from one nursing theory to another. The wellness-illness continuum of health is one concept while another is the compartmentalization of human life into divisions like the physical, the psychological, and the social. Some theories shrink the differences between man and health by using a single-category system so that human needs and health needs have the same meaning. A popular theory of health is that of homeostatic equilibrium. Health is perceived as a positive state or as a negative state.

To further complicate the situation, nursing theories are beginning to emerge for specialty areas of nursing. Some institutions allow for care planning by primary nurses to take place according to the theory preference of the primary nurse. Unfortunately, this destroys the essential consistency which helps in the making of moral and ethical choices required for nursing performance and in basic nursing practices.

5.3. Making Decisions

Stevens believes that there are two commonly applied philosophic methodologies in nursing practice: the geriatric and the logistic. The geriatric approach focuses on a holistic view of man, where man is viewed from a totality of existence. This view of man is not logistic because there are nebulous borders in the geriatric concept which contrast with the precise divisions between the systems approach with its logistic components which focuses on the relationships of parts. Stevens believes that the "logistic mode of philosophy fits the mechanization of present nursing processes and much of inservice education" (idem p. 37). The weakness of this method in nursing is the segregation of its units whereby some nurses fail to integrate the parts into a total concept of nursing. The absolutist nature of its concept can cause nurses to become rigid and resistant to change.

The logistic approach looks at an incomplete situation and provides tentative interpretations of the situation. This approach may be analytical or intuitive. The analytical approach surveys and explores possibilities, creates a tentative hypothesis and then takes a stand on the hypothesis as a plan of action for testing. The

weakness of this elaborate type of problem solving is the amount of time needed to reach a solution.

Nurses appear to be unprepared to make right decisions in order to prevent further nursing ethical problems which are "surfacing in ... newspaper items ... [and] ... sound like a science fiction tale" (Stevens, 1985, p.65). This occurs because today's professionals are struggling in extraordinary situations. The struggles are often heroic, sometimes tragic, they are even more tragic because the nurse has not had sufficient ethical decision making preparation.

Given the multiplicity of theories and approaches in nursing, what is the reality? What do nurses do in real life situations?

5.4. Research into moral behaviour of nurses and organizational behaviour within institutions

R.J. Zablow's (1984) research showed that staff nurses, who are preparing students for the moral dimension of practice, are not "meticulously introspective" [inclined to examine one's own thoughts and feelings] concerning ethical questions. There was little debate over which course of behaviour was moral. Rather, the question was the lack of courage to assert a position on a moral issue

because the situation required following physicians' orders which conflicted with the nurses' beliefs of the right thing to do. Zablowe's study demonstrated that a large number of nurses sacrificed their own moral position to the wishes of another. The "other" was usually the physician but occasionally it was the institution or another person with more power.

Zablowe concludes that the nurse administrator's lack of courage in expressing personal convictions could have been caused by the lack of strongly-held convictions simply because the implications of their behaviour had not been discussed. However, the most likely reason expressed in Zablowe's study was that the nurses did not feel that they had the "right" or "power" to assert their position and be in control. Unfortunately, this causes "alienation" (Kensiton, 1965, p.452) and impinges on effective organizational behaviour which involves team work, cooperation, sharing, group loyalty, responsibility for one's actions, extremely high performance goals, trust and confidence which one sees in the participative system. (Likert, 1961, p.4)

As mentioned previously, control is a problem that people in organizations face. Although control is probably an essential ingredient of all group life, it is especially

important in service organizations, such as hospitals, prisons, and schools, where clients are unselected and participation is mandatory, here there is a marked delineation between authority and hierarchical power. These organizations process clients who may have little or no desire for the service provided, they have no authority and this renders them powerless, while the staff has a markedly striated hierarchy of control, both factors accentuate the problem of control.

Control can be humanistic or custodial. Control can be humanistic in to allow for a cooperative interaction and experience, and for actualizing behaviour.

Self-actualization is promoted with the inception of two-way communication and increased nurse and client self-determination. Human rights are considered and the importance of the individual is considered in an atmosphere that meets staff and client needs. Neither helper or helpee has the feeling of alienation or powerlessness.

Custodial control provides a rigid and highly controlled setting in which maintenance of order is primary. The flow of power and communication is unilateral and downward. Those in the lower strata of power must accept the decision of those in authority. There is no attempt

to understand behaviour and independent thinking is disregarded. (Hoy & Miskel, 1978, p.204) A sense of internal control over events in life -- especially those with harmful, painful, or frustrating consequences is essential for a sense of coherence. The environment which promotes control by alienation is both philosophically and physiologically undesirable. The sense of powerlessness for both the helper and helpee is destructful to the individual's sense of being. Unfortunately this situation exists in many service organizations.

Melvin Seeman's (1959) framework is useful to illustrate how alienation operates. Seeman's identifies five distinct variants or dimensions of alienation; (1) powerlessness, (2) meaninglessness, (3) normlessness, (4) isolation, and (5) self-estrangement.

This study will deal with the first three categories as they relate to client/nurse ration of alienation within the system. the latter two are self explanatory. The feeling of "powerlessness" arises when the individual feels that his/her personal behaviour has little influence on life's outcomes, the individual feels s/he has little control over his/her own affairs in the present or the future. "Meaninglessness" occurs when the

individual has a low expectancy that satisfactory predictions about the future state of affairs are possible. There is a sensed inability to predict outcomes which tend to dominate much of the individual's thinking. "Normlessness" occurs when there is a high expectancy that socially unapproved behaviour is necessary to achieve given ends. These individuals will tell those in authority what they want to hear, they are expert "game players" (Bernie, 1961).

When an individual feels a sense of powerlessness, he/she expects that external forces, such as luck, chance, and manipulation by others determine the future. There seems to be no means to influence the future and personal input is ignored. When the individual feels a sense of meaninglessness, his/her dominant thinking is "Why express a desire or moral opinion?". A sense of normalness is demonstrated by the high expectancy that socially unapproved behaviour is necessary to achieve given ends. Individuals who are alienated in this sense base their decisions on their potential effectiveness, regardless of social norms. Staff/clients often prefer the most effective course of action, whether legitimate or not, over formally prescribed philosophy. Alienated individuals of this type violate the rules and

regulations. This behaviour is seen "appropriate" if it provides an effective means to an end (Hoy & Miskel, 1978, p.203,204).

Not only do nurses have to contend with alienation and problems of control but they also have ethical problems to solve. Three types of ethical problems faced by nurses, as outlined by, A. Jameton, (1984) are those of (1) "moral uncertainties", when the nurse is uncertain what moral principles or values apply, including situations in which the nurse is not sure what the moral problem is; (2) "moral dilemma", when two or more moral principles apply but lead to inconsistent courses of action when applied; (3) "moral distress," when the nurse knows the right thing to do but institutional constraints make it nearly impossible to carry out the action.

One of the most difficult ethical problems that the staff nurse has faced over time has been the deception or attempted deception of patients by physicians and families. The deception usually involves masking of incipient death of the patient. The nurse is expected to maintain the deception whether or not she agrees with this decision. S/he feels like a liar, which s/he is, and this presents moral problems. Also the nurse is the one who receives the most frequent patient testing of

statement validity. When patients detects a decline in their health status, the nurse is "doubly victim". first, of her own doubt concerning the wisdom of lying to the patient, and secondly, the demand that s/he "affirm a lie when challenged by the patient who has good reason to doubt the truth of what he has been told" (Stevens, 1985, p.68).

With the findings of The President's Commission for the Study of Ethical Problems in Medicine, and Biomedical and Behavioral Research, (1982) this type of deceptive practice will be discontinued in the U.S.. The nurse then is in a stronger legal position to disclose the truth to the patient/client.

5.5. Research: changes in the law and new precedents

The Acquired Immune Disease Syndrome [A.I.D.S.] epidemic has heightened the dilemma about the ability of the nurse to refuse to accept certain assignments, with the nurses contracting the disease through skin eruptions and the physician through a laboratory sample, medical practitioners are fearful. Some practitioners are afraid for their very lives because of the undiagnosed cases which can be the most dangerous to nurse. There are precedents in the 1930's to the 1950's, during the polio

epidemics when it was almost impossible to get the staff who were willing to risk his/her own life to accept an assignment on a polio ward. There are still nurses on respirators who literally gave their lives up to nurse polio victims. Nurses lost time out of their lives to recover from Tuberculosis [T.B.] often contracted from a misdiagnosed case who was nursed on the open ward. Compulsory admission x-rays have helped reduce this toll. Before there were medications to treat T.B. how many nurses died of the dread disease? Nurses lives are in jeopardy with any infectious disease. The abortion issue and the nurse's "right" to refuse to be party to an act which s/he feels is immoral, raises another moral problem for nursing administrators. Today departments of nursing beginning to recognize that there needs to be a channel by which nurses can refuse to participate in treatments or in patient management strategies, when to do so presents a moral crisis for personal ethical reasons, without being faced with threat or coercion (Stevens, idem p. 69). Another problem being addressed by nurse executives who are now encouraging in-service education to facilitate ethical decision making by encouraging staff nurses to take part in learning experiences which will help them become more capable of making ethical

decisions, particularly in cases of organ availability and patient needs.

Few ethical decisions will be easy ones and few will be entirely satisfactory. Feeling stuck between two (or more) alternatives can be very disquieting, especially if feeling stuck is a way of life. Unresolved fears will play a part in experiencing ambivalence. Fears like, making a mistake, hurting or angering someone, or losing face, create immobility in the decision-maker. "This uncertainty can prevail even when the individual knows on an intellectual level what to do, but his/her gut says something else" (Brallier, 1982, p. 241).

In this atmosphere of conflicting demands, moral principles, and ethical codes it is the prudent individual, with a formulated moral conviction co-natured into his/her being and with an understanding that most decisions can be made quickly without agonizing, who will be freed from the feelings of fear and anguish when faced with a new presenting situation where moral decisions must be made. It could be the nurse's knowledge by means of affective and tendential connaturality, with the ends of human action, which will enable him/her to make the swift and effective decision which is required. The

nurse will be able to rely on his/her mode of inclination when unique, perplexing problems present themselves.

For the nurse manager, not all his/her ethical problems will relate to clinical care but will include patient care systems, information systems, and nursing management systems. Faced with ethical problems related to clients and staff, nurse managers must handle problems almost continuously. How they handle these discretionary decisional problems and who and what they use as resources throw a new light on what preparation the competent nurse administrator needs. Jocely Sirorski, states that what "one person determines to be an ethical problem, may not be one for someone else -- it all depends on the individual's knowledge base, judgment and problem-solving skills" (Youell, 1986, p. 27).

Questions of informed consent, confidentiality or patient records, access for admissions, surrogate appointment for clients unable to make their own decisions, create ethical concerns. These ethical concerns are coupled with clinical needs and staffing ethics weighed against budget constraints and administrative policies. A local situation involving all of these factors was the much publicized confrontation at the Vancouver General Hospital in 1977/78 (Lowell, 1981). The Registered

Nurses Association of British Columbia (R.N.A.B.C.) became involved because the nursing position and concern over patient safety was polarized against the decisions of the "lay" administrative staff.

As another instance of ethical concerns, one might examine cases of disciplining. Each year, a handful of nurses must be disciplined by the R.N.A.B.C. and other nurses associations for incompetency, usually due to substance abuse or gross errors of judgment. Each registered nurse, at any level of functioning, must be guided by ethical principles rather than compassion for the erring colleague who is seen to put clients in jeopardy as a result of personal problems. Many nurses feel that when a judgment has been reached, the ethical problem is over. However to be truly ethical the professionals should see that provisions are also be made to establish a rehabilitation program for the professional who has put patients care at risk.

In turn, this leads to concern over who decides ethical dilemmas, how nurses handle them comes with experience, and a philosophy through which they see reality.

Ultimately, as the ethical sophistication of nurses develops they "will begin to demand participation in the

decision-making process relating to ethical issues" (Simms-Jones, p.24).

5.6. How to deal with these problems

The use of virtues, perfected by the prudential habitus could enhance "right judgments" by mode of affective inclination [discussed in chapter 4 on connatural knowledge]. This is the theme of the ethical intuitive thinking instruction proposed in this thesis. Hopefully these skills will enable the nurse to recognize "that leadership belongs to prudence as well as expertness; rather than possessing only technical ability" (Joseph, p.73). It has been suggested that perfect order would want experts to be good people rather than merely good experts.

The nurse/leader must be willing to co-nature the precepts of natural law so that his/her inclinations will be prudential ones and his/her inclinatory actions may be in accordance with natural law and the ethical, moral rights of the patient. The common good of those committed his/her care engrafted into his/her being would allow the nurse to intuitively follow the moral ethical principles required. But first, Chapter 6, will present a theory about prudent information processing and

judicious discretionary decision making, [I.D.D.M.A.C. the theory of intuitive decision making by affective connaturality]. Then Chapter 7, will examine the selection of instructional models and present an overview of the research into the principles and practices of adult education. Chapter 8 of this thesis, will deal with teaching models which will enable individuals to create caring, ethical "habitus". Intuitive thinking principles of Bastick, Agor, Wonder and Donovan and others will be synthesized into cognitive modules and an affective modules combined with mentoring affective connaturality to form a unified teaching module which will enable graduate nurses to make prudent caring intuitive discretionary decisions in non routine situations.

THEORY OF INTUITIVE THINKING
BY AFFECTIVE CONNATURALITY

CHAPTER 6

Nurses, today, must examine basic ethical principles and develop their own personal set of guidelines and values, then put them into practice.

6. Introduction

It is the aim of this section to present a method whereby nurses, who have created their own meaning of ethics and ethical values from present day ethical conflicts, may become confident that they will be able to intuitively call on these values in a crisis situation. This will be accomplished by a synthesis of ethical "habitus," in the form of affective connaturality and intuitive thinking to form a combined theory of intuitive thinking by affective connaturality.

This chapter is designed to present a combined theory of intuitive discretionary decision making by affective connaturality [I.D.D.M.A.C.]. The need for a theory of intuitive affective connaturality previously mentioned in sections 1.1., 1.4., 1.5., and 1.6., is based on the moral dilemmas of nurses required to make various discretionary decisions in crisis situations.

6.1. Background principles to the theory of intuitive thinking by affective connaturality

As has been noted, in intuitive thinking, thoughts are coded by feelings and associated by their common feelings. When a mystical or divine element is added, immediately thoughts are joined with the individual's conceptual process, the individual's inner core, through divine love. The gift of instantaneous, infinite wisdom is part of this God-love known by the ancients as "connatural knowledge." Mystical wisdom through union of love becomes united to the individual through this love and becomes immediately apparent.

In both intuitive thinking and connatural knowledge, this unity allows the nurse to form a preconscious temporary identification with the problem situation. This combination evokes disquietening feelings in the individual. In intuitive thinking, learned and instinctive body responses resolve this motivating anxiety with neuro transmitters and neuro inhibitors. It is this sudden resolution of tension which brings to the conscious awareness new feelings and associated thoughts formulated by the individual's responses. But, in connatural knowledge, faith is of things unseen and faith is united with love. Here, the intellect is awakened to

the thoughts and feelings which form an empathetic projection or a "word of knowledge" (I Corinthians 12:8). The intellect penetrates the empathetic projection in both intuitive thinking and connatural knowledge. In connatural knowledge, the connaturality of charity allows the individual to judge under a higher rule which is a new formal ratio, ruled by compassion.

As it can be difficult for people to describe the process of formulating an intuitive conclusion, a prototype description is needed. The formation of a prototype by modelling occurs when a likeness is formed by imagery, this then creates a transcription which is a reflection of the presenting problem. Eastick (ibid.) concluded that this simple structure allows the intuition to be described and explains the related feelings which accompany an intuition. He concluded that this is a testable physiological phenomenon which forms the basis for his psychophysiological predictions and testing of the process of intuitive thinking.

Affective connaturality functions above the natural order, to a true good, where infused virtues through special inspiration, result in a supernatural end. This colours the decision of what is "good", "whole," and "right." Since connaturality implies agreement and since

connatural knowledge is an type of immediate, alogical knowledge, similar to intuition, however, with the distinction that the individual's concern and affection is combined with a genuine mystical experience where love for God and love from God permeates the whole being.

This direction motivates the individual to contemplative service and gives a powerful intuition, which is more mystical than metaphysical [pertaining to direct communication with God], even though it does not come from the natural order as in intuition. Rather, it comes from a divine order in affective connaturality, which focuses on human life in the practical and ethical order and is the heart of prudential knowledge.

6.2. Combined theory of intuitive affective connaturality

Intuitive thinking properties are the main components used to create an "emotional set." The synthesis of these emotional sets create a model of a general theory of thought. The intuitive process consists of a combination of emotional sets so that they are increasingly redundant. The intuitive individual initiates the intuitive process by resolution of unconsciously evoked tension. The intuitive products results from this directed combinations of emotional sets.

As in intuition, connatural knowledge initiates feelings which also play a major role in affective connaturality. The will, like the intellect, has a spiritual nature. Man has a spiritual soul which controls the body spiritually. It is this spiritual soul which fills the individual and takes hold of the whole being. If spirituality is imprinted on only some part, either on this or that aspect of one's being or one's life, it is a limited spirituality. This spirituality of a kind may be encountered if one examines the "proper" aspect of ethics in a doctor or nurse. S/he knows the rules but has no emotional feeling about the ethical rules and those under his/her care. This is not connatural knowledge because connatural knowledge is wholistic and deals with entireties.

In the individual's moral life, it is only when morality becomes habitual that his/her natural spirituality is set free for its own sake. The desire of knowing the "first case" sparks the desire for the "gifts of the spirit" (Galatians 5:22-26, N.A.S.). The fruition of these "gifts" is seen in expressions of; love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, and self-control, particularly when these types of behaviour are not the natural inclination of the

individual. These "gifts" or virtues, allow the individual to function at a level of love and charity not normally possible. Such as "gifting" exemplified in a person like by Sister Theresa.

6.2.1. Differentiation between the intuitive and the non-intuitive

According to Bastick's theory, emotional sensitivity differentiates the intuitive individual from the non-intuitive individual.

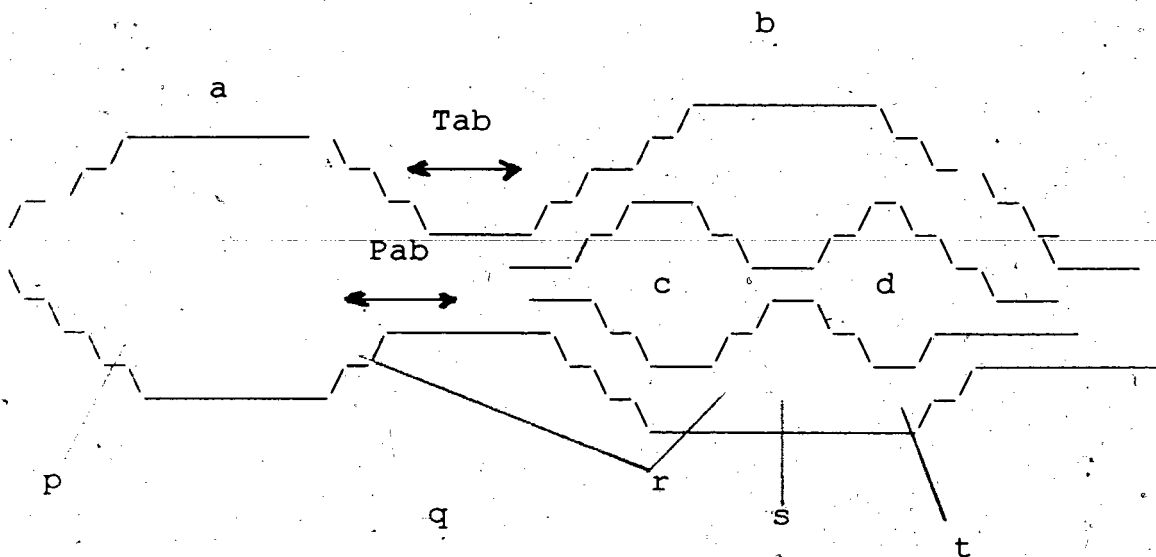


Fig. 6.1. Structure of secondary, primary, intuitive and creative thought

Bastick (1979, p. 597) uses the above diagram, in Fig. 6.1., to demonstrate the structure of secondary, primary, and intuitive and creative thought. In the diagram the

letter q represents a primary thinking stimulus which evokes an emotional set (a). While the individual is in emotional set (a), similar response (p) is given. When in secondary thought, a similar response (q) is given, and then (q) again as a functional fixedness. The intuitive individual finds that stimulus (q) brings up conflicting response tendencies, such as the tendency to evoke emotional sets (a) and (b). S/he resolves this conflict by combining emotional set (a) and (b). This makes the intuitive response (r). Remaining in primary thought, the intuitive individual continues to produce idiosyncratically associated responses as s/he moves through to other redundant emotional sets. In creativity, the individual, having given the intuitive response (r) now in a controlled change of ego state disconnects this large redundant emotional set (b). In secondary thinking, s/he uses the smaller less redundant emotional sets (c), (d). This allows the individual to produce response (s) which is a similar response to (r) from the sparsely redundant emotional set. Therefore, given stimulus (q), the various responses may be attributed to combinations of paths through the illustrated structure. (1979, p. 597)

6.2.2. Contiguity conditioning, emotional sensitivity, and empathetic projection, and affective connaturality

The accepted concept of contiguity conditioning synthesizes Bastick's varied research findings. This, contiguity conditioning, is the basis of Bastick's theory and will also be a basis for this work. He sees the basic individual differences between the intuitive and the non-intuitive as emotional sensitivity. Emotional sensitivity allows a energy between intuition and affective connaturality. This juxtaposition is seen in the similarity between controlled empathetic projection in intuitive thinking and the empathetic qualities of affective connaturality. Contiguity conditioning allows the intuitive to develop the ability to utilize connatural knowledge in the form of affective connaturality. Prudent habits, receive contiguity conditioning, and become the individual's affective habitus.

6.2.3. Summary of the psychophysiological components of the theory of intuitive thinking by affective connaturality

Supporting evidence of the main psychophysiological components of the theory of intuitive thought, stated in Chapter 3, and the main components of decision making by affective connaturality, stated in Chapter 4 will be mentioned in this section as the relevant components.

6.2.1.1. Affective connaturality and intuitive thinking use the integrating regulatory body feedback systems

Both intuitive and divine thought processes are connected to the dynamic physiological systems which are interrelated and integrated by feedback stimuli which attempt to stabilize the body against the external environment. In the body's feedback system, stimuli produce responses which then act as further stimuli; therefore, no distinction can be made at this time between internal stimuli and responses. It is the hormonal, visceral, motor, and cognitive reactions which produce the internal stimuli to which the body reacts in order to resolve the initiating tension by internal awareness and response. This is a preconscious awareness except for gross changes which rise to the consciousness. In this wholistic view, cognitions are also seen as compound stimuli/responses which are coherently integrated with the multitude of stimuli whose numerous self-detectable amplitudes and rates of change define the emotional state of the body at any instant in time. Conglomerations of stimuli, which are non-exclusive, comprise the specific modalities. Information for cross modal transfer is comprised of the stimuli in common between modalities.

Successive cognitive stimuli function in common between successive emotional states as they combine and recombine towards an increasingly redundant set of common emotional states. Intuitive thought process is the combination of emotional sets in the direction of increasing the common stimuli/ responses that trigger the release of self evoked tension of the intuitive individual.

The intuitive individual who wishes to incorporate his/her intuitive thinking with affective connaturality will form a habitus, regarded as a "second nature." This is combined with the individual's thought processes in order to dispose these processes to act in a certain way. For the nurse, this habitus becomes operational habits because they are habits in action which dispose the nurse, through his/her work potencies. This allows the individual to perform certain actions such as those propelled by the intellect and the will, those abilities which when moved by a superior faculty, either directly or indirectly, are able to move another, and those powers which when moved do not move another. If the individual allows him/herself to be moved by operative habits or virtues which are inclined only to good, it will then be impossible for the individual to make use of a virtue in order to do evil. The manner of the action follows the

attitude of good judgement of the individual. In the case of a nurse so will his/her actions be moved towards the total well being of his/her patients. The habit is an imperfect act and does not fully actuate the nurse's potency, it merely prepares this potency for the complete act which is the operation. Emotional states underly operational habits, it is well to consider the conditions which allow the formation of emotional states or emotional sets.

6.2.1.2. Experience is part of the response tendencies which define emotional sets

As a myriad of stimuli change, so too, the emotional state of the body is constantly changing. It seems that conglomerations of stimuli change in accord with the body's regulatory feedback system and the interdependence of the individual changes. These concordant mass changes produce a succession of similar emotional states called emotional sets. Gross "behavioural" responses result when some groups of stimuli within the emotional sets act in accord. These accordant combinations of stimuli are generally called "response tendencies" because they have the tendency to become "behavioural" responses. These tendencies are not always realized in any particular emotional set.

An emotional set is initially defined by its instinctive response tendencies. If these response tendencies become a habitus, or habit, they dispose the individual to act in a certain way. In the individual seeking perfection, s/he has attempted to actuate good operational habits, and these operational habits will colour his/her response tendencies towards what is "good." The nurse's ability may be influenced in various ways by different circumstantial stimuli and in regard to various works to be performed, but, when there is tangential contiguity conditioning, other stimuli/ responses become conditioned with emotional sets. This allows instinctive response tendencies, available, at the beginning of the intuitive development, when the body is in the relevant emotional set, to be influenced in various ways. It is possible that some of these influences are not suitable to the good of his/her nature, operational habits make it relatively easy for him/her to intuitively select emotional sets which will guide the nurse to perform through other emotional sets which will perfect the nurse's nature, and allow him/her to avoid those which would injure and perhaps destroy the natural goodness in regard to the ultimate end of the action. The conditioned stimuli/ response becomes able to evoke the associated emotional set as conditioning strengthens.

This does not require an external direction because life rewards suitable responses which in turn give the increased conditioning which enables the developing individual to act increasingly appropriately in a greater variety of environments.

Various factors which enter into the nurse's placing of an act need to be adjusted properly to allow the proper balance and measure to direct his/her action in the direction of the nurse's nature and end towards "good." Here, it is the habit of prudence which the nurse uses in ordering means to ends. This habit of prudence needs to become embodied within his/her emotional states or emotional sets as an affective temperament. This is accomplished by the conscious will and other qualities which have certain dispositions to direct them to formulate operational habits. Initially, this is a cognitive function which becomes incorporated within emotional sets. Over time, this allows future actions to become instinctive actions towards what is good to embody the majority of his/her emotional states and emotional sets.

Reward of subtle behavioural responses is considered part of contiguous conditioning. In the individual who is in the fortunate years, when these "good" behaviours are not

rewarded with their particular emotional set this non-reward can manifest itself as "wrong" behaviour, which in turn can give rise to a stimulus which evokes an inappropriate emotional response. This could result in a differing judgement or in the extreme, abnormal behaviour. This aspect of contiguity conditioning must be addressed before the learner may progress towards intuitive thinking by affective connaturality. Since cognitions are also response tendencies conditioned to emotional sets this caring but ethical direction will be the major cognitive thrust of the teaching module.

Primary process thinking occurs in environments where there is no threat to the integrity of the ego. This study will now address the environments where intuitive thinking is encouraged.

6.2.1.3. The environment which encourages the combination of emotional sets for intuitive thinking

An environment free of stress allows the individual to utilize intuitive thinking processes more readily than do environments where there are high expectations to perform. Primary process thinking is a result of conditioned stimulus/ response behaviours, this occurs in environments where the individual perceives no threat to the integrity of his/her ego. In this type of non-

threatening environment, primary process thinking may be "applied." For this reason the teaching module will begin in an environment free from any threat to the integrity of the ego, this will continue for several learning sessions until the learner has mastered the centering exercise. Once the learner is able to center instantly and at will, then the learner will be encouraged to role play centering in stressful situations. Once practice centering in stressful environment is achieved, the learner will then be encouraged to practice finding his/her center at work, between the weekly sessions. This is the most difficult exercise for mastery learning but it can be done and is done by nurses who practice therapeutic touch (Krieger, 1979).

Primary process thinking is facilitated by allowing the perception, consisting of either external perception and/or memory, to evoke an emotional set whose response tendencies are affectionately projected to the object of the perception. In this way response tendencies of the individual's changing emotional sets are preconsciously caring when they become associated with the objects of perception which evoked this emotional set. In intuition this ability to apply these thought processes results

from empathic projection. In affective connaturality the object becomes subject through love and results in a deeper "knowing" than can be achieved by objective empathetic projection.

6.2.1.4. Combination of redundant emotional sets is the basis for intuitive thinking

Combinations of synergistic conglomerations of stimuli that define increasingly integrated response tendencies have the likelihood of occurring naturally in more than one emotional set. Simpler combinations which define less integrated response tendencies probably common to many emotional sets. This allows stimuli, common to all emotional sets with larger combinations of synergistic response tendencies, to become less common between emotional sets. This gives rise to similar vague feelings permeating several emotional sets but vague abstract complex stimuli/ response is likely to be associated with only one or perhaps a few very similar emotional sets. When similar natural environmental stimuli independent of a person's emotional set are perceived, these similar stimuli would be conditioned to similar emotional sets. Redundancy is the term used for response tendencies in common between emotional sets.

There is a tendency to change to the most redundant emotional set because the change in emotional state is continuous and has many stimuli in common with the present emotional set. Primary thought follows this process whereas analytic or secondary process thinking proceeds by a disassociation of emotional sets causing less inclusive emotional sets to be combined.

The individual does not attribute equal value to all response tendencies, an individual functioning in affective connaturality will be directed toward the truth, and the good which will terminate in "right" acts. Conversely, s/he would be inclined to avoid emotional sets directed towards unethical acts. The value of a response depends upon the present emotional state. If there is a high value of tension state then responses to resolve that tension will be of high value. Therefore, if two emotional sets are of equal redundancy to the present emotional set, involving some anxiety, then the following emotional set will probably be one which also has response tendencies that will help to resolve the tension. The intuitive process consists of this directed combination of redundant emotional sets. In affective connaturality, the moral "gifts of the Spirit" allow for the redundant features in emotional sets.

6.2. Intuitive thought as a modelled structure

Intuitive thought may be considered as primary thought which is directed by reducing the self evoked anxiety which initiates the intuitive process. This process was modelled by Bastick to facilitate description of primary thought in general, and secondary thought in general.

6.2.1. Emotional states and emotional sets

Bastick sees thought as a band of continually changing emotional states pictured like segments in an earth worm. As the earth worm moves by wave-like movement, so too does the thought process form wavy bands which contain all the detectable stimuli amplitudes and stimuli changes in the individual. The visible verticle segments represent the emotional state of the individual at an instant in time. This emotional state is continuously changing in time, encapsulating the experience of that moment within the memory of that particular segment of the thought process.

In the next diagram the wavy band is used to represent all the detectable stimuli amplitudes and stimuli changes in the thought process and physiological organism. The vertical lines are used to represent the emotional state of the individual at an instant in time. This emotional

state changes continuously in time which is represented by the arrows going in either direction, with the reverse direction indication a period of revery.

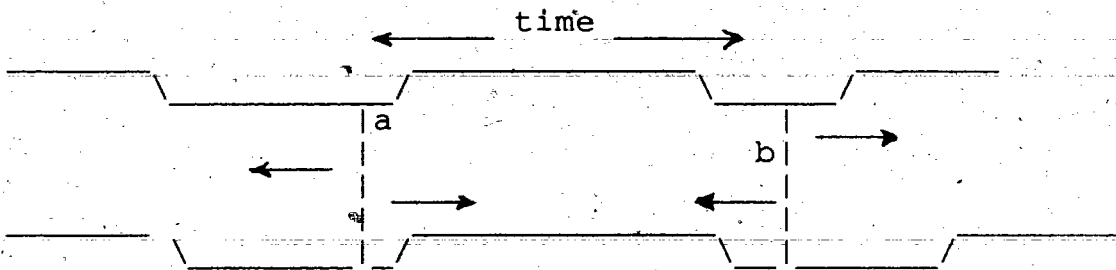


Fig. 6.2. Band of continually changing emotional states (Bastick, *ibid.*, p. 583)

The integrating regulatory feedback systems of the body allow the myriad of detectable stimuli to change as conglomerations of stimuli acting in accord and leaving some unchanged. This allows the continuance of common characteristics of the emotional states over times. It is referred to as a physiological state. The building and decay of these common characteristics of emotional states form undulations in the band of emotional states.

In the next diagram the increased undulations in the band of emotional states represent the building and decay of the common characteristics within emotional states.

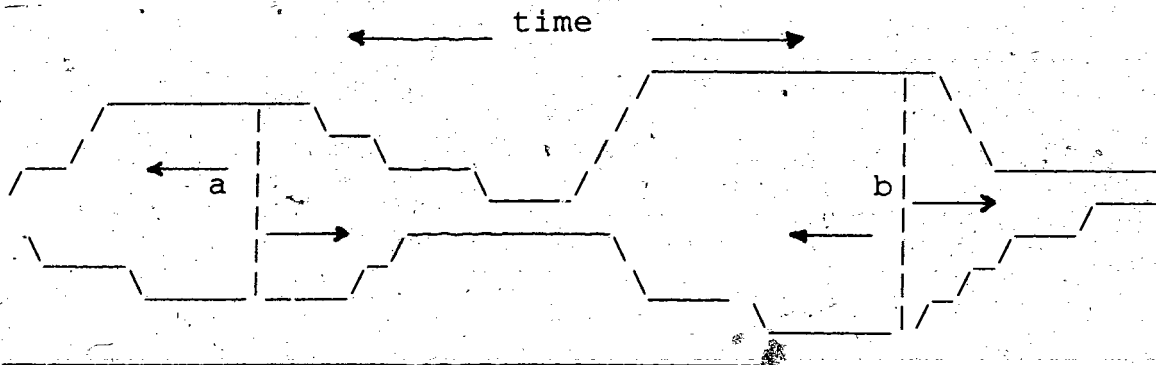


Fig. 6.3. Physiological state as a succession of emotional states in which stimuli act in accord (ibid., p.584)

6.3. Dynamics of thought

Inclusive global emotional sets are combined during permissive ego states of primary thinking while secondary or analytic thinking occurs when a focussing takes place which disassociates the larger more redundant emotional sets. This is similar to the patterning which occurs in ego threatening environments where the reduced redundancy of emotional sets does not favour methods of combination that are probable for highly redundant emotional sets.

6.3.1. Rehearsal refreshes emotional sets

Humans learn by revision of rehearsal. The process of thinking changes the emotional sets, the transition probabilities between emotional sets, and the relative conditioning of the response tendencies within the emotional sets. Rehearsal occurs as the individual

drifts through his/her network of emotional sets, which increases the transition probabilities between the emotional sets on the particular chosen path. This makes a similar train of thought and feeling more probable.

6.3.2. Combining emotional sets in hierarchies, by drifting or by recentering

As the individual drifts through the network of emotional sets, s/he combines the next emotional set with the present emotional set formulating refreshed emotional sets in a changed network. Direct conditioning will also change the relative response tendencies within the emotional set. Emotional sets may also be combined by hierarchical embedding where emotional sets are united into one larger emotional set. Another way emotional sets are combined is by the process of drifting to increasingly different emotional sets or recentering. These methods of combining response tendencies will be restricted by lack of response tendencies uncommon between emotional sets. Redundant response tendencies will be reinforced by the combination of two or more redundant emotional sets, this will reduce the discordant tension of conflicting response tendencies that are in discord when the emotional sets are combined. Similar emotional sets can be embedded into a larger emotional set in hierarchical embedding. This may be reversed

under ego threat when focussing occurs and response tendencies, previously held in common are no longer held in common because the redundancy has been reduced.

Response tendencies may be dropped during drifting if the emotional sets contain low redundancy or if the response tendencies are not particularly enduring. Recentering can occur in redundant emotional sets when the initial response tendencies have been dropped, this follows an incubation period. In recentering, an emotional set is formed which is so similar to the original emotional set that a mild kinaesthetic stimulus causes the present emotional set to combine with the original emotional set. Transition probabilities are drastically restructured in the network's immediate neighbourhood this creates new links.

Anxiety responses initiate the intuitive process which occurs at a high level of embedding or sustained response tendencies in a continued drift or recentering. Without the anxiety responses, ordinary thought would proceed by embedding two similar emotional sets at a time or by combining successively different emotional sets without preserving the original response tendencies.

6.3.4. Intuitive and non-intuitive individuals

Intuitive thought occurs when similar response tendencies are common between otherwise different emotional sets. Lack of this redundancy inhibits intuitive thought. The intuitive redundant structure may be degraded by ego threat which focuses the attention to the emotional environment at the expense of a sensitivity to the emotionally coded information in the internal environment. Non-intuitive types are inclined to have this difference in redundancy, called functional fixedness, because of the innate sensitivity to more peripheral stimuli.

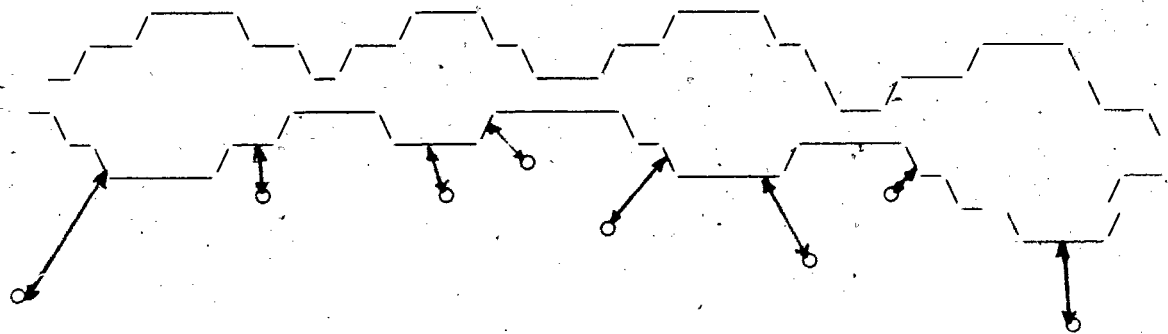


Fig 6.4. Demonstrates a sparsely redundant structure that does not facilitate intuitive thought (ibid., p. 592)

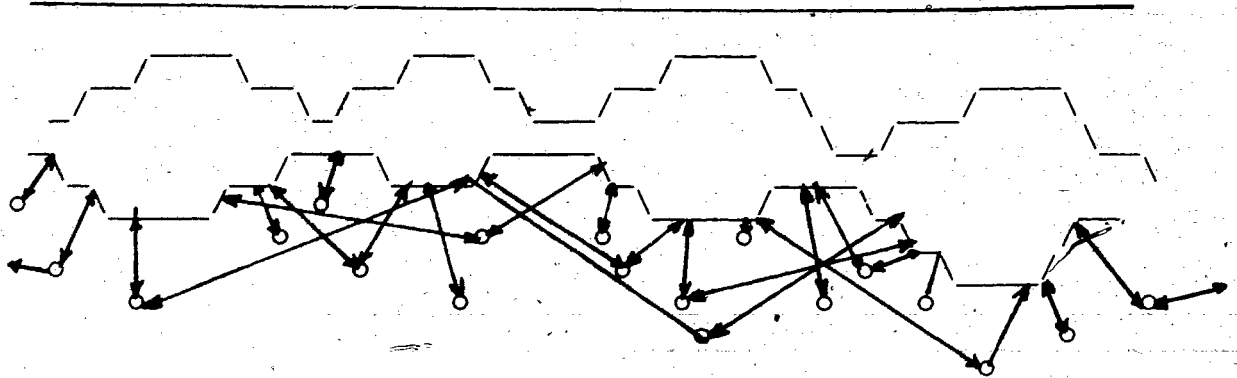


Fig. 6.5. Demonstrates how the highly redundant structure in a chain of emotional sets facilitates intuitive thought (ibid, p. 591).

The high redundancy of the emotional sets available to the intuitive individual may occasionally be reduced during analytic thought or under ego threat resulting in the sparsely redundant structure seen above. Ego threat accentuates attention to the external environment at the expense of a sensitivity to emotionally coded information. Bastick suggests that a relative insensitivity to the internal environment could have inhibited non-intuitive individuals from building the required redundant structure during their formative years. If that is so, then the fundamental difference between intuitive and non-intuitive types is this emotional sensitivity.

Cognitive styles differ, the intuitive individual will develop systems of multi-categorizing because s/he is able to categorize similar stimuli under more different

emotional sets, or defined category labels, and the non-intuitive is unable to do so. Also, the intuitive individual is more emotionally variable than the non-intuitive individual and is less likely to develop functional fixedness because s/he is capable of introducing new response tendencies conditioned to emotional sets. This variability would tend to combine with the present emotional set by the redundant structure seen in the intuitive individual.

6.3.5. Types of creativity and intuition

The process of intuition is where the primary thought of the intuer allows environmental stimuli to evoke conflicting response tendencies through empathy. The dissonance of these conflicting response tendencies is resolved by combining redundant emotional sets. This produces the intuitive response, a response conditioned to the terminating emotional set, through empathetic projection. The creative individual is capable of controlling the ego state change between primary and secondary thinking while the intuitive type continues to produce highly idiosyncratically associated primary thought responses.

The intuitive individual, whether s/he is expressing creativity or not, is able to become personally involved with otherwise non-emotionally involved elements in the environment through empathetic projection. These objects may be animate or inanimate, or even abstract. This instigates subjectively appropriate feelings which are the information from his/her intuitive process.

Empathetic projection allows the feelings originated through empathy to be directed by projection to the object causing these feelings and therefore the feelings are temporarily shared by the object. Intuitive individuals contain highly redundant emotional sets which allow him/her to drift easily between emotional sets.

The non-intuitive, with sparsely redundant emotional sets, cannot facilitate such variability.

Creative individuals have the added advantage of being able to control their emotional drift through control of ego state. This allows him/her to change from the combination of highly redundant emotional sets to sparsely redundant emotional sets combinations to allow for closer associated response characteristics of analytical or secondary thought rather than continued primary responses.

6.3.6. Empathetic projection as a constituent of intuitive thinking by affective connaturality

Empathetic projection as a major constituent of intuitive thought which allows individuals to preconsciously empathize with neutral elements in the environment.

There appears to be a correlation between the measures of the properties of intuition and the measures of empathy and empathetic projection. Individuals with high empathetic projection respond intuitively more frequently than individuals with low empathetic projection ability.

6.4. Knowledge by affective connaturality and natural law parallel to empathetic projection and nursing actions that are prudent and caring

In knowledge by affective connaturality functions an individual judges according to his/her natural inclination. The individual's conduct is ordered so that s/he can follow the inclination of the heart without reference to the universal moral principles. This can happen when individual's inclination becomes so dedicated to the good of virtue that s/he may be relied upon to think and act with empathy. Natural law is the knowledge of that which is embodied in the most general and most ancient heritage of humanity. It covers only the ethical regulations which rose to the conscious awareness by virtue of knowledge through inclination. Natural law

covers the basic principles in moral life. This has been progressively recognized from the most common principles towards more specific principles.

The ontological aspect of natural law is the normality of functioning grounded on the essence of being human and by which the individual should achieve the fullness of his/her being according to his/her structure and end. For the human, natural law is moral law, and the individual is free to obey or disobey it, resulting in the individual's final end being superior.

All the common and particular principles of natural law, all the regulations of ethics, including the natural obligations or rights, which, are presently unknown, or which will appear in a distant future are included in this aspect of natural morality in the natural law.

Therefore, the ontological element of natural law embraces all the moral principles which can be known even though they are not necessarily known by all mankind.

This differentiation occurs because: natural law is not written law, humanity's moral conscience is in a state of developing, and many obstacles corrupt the judgment of mankind in moral matters.

Natural law as a "known" is an important element. It is the gnoseological element of natural law. It measures in actual fact, human practical reason seen as the measure of human acts. To have the force of law, natural law must be known. Unfortunately all the moral principles are not necessarily known to all men, they are not deduced rationally from the first practical principle of morality but become known by mode of inclination. What is in harmony with the essential inclination of human nature is grasped by the intellect, as good, and what is dissonant, as bad.

This understanding of natural law clearly demonstrates the dynamic development involved in natural law, as well as the progress of humanity's moral conscience. This progress has been seen to run parallel to the progress of humanity toward what is good, what is noble, what is whole. The reverse is also possible as seen in the decline of the dark ages and some say this present age, which is equated with the "end times".

6.4.1. Natural law and habitus

The philosophers saw the habitus which contained the precepts of natural law, as the part played by affective knowledge. Moral philosophy is the form of practical

knowledge which is most practical, it regulates action at a distance by assembling all the necessary knowledge into a scientific whole. Although it is concerned with action, moral science is speculative in this mode of knowing. This science deals with human acts, it must take some account of experience which demonstrates that which is good for some may be bad for others concerning the same end. However, moral philosophy is an intellectual science because it is not directly concerned with the uprightness of desire nor with the affective action of the immediate regulation of acts. Moral philosophy's task is to make intelligible the standards of morality which humanity has come to know by mode of inclination or by affective connaturality. It also keeps these standards intact.

6.4.2. Knowledge by affective connaturality and practical knowledge

This knowledge by intellectual connaturality is a degree of practical knowledge. In the mode of pure knowledge, a degree of practical knowledge by intellectual connaturality, the moral philosopher sees the consequences in a moral principle by the natural inclination of his/her inclination towards the truth. This occurs in a manner similar to that by which the

speculative philosopher knows through intellectual connaturality rather than by discursive reasoning alone.

6.4.3. Affective connaturality as supremely practical knowledge

Knowledge by affective connaturality functions in the realm of supremely practical knowledge. This is the realm of prudence which is most common in human life because it is directly concerned with individual humanity. The natural tendency of the heart and the will, will be towards that end of desire with which they are connaturalized. It is only the virtuous will and the heart which is connaturalized with the end desire which make judgement by mode of inclination possible.

Therefore, moral habits allow the prudential individual to form his/her judgments which will terminate in "right" action. This is accomplished, not only in the mode of pure knowledge, but also in the mode of affective inclination. It is guided by the moral habits which are part of him/her.

6.5. Conclusions and proposals

Secondary process thinking proceeds by a dissassociation of emotional sets causing less inclusive emotional sets to be combined. The individual does not attribute equal value to all response tendencies. The value of a

response depends upon the present emotional state. If there is a high value of tension state then responses to resolve the tension will be of high value. Therefore, if two emotional sets are of equal redundancy to the present emotional set, which involves some anxiety, then the following emotional set will probably be one which also has response tendencies that will help to resolve the tensions. The process of intuitive affective connaturality consists of this directed combination of redundant emotional sets with affective response tendencies which have been conditioned by the moral inclination of the individual.

A lesson plan will be proposed to facilitate learning intuitive affective connaturality. This study will first examine the principles and practices of the intellectual complexity theory, to determine the required intellectual functioning for individuals who will be working in high stress nursing environments like intensive care or emergency triage areas in tertiary hospitals. The study will then examine some cardinal principles of instruction in adult education, teaching and learning models which would facilitate the creation of the desired environment for learning 'intuitive thinking by affective connaturality. --Chapter 7

A synthesis of the intuitive thinking principles and instructional designs of Bastick, Agor, Wonder and Donovan, and others will form a teaching module aimed to help the graduate nurse to make prudent, caring, intuitive discretionary decisions in non routine situations. It is envisioned that, a supportive activity, mentoring will be used.-- Chapter 8

SELECTION OF INSTRUCTIONAL MODELS

CHAPTER 7

Selection of instructional models, part of program planning, is a future-focussed activity which "is essential to learning and is accompanied by one's hopes and expectations about change."
(Brundage & MacKeracher, 1980, p.74)

7. Introduction

Learning is the change in behaviour as a result of experience. All activity contributes in some measure to learning. Frequently, the individual who plans the learning program learns the most. For that reason, an adult learner should be actively involved in the planning related to his/her learning. Ideally, this participation increases the value of the learning activity and assures that the desired outcomes will be reached.

This chapter will deal with adults in the independent stage of the mid twenties through the high work and responsibility stage of adult development. It will target those nurses presently functioning as graduate nurses. These graduate nurses are constantly faced with the pressure to advance nursing skills to meet the demands of an ever changing technological environment.

Mastery learning, essential for learning nursing skills, requires a sense of personal commitment to a set of values, considered a sign professionalism for the graduate nurse. Mastery learning involves the learner's self-concept and is most relevant to his/her belongingness and affiliation needs, so s/he is considered a person of worth and dignity by co-workers and clients.

7.1. Rationale

Based on an analysis and synthesis of conceptual development, learning principles of andragogy (including the character and requirements of the adult learner in the learning situation which influences the design of the teaching methods), the characteristics of the instructor as facilitator of desired learning outcomes, and their implications, this chapter will attempt to delineate adult learning principles as these apply to program planning.

7.2. Limitations

It would appear that a teaching model for individuals functioning at high integrative complexity levels should be constructed to enhance the learning potential of these individuals. An evaluative pretest would appear to be an

enabling element whereby the learner could establish his/her ability to function in highly stressful environments. For individuals below this high complexity level of functioning, remedial integrative expansion instruction would be suggested. The purpose of this instruction would be to free the learner's intellectual capacity and enable the organization of additional schemata for alternate ways to increase the ability to further integrate comparison rules. Due to its complexity, inclusion of this type of learning module is beyond the scope of this thesis.

The training environment will be directed to the level of integrative complexity of the students. Division of the class would be into groups of those qualifying as functioning at high integrative complexity levels [moving into the proposed learning module] and those functioning below this level [directed into remedial programs]. Details of these different modules are beyond the scope of this study.

Brundage and MacKeracher (1980, p. 57) conceptualize the learning environment as including "everything relevant to the individual's learning which is external ... [to the learner]." This will include the diverse concerns of learning resources, physical setting, social climate,

instructional climate, accessibility, obstacles to learning or participation [a paramount concern for adult educators, particularly for hospital in-service educators], teacher personality, teaching methods and other learners. A full report of these variables is beyond the scope of this thesis.

Since knowledge is gained through a variety of processes, in adult education, modifying or transforming an established framework is a more difficult and complex learning task than adding new knowledge to an old framework or learning a totally new one. This principle is important for instruction designed to promote the high integrative complexity level of functioning required by the learner. A detailed discussion of this instructional model is beyond the scope of this thesis.

7.3. Conceptual development and models of teaching

This chapter will first examine the importance of the learner's conceptual development and conceptual levels theory systems, as these pertain to the teaching models required to deal with the learner's specific needs and possible outcomes. This chapter will then address the learning principles of andragogy [adult education], as these pertain to the desired learning outcomes of

decision making [previously discussed] and to the selection of instructional methods. Finally, this chapter will examine the background material which deals with the research into instruction models, their applicability to the adult learner, the learning environment of hospital inservice education, and the desired learning outcomes. This will be done to facilitate the selection of the instructional models required to teach nurses to utilize their innate intuitive ability combined with affective connaturality when required to make spontaneous discretionary decisions in emergency situations.

7.3.1. Conceptual systems theory classifications

Human information processing has been classified into conceptual systems and personality organization to determine how specific individuals will function in complex social systems. [see Joyce & Weil, 1980, pp 430-445, Harvey, Hunt & Schroder, 1961] Individuals of low structure appear to learn better when the learning models are highly structured, and persons with high complexity function better in a learning environment with low structure. Bruce Joyce and Marsha Weil (1980, p. 436) suggest these teaching models can be modified substantially.

There are four specific behaviour patterns which are characteristic of different levels of integrative complexity: low, moderate, moderately high, and high, each of which will be discussed in more detail in the following section.

7.3.2. Conceptual Levels

As has been noted, this course is to be oriented primarily towards nurses who function at the high-complexity level because they are required to tolerate the stresses of the intensive care and triage nursing environments. This does not mean that a nurse who functions as a lower level of integrative complexity cannot learn to make discretionary decisions by affective connaturality in a low stress environment. However, as will be pointed out in the next section, there are additional complicating factors to be considered if such a nurse attempted the course.

7.3.2.1. Low integrative complexity level

The learner with low complexity prefers a "real" world in which s/he can regard the environment as fixed. This individual relates to the environment "with relatively few lenses -- they see fewer dimensions of a situation,

and these few are not very well integrated with one another." (ibid., p. 432)

Without extensive instruction, this individual would function poorly in the high stress areas of nursing practice. Possibly, following intensive growth and counselling, s/he would be able to function in a nursing situation with difficulty. S/he would probably voluntarily abort the undergraduate nursing environment before half the studies were completed. There is little possibility that s/he would be successful following a second try at patient care, even at a nurse aid level, unless s/he were able to undergo further study to increase his/her complexity level.

7.3.2.2. Moderative integrative complexity

The major characteristic of individuals with moderate complexity is that they are able to generate alternative ways of organizing their perceptual dimensions. Faced with three dimensions, s/he would be able to generate at least two possible rules for combining the three dimensions. Unfortunately, these conceptual properties are "not effective for relating or organizing differentiated sets of rules for decision making" (ibid.) but they do introduce the problem of choice and

probability. Though "right" and "wrong" are no longer as fixed as they are with individuals who function at the low integration index, individuals with moderate complexity still retain a great deal of negativism and lack positive spontaneity and openness.

Again, this individual would require extensive experience and training to increase his/her ability to function in highly complex situations as the emergency triage admissions [sorting or selecting] nurse who is required to make instant rapid assessments and prioritize care. This individual might become a nurse if the desire is strong enough to overcome basic conceptual weakness. It would be advisable for such an individual to work in less stressful nursing environments for a year or more before trying to work in a triage setting.

7.3.2.3. Moderately high integrative complexity

Individuals with moderately high complexity are less deterministic. The number of alternatives that can be generated are increased by combining and using two alternate systems of integration. Even though s/he makes a particular decision, there is an openness to alternative pressures. There is a lack of fixity at this level. Here, "abstractedness" is a formal rule of

functioning in the environment. S/he is capable of tracking and interpreting the environment at different times. The individual functioning at a moderately high integration index structure is capable of varying combinations of alternate schemata. Because social systems may be viewed in terms of two points of view, s/he is able to "see one in relationship with the other, perceive the effects of one upon the other." (ibid., p. 434) S/he is capable of generating strategic adjustment processes. There is less compartmentalization of the adaptive utilization of alternate schemata.

This individual could graduate from a basic nursing program but would require moderate work experience and additional learning to increase his/her ability to function as a triage nurse in trauma or intensive care.

7.3.2.4. High integrative complexity

A triage nurse should be able to function at the level of high complexity. The nurse is required to be able to organize additional schemata in alternate ways and the ability to further integrate comparison rules. Where alternate complex combinations "provide the potential for relating and comparing different systems of interacting variables" (ibid.), the difference between high

complexity levels and moderate complexity levels is one of degree. High abstraction is possible because the individual has the potential to organize different structures of interacting schemata.

This individual is highly effective in adapting to the complex changing situation of intensive tertiary care because of his/her very abstract orientation. Much more effective than an individual who is dependent upon external conditions for building rules [although past experiences help in predicting medical outcomes], this individual is capable of functioning even though the medical situation is unfamiliar.

As has been noted previously, the content of the teaching module depends on the level of functioning of the individual and this would require a pretest.

7.4. Optimal training environments

As has been noted, the learning environment includes everything relevant to the individual's learning which is external to him/herself. "Included in this definition are such diverse concerns as learning resources, physical setting, social climate, instructional climate, accessibility, obstacles to learning or participation, teacher personality, teaching methods, and other

learners, among others." (Brundage & MacKeracher, p.57)

After consideration of the leaning principles of andragogy, [section 7.5.], the following selected variables will be presented for further consideration: the characteristics of the adult learner [section 7.5.1.], characteristics of the teaching behaviours [section 7.5.2.], teaching methods [section 7.5.3.], and the characteristics of the facilitator of adult learning [section 7.6.]. These principles will be applied to the selection of specific teaching models which will enhance the adult learner's appropriation of the specific skills, strategies, and outcomes necessary to make prudent, caring, discretionary decisions intuitively by affective connaturality.

7.5. The Learning Principles of Andragogy

The basic difference between pedagogy and andragogy is that "child learning is viewed as forming, acquiring, accumulating, discovering, and integrating knowledge, skills, strategies, and values from experience while adult learning is viewed as transforming, modifying, relearning, updating, and replacing knowledge skills, strategies and values through experience. (Brundage & MacKeracher, *ibid.*, p. 5)

Andragogy, a term devised by Malcolm Knowles (1970), refers to the art and science of helping adults learn. This term also includes the study of an instructor's behaviour while helping adults learn.

Adult education is seen as "a pragmatic enterprise which attempts to find ...[an] appropriate conjunction between what is possible and what is desirable." (ibid., p.1)

Adult learning is seen as a cyclical and spiral process that continues and changes with time whereby one cycle becomes the input and support of succeeding cycles.

Instructional programs include both activities and content which are alternately structured and fluid in relation to organizing principles and relationships. The adult develops skills and strategies through performing the relevant activities which may be learned through passive observational means such as observing, reading, and listening, or by discovery or active participation such as experimenting, experiencing, writing, and talking. How the instructor or planner sequences these skills and strategies through activities depends upon the desired outcome. Interpersonal relationships are also a part of the learning process. Organizational principles indirectly help adults learn "how to organize their own

learning strategies and interpersonal relationships."

(ibid., p.2)

A fundamental issue in adult education is that learning involves "a dynamic equilibrium between change and stability, structure and process, content and activity".

(ibid., p.3) Learning occurs not only within educational settings, but also over time and within societal contexts and relationships. Adults bring past experience, present concerns, and roles relative to work and family into the learning situation. Their future concerns come along with their physical bodies combined with well developed emotional responses, and positive attitudes to learning. Also, these factors impinge upon the adult learner's approach to learning. Another specific adult educators should bear in mind is that, although they are instructors, they are also adults and learners who may learn something new from the adult students.

Characteristics of the adult learner will influence teaching behaviours. Since adults enter the learning process either voluntarily or under compulsion, the learner's entry attitude might be counterproductive. This in turn will influence the instructor's choice of teaching behaviour.

7.5.1. The adult learner

Lifetime developmental theories are as varied as the samples of humanities they describe. Transition points held in common are the changes which result from aging of the physical body, societal expectations of the particular age group, social and work roles "assumed or attained, and partly in relation to the emotional or psychological responses made to other changes" (ibid., p. 53)

After analyzing and synthesizing the research literature in adult education, teaching and learning, and other related fields, the series of adult learning principles outlined by Donald Brundage and Dorothy MacKeracher (1980) was selected for use in this thesis because of the broad base of adult education research they utilized as the basis of their thesis. They suggest that adults do not have a fixed behaviour, but are capable of changing in response to both internal and external pressures. Adults are capable of changing in a cyclical pattern. First, they become aware of the need for change and then change results in positive outcomes [from their vantage point]. These changes are then consolidated and integrated into what these adults perceive as "self" and "life." The point of change is a transition point, and

may involve intellectual growth and/or psychological growth with or without increased social responsibilities.

Intervals between transition points in development are at the optimum times for the learner to be more open to learning. Since not all adult learners have obtained similar levels of pedagogical development, cognitive levels may vary widely. For example, "non-attainment may be the result of obstacles in the environment and/or lack of specific experiences." (ibid., p. 56) Brundage and MacKeracher suggest adults should be viewed as having either enriched, basic, or undernourished pedagogical development at the point of entry into the learning situation. The undernourished, frequently "victims of victims," should be given compassion and understanding by the adult educator who will frequently function as a tutor rather than instructor, if and when this is possible.

Adult educators should be aware of the influence of two other factors: adults may regress from previously attained levels of development because of work and/or environmental pressure [peer pressure] to function at a lower level than s/he is capable of, as seen in work to rule situations. As well, adults are highly motivated to learn "relevant" tasks such as those currently required,

developmental tasks for their living or transitional phases. These learning tasks will receive a high degree of attention from the adult learner, if the individual has the first two of Maslow's (1970) basic needs [physiological, safety and security]. The third need mentioned by Maslow is the need for love, belonging, and self-esteem, will need to be addressed by the adult educator to encourage the adult learner to progress to self-actualization [Maslow's highest level of human need].

Age related transitions shift from the dependence of the teens to the independence of the twenties. Time perspective shifts from the future to the present in the late thirties and early forties. The individual now visualizes himself/herself as a "present real self" rather than as a "potential future self." Eventually this progression changes from high work and responsibility, which peak at retirement when the time perspective again changes, this time from present to past accomplishments and from well defined roles to ambiguous roles with lowered work commitment and responsibility.

Transitions cannot be made unless the learner has a strong sense of self-esteem. The individual will respond best to the learning experience when the instructional

techniques allow time for the participant to explore personal values and meanings and future time and to transform these into meanings and values more in keeping with current reality. The individual is inclined to focus on the "reassessment of self in relation to personal goals and directions" (Brundage & MacKeracher, p. 53) held at the present time, and to require time to reconfirm self-concept and self-esteem in order to reassess the self as a valued member of society. For this reason, the training module contains instructional models which deal with enhancing self-concept and self-esteem.

In learning terms, transition periods respond to self-discovery experiences that do not require transformations. The time between adult transition periods allow the individual to reintegrate new meaning and value into old constructs and current life experiences in order to consolidate what has been gained by new behaviours and new strategies.

These stable periods probably respond best to learning content related to current roles and status. The learning of knowledge skills and attitudes which enhance each should be the focus of adult learning models. Consolidating current roles and status is seen the

individual learner as a major developmental task by the individual learner, for the accumulation and acquisition of new meanings, values, skills and strategies rather than transformation of old ones.

During the entry period, instructional models must be designed primarily for adults who appear to enter new learning experiences in dependent modes of behaviour. Instruction should direct adult learners towards change in response to their own definition of themselves-- individuals within his/her home and work situations.

Important considerations that apply to adult workers as learners, particularly those in the "inservice" learning environment, are held by Howard McClusky (1970). His research indicates that adult educators must be aware of the "margin" which has a functional relationship with "load" to "power." The individual's "load" is comprised of the demands upon a person by self and/or society, while "power" designates the resources, possessions, position, abilities, and stamina the adult learner possesses to cope with responsibilities. "Margin," therefore, is the individual learner's surplus of "power" which results when the "load" of present life expectancies are less than the individual's present energy or "power" to cope.

Stress may be considered as one type of "load". Another, put forward in the communication theory, is that of communication input as a "load" delivered to a system to form transmission. If the input becomes ambiguous, if its volume and rate becomes excessive, a condition of "stimulus overload" arises and psychophysiological resistance sets in and blocks the thinking process needed for learning. Breakdown may occur thus forcing the adult to abort the learning experience.

Nurses who work constantly with emergency situations, are frequently in an overload position. This overload impedes their ability to learn, yet these are the very nurses who need the ability to think intuitively.

Therefore, it is important that s/he be able to block out stress so that intuitive thinking can be facilitated.

Since the teaching module takes into account high tension atmosphere stress, it has provisions for extra stress-reduction exercises in order to facilitate recovery of that margin of power required to succeed at the learning experience.

The key to the meaning of "margin" lies not only in the concepts of "load" and "power" but, more importantly, in the relationship between them. McClusky sees the strategic factor for a person's "selfhood" as the surplus

of "power" revealed by the "load" to "power" ratio which the adult learner may apply to the learning situation.

7.5.2. Characteristics of the learning situation created by teaching behaviours

Three teaching behaviours suggested by Brundage and MacKeracher's synthesis of the literature on teaching adults are: directing, facilitating, and collaborating

Adult educators do not agree as to which mode of teaching is best suited to the needs of adult learners because each "mode is functional for some learners, in some learning contexts, and for some content, and no one mode will serve all purposes." (ibid.) Learners who prefer dependent learning behaviours respond to the directing mode. The directing mode is also useful as an introductory instruction model when learners first enter a new program or change to a new content.

Research shows that when the teaching mode matches the adult learner's needs and/or preferred learning behaviours or styles, optimum adult learning is achieved. Adult educators need to be facilitators for the learning process and be aware when behaviour changes as a result of increased familiarity to the learning program or content.

Each model is part of a continuum of teaching behaviours and each has advantages and disadvantages.

7.5.2.1. Directing

Directing is popular in inservice education due to severe time constraints of "learning while earning." Direction may be applied during the entry period, when adults are in the "dependent mode," and/or when the learner is bound by time constraints. In certain instances, direction will be the method of instruction for this module.

When the "directing" method of instruction is used, the instructor sets the learning objectives, defines the material, and divides the material into segments organized into sequences of hierarchies and presents it in a ready-to-use form to the learner. As with behavioural models of instruction, direction requires immediate feedback and periodic reinforcement. With adults, it is useful to allow the learner to negotiate the type and focus of feedback then to build it into the program. In addition to rewards and reinforcement built into programmed material, adults require additional support and encouragement from the instructor (director) and other learners.

The disadvantages are that directing provides little opportunity for interpersonal involvement even if it does allow the learner to acquire material in a relatively short period of time. It can be a threat to the learner if the objectives and processes do not meet the learner's real needs and s/he is bound to the completion of the program or if the feedback is threatening to self-esteem.

7.5.2.2. Facilitating

Based on the characteristic of the learning situation, facilitating will also be a feature of the module. Facilitating works best when the adult learner has few time constraints. It is a method of instruction which helps the learner discover personal meanings within the knowledge, skills, and attitudes to be acquired. This creates new meanings, values, skills, and strategies which the learner integrates with old learning. [For example, the individual may learn to be a professional nurse and s/he may seek personal development during transition periods by self-discovery and consciousness raising.] The adult learner works best in the gestalt rather than with part of the learning therefore the facilitator will allow the learner to develop his/her own

perception about the discrete parts of the learning model and about the relationships between them.

Material is provided by an external source [the facilitator, learner, or external resource] and may be gained through experience, films, books, art objects, and so on. Facilitating can be implemented by one-on-one counselling, demonstrations, use of media, or activities such as group experimental processes. This type of material is considered descriptive resources. Statement making, clarifying, probing, developing analogies, and reflecting propel the learning process. "The dialogue is complete only when the learner is satisfied with his own personal understanding of meanings." (ibid., p. 59)

Dialogue between two persons initiates its own reinforcements. Reflecting, summarizing, and paraphrasing provide feedback rather than pedagogical judgment or evaluation.

The facilitator is a role model, a mentor [when possible], or catalyst, who acts as a reflective mirror or alter ego, as a co-inquirer would. The facilitator provides support, guidance, and encouragement. This role may be reversed when the adult learner becomes the facilitator. Therefore, instructors in adult education

must be open, to negotiation of the learning activities and the content.

This learning environment is relatively non-threatening for the instructor provided s/he doesn't interfere with the learner's sense of reality and is conscious that the learner's involvement is through his/her own process skills.

The facilitator must be aware that the learning situation "is relatively threatening for the learner since his personal meanings and self-concept are vulnerable."

(ibid.) It is essential to spend time building a trusting relationship between the instructor and the adult learner. The facilitating method of instruction is conducive to teaching many aspects of affective connaturality, intuitive thinking, and the precepts of discretionary decision making.

7.5.2.3. Collaborating

Based on the characteristics of the learning situation, collaborating will also be a feature of the module.

Collaborating denotes a sharing between the learner and the collaborator. As co-learners, there is a creation and discovery of shared meanings, values, skills, and strategies. Community problem solving, and professional

development of an entire ward staff are examples of collaborating at its best. Here there is a sharing of material in which "all co-learners have a stake and through which they can grow individually and as members of a team." (ibid., p. 60)

Collaborating works best with material defined by the co-workers and negotiated to a consensus within the group of learners. It is the best method for building a "community of learners," if there is the time and energy available to create a collaborating instructional mode.

Collaborating is a relatively "threatening and high-risk to both collaborator and learner because both are vulnerable within the process." (ibid.). The instructor is required to collaborate in the learning process by participating as a learner with the same responsibilities as other adult learners, s/he becomes a full member of the group. Tasks are determined on a mutually acceptable basis. All participants contribute to the leadership functions in both tasks and interpersonal relationships in a high level of trust.

Collaborating can be utilized in activities like staff development projects in which a sense of belongingness and affiliation are essential. It can be applied in

almost any learning need if the participants are willing temporarily to shift to another learning mode that meets a specific need. This could be utilized in this module if the staff were open to change, it is particularly valuable in a "preceptorship" learning situation where the interaction is between the mentor and the learner.

7.5.3. Design of the teaching methods or process in Andragogy

Adult education research yields a variety of methods for designing the processes through which the adult learner can learn. Most research deals with three basic types of processes or models of teaching. Information-processing, the programmed learning [or operant] models, the humanistic or person-centered models. Each encompasses a wide range of designs which tend to overlap and which may be used in combination or adapted.

7.5.3.1: Information-Processing Models

Information-processing models (Joyce & Weil, 1980, p. 105-142) deal with the cognitive dimension of learning. For the cognitive part of the material being taught this is a model which would be used. It is a major focus in adult education because of the time constraints for workers as learners. These models are designed to assist the adult learner directly in the process of acquiring

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values related to cognitive learning, information sources, types of learning information, ways of dealing with that information, and ways of thinking. Research indicates that when the adult learner initiates his/her own learning experiences cognitive structures will grow.

In the learning environment of information processing models, the learner's role is to be active, and self-discovering. The experiences themselves must be inductive. When social roles are to be learned, role play is seen as an appropriate, active vehicle. The instructor organizes the instruction to facilitate the learner's initiation of the activity and exploration of the situation to discover the desired answer. This is conducive to clinical instruction when physical, social, and logical knowledge are required outcomes.

In adult education, information-processing models are based on the learner's intellectual capacities, assuming that adults have mastered certain information-processing and thinking strategies. Unfortunately, this assumption does not take into consideration the fact that "some adults have never acquired these strategies and others have but don't use them." (Brundage & MacKeracher, p. 62)

When information processing is combined with a programmed learning approach, the learner is led to personal mastery or informed ways of doing and thinking, and to changes in the performance aspect of the self-concept.

7.5.3.2. Programmed learning or operant models

Behavioural objectives are fundamental to the learning methods seen in the majority of nursing programs.

Behavioural instructional methods will be used for a portion of the proposed instructional module in this thesis, not because they are the best method of instruction but because they are familiar to health care professionals and the learners will feel less threatened at the onset. Once this initial entry has passed, and the principle of program negotiation is initiated, other instructional models will be negotiated and introduced.

Prime importance is given to the learner achieving behavioural objectives, coping with his/her environment, and changing his/her behaviour. What the learner thinks and how s/he thinks is of lesser importance. This teaching mode comes from the assumption human behaviour is lawful, subject to external variables which can be arranged to change the learner's behaviour. A basic

concern is the learner's response to certain conditions or stimuli and how learner responses can be reinforced to ensure repetition.

Instructional strategies are concerned with indentifying behaviour which is to be changed. Relevant behavioural objectives are established and learning activities [which enables the learner to use this behaviour] are planned and executed. Immediate feedback follows to ensure the desired response is maintained.

Adult learners who have a say in what behavioural responses are to be changed or acquired, tend to learn more effectively than adult learners who are denied input into planning behavioural objectives. When the adult learner is committed to the programmed process of learning, or if there are time constraints and job requirements to learn specific material, skills, and strategies, this is an effective learning model. With adults, the act of receiving information itself is reinforcement. This indirect learning is "other" directed rather than "self" directed. Because of the high value placed on self directed learning in adult education, adult educators frequently discount the value of programmed learning models. The learner must value both the feedback and enforcement for the learning to be

effective. Programmed learning assists the learners to acquire "standardized knowledge, skills or strategies which are consistent" (ibid., p. 64) with the objectives and expectations which form the evaluative criteria.

"However, the models do provide important insights into the intrinsic and reinforcing value of feedback directly related to behaviour specified by the learner as a desired objective of learning." (ibid.) This is formative feedback as opposed from summative feedback, or feedback the learner receives on completion of a learning program.

To encourage students to value ways of doing and thinking, programmed learning can be combined with the humanistic approach to learning involving non directive teaching, awareness training; classroom meeting model; behavioural therapy; contingency management; recognition of cause and effect; managing the environment; training model; design, demonstrate, practice, and feedback. (Boyce & Weil pp. 147ff)

7.5.3.3. Humanistic or person centered models

Humanistic learning models assume that learning is a singular internal act carried out by or under the control of the adult learner. Person centered models believe

that humans have a natural potential for learning which may be facilitated when the learner participates in the learning process. When the learner chooses the direction, and learning resources, formulates the problems, and decides the course of action, and lives with the consequences of his/her choices, learning becomes wholistic and is most pervasive and lasting. Brundage and MacKeracher see the most useful learning as "learning how to learn." (p. 65)

Two over-all goals of a person-centered learning model are the facilitation of the learner's discovery, exploration, and the creation of personal meanings and values, skills, and strategies to enable the learner to further his/her own continuous learning. Facilitation of the development of the learner's self-concept and self-esteem contributes in positive ways to further learning.

"Person-centered models are based on the value orientation that every learner not only is unique but also worthy of respect, acceptance and of being treated with dignity. (ibid., p. 66) Adult educators who wish to utilize this teaching model must be willing to acknowledge that the learner is as much a potential resource for learning as the instructor and that both share equal and reciprocal rights and responsibilities.

Also essential to this learning model is the teacher's willingness to learn about the learners.

When these person-centered models are applied to adults there is the assumption that the adult will be respected and treated with dignity as persons who already possess values, skills, and knowledge. Since adult educators must be prepared to work with individuals with the full range of attributes, from those with none of the above characteristics to those with all of them, shared group learning is difficult to utilize.

Person-centered models are most relevant to the affective dimension of learning. They are directed toward attitude change, and understanding and awareness of personal meaning and value and an alteration in both self-concept and self-esteem.

In this situation, the adult educator's teaching strategies should focus on what the learner needs and wants from the learning activities. Interpersonal relationships with the instructor and other learners, indirectly assist the learner. The instructor, rather than producing a set of structured activities or laid-on content, helps the learner clarify learning needs, purposes and objectives in a climate in which learning is

valued and/or obstacles to learning are reduced to a minimum. The adult educator is required to be a flexible resource person or as co-learner, objective observer, and subjective participant able to act on and share feelings, needs, and personal values.

The design model is emergent in that the teacher must wait to discover what the learner needs before learning activities and content can be planned. The instructor will likely have structured activities at the beginning of the learning program which clarify learning aims and objectives.

In summation, programmed learning combined with the person-centered approach lead to valued ways of doing and thinking and to changes in self-esteem. When combined with information-processing model, the person-centered model will lead to valued ways of knowing and to changes in self-concept.

Both of these combinations of learning models appear to facilitate the desired affective component of the desired learning outcomes for instruction in intuitive discretionary decision making by affective connaturality [I.D.D.M.A.C.] and there is the potential for transfer of learning.

7.6. Characteristics of the facilitator of adult learning

The 4 key features of Malcolm Knowles androgogical theory are: (1) adults are essentially self-directing and autonomous whereas children are dependent; (2) adults are characterized by their experiences which they need to use in new learning; (3) adult learning is essentially problem-centered while children are conditioned to subject learning; (4) in the adult learning environment one expects the presenting learners to have a much more widely different age span and stages of life than that seen in a pedagogical learning environment.

These features also apply to the facilitator because a "characteristics described as being important for an adult learner is also applicable to important for the adult teacher" (Brundage & Mackeracher, 1980, p. 70).

Adult educators must be open and willing to learn about the learners in order to be able to respond in individual ways to each learner and be prepared to learn from the experience of individual learners and present.

himself/herself as a learner.

The three basic characteristics of teachers of adults; (1) self-concept and self-esteem, (2) interpersonal relationships with the learners, and (3) knowledge and

skill in both subject and teaching areas. The instructor's self-concept and self-esteem should be positive in nature. This would allow him/her to trust his/her ability to cope with all types of situations including uncertainty, threat and even failure, without reverting to self-defensive behaviour which follows unnecessary anxiety. S/he should avoid incongruency in actions and verbal and non-verbal behaviours should convey authentic, compatible messages.

To avoid closure, the adult educator is required to "be willing to treat the learner with unconditional, positive regard and to refrain from judging or evaluating the learner and his behaviour" (ibid., p. 71). A difficult adaptation for teachers experienced in the pedagogical skills is the need to be willing and able to negotiate with the learners concerning the development of learning objectives and activities. Even though there is a concern about the learner's self-concept and self-esteem, the adult educator must be able to confront the learner about undesirable behaviour when necessary. This is part of the continuous positive feedback provided to the learners.

Positive behaviours are essential for interdependence, where learners will learn by observing an appropriate

model in their instructor. If the instructor of adults possesses the knowledge, values, skills, and strategies relevant to his/her subject area and content being learned, these attributes will augment the teaching functions required to help adults learn. If the instructor is knowledgeable and skilled in his/her subject matter, s/he is able to serve as a flexible resource for the learners.

Essential characteristics of the adult educator are the abilities to utilize a wide range of teaching behaviours; directing, facilitating, and collaborating processes, and have an understanding of the character and nature of adult learners and adult learning, whereby the instructor is able to respond to individual styles and needs.

Identifiable series of developmental changes occur as the individual teacher progresses within his/her profession are: becoming, growing, maturing, and fully functioning. (Gregore, 1973) The beginning teacher has an ambivalent commitment to teaching with a relative dependence upon external goals and values of the system and the professional group. There is a low tolerance for ambiguity and low levels of improvisation and experimentation at this entry level of teaching. During the growing period the learning needs involve

opportunities for dialogue with a trusted facilitator or peer, for consciousness-raising as well as extensive support for change. The maturing instructor requires activities which are person-centered and based on self-defined needs and objectives. Group settings which provide peer support and involve collaborative planning and learning enhance the maturing instructor's abilities. The fully-functioning instructor continues to grow and mature when presented with activities which are self-planned, self-directed, and self-assessed with collaborating peers. This could be an instructional goal for head nurses who work in intensive care areas. They could then work as mentors in staff development.

An understanding of the growth and learning progression of the professional "teacher as learner" will allow program planners to have some insight into the variation of levels of instruction seen in any group of adult educators. All the above learning and teaching principles will be considered as they apply to the desired learning outcomes in the teaching module for I.D.D.M.A.C.

OUTLINE OF THE INSTRUCTIONAL MODULE

CHAPTER 8

The creation of environments for learning in which the educator of adults attempts to use the "aims and methods of other forms of schooling to fit the requirements of men and women" (Houle, 1972, p.8).

8. Introduction

The question of the relationship between "the kinds of knowledge honored in academia and the kinds of competence valued in professional practice has emerged ... not only as an intellectual puzzle but as an object of a personal quest" (Schon, 1983, p. vii)

This section of the thesis will deal with this author's attempt to transfer academic information into competence in professional practice.

Much thinking occurs in a spontaneous, unconscious way. There is a misconception that thinking ability is generic and therefore unchangeable -- but good thinkers are made, not born. Edward de Bono (1982) contends that thinking is the skill with which intelligence is operated. He believes that intelligence can be developed with the proper training

and coaching. While Isabel Briggs Myers and Peter Myers (1982, p. 201) express the belief that the individual's road to excellence depends upon each individual being able to recognize his/her "true preference--between sensing and intuition, between thinking and feeling."

Weston Agar (1984, p. 1), speaks of right brain skills which are inductive, where one reasons from the particular facts to general rules or principles in order to draw conclusions, and these brain skills rely heavily on feelings. Left brain skills are considered deductive, which is the act of reasoning a conclusion by logic or inference, these brain skills do not rely on feelings. His research indicates that intuitive managers found their intuition was most helpful when making key management decisions when faced with; (1) a high level of uncertainty, (2) little previous precedent, (3) variables which are not scientifically predictable, (4) "facts" which were limited or they did not clearly point the way to go, (5) time limitations, (6) a pressure to be right, and (7) several probable alternative solutions to choose from, with good argument for each (ibid., p. 29).

Nurses in critical care units are frequently faced with similar alternatives, for this reason many of Agar's learning experiences will be duplicated or adapted to the critical care environment. Paramount, is Agar's suggestion that the participant become cognitively familiar with the different levels of his/her intuitive ability by keeping an "intuitive journal" (ibid., p. 58). This will be one of the practice instruments utilized in the learning experience for graduate nurses.

Agar (1986, p.103) states that to be truly creative requires "an integration of both thinking and intuitive brain skills." The accuracy of a judgment in decision making is no better than the accuracy of the information upon which it rests. The individual is required to perceive and to judge, in that order, therefore most sound judgments are based upon sensing and intuition. His differentiation of cerebral functioning is based on Roger W. Sperry's "split-brain theory" (1974, pp. 5-19).

Jocquelyn Wonder and Pricilla Donovan (1984) teach "whole-brain thinking" whereby the decision maker can freely move from the left side of the brain, which houses discipline and organization, and the right side

of the brain where intuition and inspiration reside. Wonder and Donovan's text sought to "show why right-brained thinking and performance should be more accepted in the workplace" (ibid., p.18). Similarly this thesis will utilize brain lateralization tests and exercises to determine the learner's brain preference and to promote the ability to utilize the whole brain in decision making:

Wonder and Donovan utilize exercises which suspend functions of one side of the brain and allow the dreamy right brain to function. As far back as 1844 it was known that sleep suspends the power of the left hemisphere and allows the right to take over (Bakan 1976). For this reason day dream meditative states are a useful tool to allow the right temporal lobe visualizations. This function of the right temporal lobe was discovered by the Canadian neurosurgeon Wilder Penfield (1959, 1969). Visualization practice will be encouraged throughout the learning sessions.

Betty Edwards (1984, p. 11-13, 33, 138, 181, 217, 221, 229) states that the "two modes of cognition, L-mode and R-mode, share and communicate their separate views or reality principally by means of a large cable of

fibers called the corpus collosum" (1986, p. 12) This bundle of nerve fibers connect the separate processes of the two cerebral hemispheres to each other. Research demonstrates that this is the way the two views of reality are reconciled. Each hemisphere has a different method of functioning or mode "to designate style of thinking rather than a more rigid conception of location of functions" (ibid.) Edwards also bases her logic of hemispheric asymmetry on Sperry's research (1968, 1977, 1982) which demonstrated the following assymmetrical cerebral cortical functions.

<u>L-mode</u>	<u>R-mode</u>
verbal	nonverbal
linear	holistic
digital	spatial
logical	intuitive
rational	nonrational
sequential	simultaneous
syntactical	perceptual
analytical	synthetic
temporal	nontemporal
abstract	analogic
symbolic	concrete
temporal	nontemporal
digital	spatial

Table, 8.1. Ways of thinking

James L. Adams (1986 a & b) contends that when individuals are taught to recognize the weaknesses which cause their "thinking blocks", whether they are perceptual, emotional, cultural, environmental, and intellectual, they can be taught to overcome their conceptualization problem. Faulty problem-solving can be broken. He believes that the conscious and unconscious man can be enlivened "with the cultivation of idea-having and problem-solving abilities." (1986a, p. ix). de Bono's (1982) decision making exercises will be incorporated as examples of expanding decisional skills.

An exercise, created by Elaine La Monica (1985, p.380), which allows the nurses to be able to become aware of emotional response to concepts, to enable him/her to become aware of the feelings different emotional responses elicit and also how the individual may be influenced by his/her possible biases. It is the writer's belief that an awareness of emotional responses will be an aid to the individuals who wish to be able to experience empathetic projection, a characteristic of intuitive thinking. This will be facilitated by the learner's heightened awareness of his/her emotional being.

Stress management exercises will be practiced regularly at the beginning of each lesson to give the learner sufficient classroom practice to enable the learner to master the ability to create his/her own center of calm even in the midst of crisis at home and at work. This exercise will allow the learner to create within him/herself a special non-threatening environment which s/he may visualize and raise to the conscious mind to facilitate intuitive thinking. Mastery of this skill will be particularly useful when the individual is faced with discretionary decisions that must be made on the spur-of-the moment.

The history of science is full with anecdotes about researchers who try repeatedly to figure out a problem and then have a dream in which the answer presents itself as a metaphor intuitively comprehended by the scientist. All homo sapians are capable of parallel ways on knowing as outlined in the following list of L-mode and R-mode ways of knowing.

L-mode	R-mode
digital	analogic
abstract	concrete
directed	free
secondary	primary
intellect	intuition
sequential	multiple
propositional	imaginative
successive	simultaneous
convergent	divergent
objective	subjective
rational	intuitive
analytic	relational
analytic	holistic
lineal	nonlinear

Table. 8.2. Some educational aspects of hemisphere specialization (Borgen, 1969, pp. 73-105)

Tests and exercises of the above mentioned authors will be referred to in the lesson plans but for details of the tests and exercises the reader will be directed towards the texts themselves.

- 8.1. Intuitive thinking tests and exercises which will be an essential part of the learning experience which outlined in the following course outline

Thinking tests and exercises will be part of the intuitive thinking lessons of this study, time

constraints will determine the number of tests which will be used. Works which will contribute to the learning experience will include the following authors: Adams (1986a & b); Agor (1984, 1986); Bastick (1979, 1982); Bouthelet (1948); Braillier (1982); de Bono (1984); Edward (1979, 1986); Luscher (1971); Wonder & Donovan (1984); and Whetten & Cameron (1984). Throughout the learning sessions, intuitive thinking tests will be given to allow the learner to gain some insight into his/her basic intuitive abilities. Intuitive exercises will be used to facilitate the learner's appropriation of techniques which will increase his/her skill in utilizing innate intuitive ability to a greater extent than s/he is presently calling it into play.

8.2. Scheduling of the instructional modules

The instructional modules may be presented under a variety of conditions such as, continuing education and/or inservice education. If the teaching is part of a continuing educational program, the participants will be coming from a wide variety of nursing backgrounds and they will be entering the learning situation as a matter of choice. The learning experience could be presented in one of three formats

each containing introductory, intermediate, and advanced learning experiences; (1) a Friday evening and all day Saturday learning session for people with time constraints, or (2) it may be a week long seminar, or (3) a series of evening presentations spread over approximately eight weeks.

For the purpose of this thesis, the curriculum outline is one consisting of eight instructional sessions, with three hour presentations to be given one evening a week, for an eight week period. This will allow the learners time to do the assigned readings, whether texts from the library or printed handouts, in the six days before the next class. There will also be practice exercises to be done during the intervening week. The assigned readings will contain cognitive learning instructional modules and instructions for learning exercises.

Unfortunately, this learning experience can only introduce the learner to the subject matter. It is this author's belief that sufficient learning will be accomplished in this short time frame to allow graduate nurses, as charge nurses or general duty critical care nurses, to initiate the theory of intuitive discretionary decision making by affective

connaturalty [I.D.D.M.A.C.] into his/her area of expertise as an adjunct to the skills and proficiencies already possessed.

Nurses receive instruction on ethical theory and nursing ethics during undergraduate studies. The proposed ethics instruction will augment this basic instruction. Primarily, ethical instructional material will deal with case histories representing present day problems which create a nursing decisional dilemma. The material dealing with conceptual blocks should be straight forward and self explanatory. Assigned reading, class instruction, and discussion, should be sufficient for the learner to master the concepts of perceptual blocks. Bastick's theory of intuitive thinking should not present a learning problem, although he was concerned with pedagogical instruction only, his theory is not restricted to just the instruction of children in the creative aspects of mathematics. If time were available it would be interesting to see how adults respond to his Computer Aided Instruction. Agar's research into the Logic of Intuitive Decision Making (1986) enlarges upon the field of management organizational behaviour with useful and empirically

proven methods of facilitating the appropriation of intuitive thinking and decision making.

It is when the subject of affective connaturality is approached that the learners will probably be faced with an unknown field of cognition. Here, all the instructor can do is introduce the subject to the learners with an enthusiasm that will spark the learner's desire for fuller comprehension of Maritain's work on connatural knowledge. For this, the learner will need time to appropriate the full meaning of a "changed world view" based on natural law, compassion, spiritual, and ethical principles. All an educator can do is to introduce the basics to the adult learner and possibly kindle the flame for a burning desire to know more. In reality, the full appropriation of affective connaturality is a lifetime endeavour.

Brundage and MacKeracher (ibid., p. 47) suggest that it "seems reasonable to assume, for example, that field-independent adults will be more likely to be self-directed and independent as learners than field-dependent adults." Field-independence versus field-dependence refers to a consistent mode of approaching the environment in analytical as opposed

to global terms. It denotes a tendency to articulate figures as discrete from their backgrounds and a facility in differentiating object from embedding contexts, as opposed to the counter tendency to experience events globally in an undifferentiated fashion. The field-independent pole includes competence in analytical functioning combined with an impersonal orientation, while the field-dependent pole reflects correspondingly less competence in analytical functioning combined with greater social orientation skills (Messick 1976). D.E. Hunt (1971) postulates that this dimension develops over time and maturity for categorical and unidimensional to multidimensional thinking and there are at least four different levels of involvement (Brundage and MacKeracher, p. 46).

Field-dependent individuals will be able to assimilate this learning material with greater ease than field-independent individuals because field-dependent individuals have the characteristics of intuition.

If the learning experience is to be a one week [five instructional days] seminar, the eight lesson outlines will be adapted to fit into ten [morning and afternoon] times for learning. The two extra learning periods would be operant or behavioural presentations

in the information processing mode., the directional method of instruction would be appropriate where there are severe time constraints. Hypothetically, it could also be presented as a Computer Aided Instructional [CAI] packet or as Distance Education with telephone tutorials dealing with the cognitive learning only.

These suggestions could be means by which the the required cognitive learning [presented as self learning modules for this outline] may be facilitated.

If the learning experience were shortened to one weekend, the material would be compressed by reducing the amount of classroom practice exercise time and increasing the amount of learning that would be presented as self learning modules, preferably given to the participants as prerequisite learning material with or without the advantage of CAI or a "Telecollege" communication with an instructor.

Since adults tend to regress to previous behavioural levels due to peer pressure, the learner participating in a voluntary continuing education presentation will need follow up instruction because the learner will be a "change agent" if s/he chooses to introduce this type of thinking within his/her workplace. When an

institution decides to have this instructional material as part of the requirements for critical care staff nurses, the participants would not be entering the learning situation as a matter of choice. In that situation, the critical care charge nurses, as "change agents," should receive the complete instructional material in advance of staff nurses. If the administrator is in favour of change there is a greater probability that the change will occur. It would also facilitate the possibility of giving the staff nurses a one evening and all day learning session which would be enhanced by daily "clinics" dealing with learning principles particularly the desensitizing behavioural modification model which deals with tension reduction. The visualization, centering, rootedness, and centeredness leads to an increased ability to utilize one's intuitive abilities. This could be followed by a final evening and full day of learning session to end the learning experience.

8.3. Teaching models which will induce the desired learning outcomes

The specific knowledge, skills, strategies, attitudes, and outcomes necessary to make prudent caring intuitive discretionary decisions by affective

connaturality consist of the ability to perceive empathetically, to center, to think intuitively, and to have co-natured certain prudent caring habits. These thoughts and behaviours will be formulated by moral, ethical, caring, behabitual behaviour which will enhance the ability to make discretionary decisions by I.D.D.M.A.C..

This will be presented within a multi-model framework with areas where models will be combined to enhance a specific learning outcome. All cognitive learning can be presented either in lecture, discussion formats, or written material such as handouts containing self learning modules. At a later date CAI instructional modules may compliment the Continuing Educational presentation.

8.3.1. Desired Learning Outcomes

The desired learning outcomes will influence the formulation of a teaching module to assist graduate nurses make right, careful, intuitive decisions when faced with the need to make discretionary decisions under stress.

Adult learning is facilitated when the individual can be assisted to acquire a broad range of cognitive

strategies for use in various contexts. In this learning situation the adult learner will be encouraged to utilize a variety of cognitive strategies to enable him/her to develop innate intuitive abilities, based on prudence and caring as expressed in affective connaturality, in order to make "right" discretionary decisions spontaneously.

The major "desired learning outcomes," as outlined in the previous chapters, include both cognitive and affective learning. Priority will be given to:

- (1) increasing the learner's ability to visualize; [The act of visualization is not mentioned previously but it relates to a number of aspects of both connatural knowledge and intuitive thinking, considered a right brain visual, wholistic function.]
- (2) enabling the participant to understand how the formation of compassionate, caring "habits" will enable him/her to find the "center" of his/her being, during highly stressful situations. This will allow the learner to create an internal environment which will facilitate affective intuitive thinking in the midst of a high stress crisis work situation where proficiency is required.
- (3) having the participant develop an appreciation of the basic cognitive facts concerning ethics, intuitive thinking, and connatural knowledge. Hopefully, this learning could possibly influence a change in the learner's "world view" by introducing the need for patterned thoughts of prudence and caring to augment the learner's professional expertise. This introduction to the subject will be directed towards enticing the learner to continue with

further reading into the principles of connatural knowledge. It would enhance this learning experience if the learner also did some soul searching towards a "higher" plane of caring and working. This should lead the learner towards the development of the prudent, caring, intuitive, decision making skills found in affective connaturality. The learning time frame is too short for the average learner to appropriate the full understanding of affective connaturality, it is hoped that this learning model will serve as an introduction to a weighty subject [which took the author several years to fully appreciate the width and depth of connatural knowledge].

(4) having the participant incorporate the affective component of empathetic projection, required for both intuitive thinking and affective connaturality into his/her heart and soul. According to St. Thomas Aquinas, this will enable the learner to become a far far better nurse and person than s/he is today.

8.3.2. Facilitating implications

Adults tend to enter the learning environment in the dependent mode of behaviour; therefore, this learning project will attempt to direct the adult learner towards change in response to his/her own definition of themselves, as functioning as individuals within his/her work and home situation. Because there is a greater probability that change will occur in response to environmental expectations and reinforcement [section 7.4.] the learning environment should create the atmosphere of expectant change accompanied by emotional encouragement directed towards the learner's

enhancement of self-awareness, self-concept, and self-esteem. The instruction will attempt to assist the learner to transform, modify, relearn, update, and replace knowledge, skills, strategies, and values pertaining to problem solving skills through verbal information and experiential learning situations. How these learning situations are sequenced will depend upon the needs of the learners combined with the desired outcome.

All learning sessions will allow time for breaks. Tea or coffee will be available when the group convenes to add to the atmosphere of congeniality. The first half-hour of the first learning session will attempt to create the social system of cooperation and mutual relationships by putting the participants at ease, making introductions and paying attention to other necessary housekeeping chores.

Ideally the room is bright and the chairs comfortable and moveable, to allow the formation of smaller groups for discussion. If tables are used, the instructor should attempt to form the tables into a large square or oblong for better eye contact between the learners. The traditional row seating, in which the participants see only the back of the heads of those in front of

them and neglects the participants who sit in rows behind is to be avoided. Carpeted rooms with draped windows and acoustic ceiling tiles reduce the noise factor during group discussions and encourage fuller individual participation.

The procedures will be presented in a leisurely manner and the instructor will caution the participants to try to avoid negative work situations during the period of the first few sessions when visual recall is being practiced. Depending on the reaction of the group, soft music will be used to add to the relaxed atmosphere of the room. A further support system will permeate the practice exercises and the self-made relaxation tapes.

8.4. The first learning session

To facilitate the dynamic equilibrium between change and stability, the instructional program will be so scheduled to allow for change followed by sufficient time to allow the learner to incorporate the learning and feel a sense of stability within the change process. Also, where the learner is "required" by the employer to participate in the instruction, the instructor will use the directional method of

instruction during the initial learning. This will, hopefully, deal with any counter productive entrance behaviour. Joyce and Weil's "classroom meeting model" (1980, pp. 206-216) which utilizes Wm. Glasser's theory of Reality Therapy (1965) appears to be the most appropriate teaching model to deal with this kind of resistant behaviour before it becomes a habitual behaviour. This teaching model falls into the information processing group of instructional models [see section y.5.3.1. for details].

This introductory learning will deal with basic introductory needs such as introductions of instructor to students and students to instructor and students. At this time it would be wise to attend to the housekeeping needs that should be addressed, the students will become familiar with the physical plant where the instructional sessions will be held. Items such as washrooms and smoking areas [if any] are essential when instructing adults. It is also helpful for the students to know where the library is and where course handouts may be purchased. The course outline will be presented and a discussion will follow.

The next adult learning principle to be addressed by the instructional model is the need to stimulate the learner's awareness of the need for change. For this the instructor will move to the area of humanistic, person-centered instructional models (Brundage and MacKeracher, *ibid.*, pp. 65-67,) or Joyce and Weil's social family groups (*ibid.*, pp. 144-325). The instructor will use a modification of Joyce and Weil's "awareness training" model (*ibid.*, pp. 187-205). This is based on Wm. Schult's FIRO.:A Three-Dimensional Theory of Interpersonal Behaviour (1958) which use "exploratory games" to create social situations typical to those most nursed encounter and find stressful. "In this gamelike situation people are given the chance to enact their usual behavioral patterns and experience the accompanying emotions" (Joyce and Weil, *ibid.*, p.192). Discussions and feedback allow expression of feelings and are assist the learners to become aware of interpersonal behaviours and responses to that behaviour. The model then moves into taking responsibility for him/herself as the actor in life scenereo's and becoming aware of how others see him/her. Discussions focus on feelings rather than thoughts and reasons which ace as a method of giving and receiving feedback. Since most

individuals are unable to be aware of his/her own needs and feelings because s/he is out of touch of his/her emotions, this exercise will attempt to free the participants to become aware of what it is s/he is feeling.

This personal awareness learning model will be augmented by the facilitating method of instruction which enables the adult to examine personal meanings and feelings. The learning to be accomplished at this time will be a general overview of how this learning experience could benefit the learner. A refreshment break will follow this section of learning.

Once the awareness of the need for change is addressed the instructional model will progress to the learner's need to be able to formulate habits which will enable the individual to deal with the emotions of stress and anxiety in his/her workplace. This information will be taught in order to demonstrate the need to find a quiet center in times of stress. Again this is a humanistic and person centered model of instruction but this time the instructional model will be an adaptation of Joyce and Weil's "stress reduction" model (pp.389-401) which will teach relaxation,

anxiety reduction with a sense of power and control/self-esteem in self-awareness.

Following a group discussion this learning experience will move into Joyce and Weil's "desensitization model" (ibid., pp. 402-412) because a combination of these two models will become the method for the participants to find his/her "quiet center" in the midst of turmoil. The coping strategies consists of creating an internal situation or scene of realistic concrete situations relevant to the learner's coping mechanisms first in a home situation and later in a work situation in which the learner might feel stressful. "The assumption is that the hierarchy is in ascending order of threat, with the first scene producing less anxiety than the second" (ibid., p. 406) Visualization is an important aspect of this learning model. If students are unable to visualize the instructor will lead the group through a method used by Eric Pepper when he teaches Bio Feedback. Phase one of Joyce and Weil's model will be sufficient for this first learning experience. The combination of these two instructional models will be used at the beginning of each of the eight learning experiences. If time permits the exercise will be repeated at the

end of the learning sessions. Each learner will take the outline home for daily practice, particularly at bedtime, during the next week. An outline of the relaxation techniques will be given to the learner to enable the him/her to develop the habit of balance, rootedness, and centeredness. Guided imagery and listening to the inner self when relaxed, along with prayer and Scripture reading are techniques to expand intuitive thinking suggested by Weston Agor (1986, p. 40). The learner will be instructed to be experimental in centering and once s/he feels confident with this ability, the learner should try to see if s/he is able to find his/her quiet center in a busy situation while on duty at the hospital.

The learner will also be cautioned not to be discouraged if s/he is unable to center the first few weeks. Reinforcement of this practical learning with increased awareness could be further facilitated if each learner keeps a journal of his/her feelings which surface during practice relaxation periods and of emotional reactions to intense situations in the workplace. The instructor will also encourage the learners to become aware of physiological responses

during acute crisis situations, in the home and work environment during the time between learning sessions.

A learning exercise from Whetten and Cameron (1984, pp 47-53) will deal with cognitive style and the ability to utilize the learner's information-gathering dimension in a model which divides a receptive strategy from a perceptive strategy and information evaluation dimension which separates a systematic strategy from an intuitive strategy. A group discussion will follow this learning exercise which deals with factors that relate to the way individuals perceive, interpret, and respond to information. This exercise will be used to assist the learner become cognizant of his/her dominant method of processing information.

Coffee and tea will be available. During this short break the perceptual visual testing exercises from: Adams (1986 a&b); Edwards (1984, 1986); Hunt, (1982); and Wonder and Donovan (1984) will be distributed and the learner's will be encouraged to examine the diagrams as s/he enjoys refreshments. This exercise is usually a fun experience whereby the learner becomes aware of perceptual barriers. This will introduce the learners to ways of finding the creative

solution to his/her problems. These diagrams will be placed on the overhead projection screen for class discussion, and as a means to assist the learner appreciate how visual perceptual distortions can initiate conceptual blocks.

Before the assigned reading are handed out the instructor will introduce the learners to Weston Agor's Journal, so that s/he can record possibilities, in the home and workplace, where intuition might occur and if, in fact, the learner did experience intuitive thinking.

A journal notebook and an outline of Agor's journal outline will be part of the handout material. Agor feels that the journal is an invaluable help in increasing the learner's awareness of factors which, for the learner, enhance or impede intuitive thinkings.

The learner's daily journal will follow Agor's outline of the important factors to record in the intuition journal (1986, p. 59).

The outline may be seen in the following list;

Level of intuitive experience

- *physical
- *emotional
- *mental
- *spiritual

Accurate intuitive experiences

- *examples
- *level used
- *conditions/circumstances
(e.g., time, events, people involved, own emotional state, etc.,)

"Inaccurate" intuitive experiences

- *examples
- *level used
- *conditons/circumstances
(same as above)
- *record other possible factors operating which might have interrupted intuitive flow
(e.g., projection, ego involvement)

other experiences

- *sharing with support group members
- *success/failure with practice techniques
(relaxation techniques, such as music, art exercises, self-hypnosis, and guided imagery)

This will complete the first learning session. The cognitive learning will initially be presented to the learners as a handout containing cognitive self-learning modules which the learners will work on in the week long period between classes. This material will be addressed in the second learning session.

The assigned reading exercises for this lesson are to be found in Adam's (1986 a, pp. 39-81). Chapters:

(3), "Emotional Blocks," (4), "Cultural and Environmental Blocks," and (5), "Intellectual and Expressive Blocks." This cognitive learning is directed towards freeing the learner to perceive better ideas. The learner will also be assigned Adam's (1986b) chapter, (7), pp. 105-118, to read. This chapter deals with "Overcoming Ruts and Boxes" and more specifically with defining the problem in global and specific ways (ibid., p. 115) for more creative problem solving. Other assigned cognitive learning will be case histories dealing with ethical nursing problems taken from Tisdale (1986) and Veatch and Fry (1987).

The class will end with a discussion regarding the learning experiences in class and the proposed assigned readings. The learner's will be encouraged to write down his/her proposed behavioural objectives from the handouts and bring them to the next learning session for a T-group evaluation and consensus (Joyce and Weil, ibid., pp. 226-240). This exercise will be carried out for all the assigned readings as the learners progress through the learning material.

The students will be encouraged to get copies of the Adams texts from the library. [if this learning

session was held in a college or a hospital, the library would have sufficient copies available for student loan].

8.5 The second learning session

This session will continue the person-centered model of learning. Coffee and tea will be available for the participants who arrive a few minutes early to enjoy the period of socialization that precedes the learning experience. The learning will begin with a relaxation and centering exercise similar to Joyce and Weil's "stress reduction" model (ibid., pp. 388-401), falls in the behavioural theory. Here the learners are to find a comfortable place, with their eyes closed and the instructor directs the relaxing experience by his/her voice tone and tempo. In phase three, "moving focus relaxation," the learner will be encouraged to become aware of the sensations from various parts of his/her body. In phase four the learner will practice "rest and/or tension release." Before the learner arouses from the relaxed state, s/he will be encouraged to experience his/her center. This is achieved at that period of time following a long slow exhalation and before the long slow inhalation begins (Krieger, 1979). The facilitating* method of instruction will be employed during this learning session.

"The information processing model" (Brundage and MacKeracher, *ibid.*, pp.61-64; Joyce and Weil, *ibid.*, p. 22-134,) will be used for "workers as learners" who frequently are bound by time constraints (Brundage and MacKeracher, 1981). The directional instructional method will be used with a modification of Joyce and Weil's "advance organizers model" (pp. 75-93) of instruction since the readings outline the aims of the lesson, identify attributes, give examples and provide the context of the learning..

The ethical material to be learned will be presented in the form of behavioural objectives, based on the printed material which is to be read prior to class time [Adam's work, ethical situations presented in case histories and chapters 2 and 5 of this thesis.

Elaine L. La Monica's text on The Humanistic Nursing Process (1985,) and her test to identify thoughts and feelings (pp. 380, 381) will be combined with "group investigation" model (Joyce and Weil, *ibid.*, pp. 226-240). La Monica's, Chapter 14, Ethical Choosing (1985, pp. 270-287), could be used as resource material. The learners will be allowed the freedom to propose the learning objectives and agree or disagree as to their

use, as in Joyce and Weil's "classroom meeting model" (ibid., pp 216-219)

The cognitive learning may be delivered as a lecture but, if several groups of learners are given a portion of the behavioural objectives, that the class formulated, to be discussed in groups of two or three by the learners who would come up with several individualized responses to the issues, greater adult learning will be achieved in the "group investigation" model (Joyce and Weil, ibid., pp 226-240) in the section of the "social family" (ibid., pp. 220-325). The cognitive handout of nursing case histories and the assigned readings will form the basis of the desired cognitive learning for this learning experience. It must be appreciated that the time constraints preclude an in depth study of the ethical questions presented in the readings. These learning sessions can only introduce this very interesting and rather weighty subject matter. It is hoped that once the desire for understanding discretionary decision making by affective connaturality is established the adult learner will have the maturity to facilitate a program of self directed learning.

Following the break, a "centering" exercise will direct the learner to get in touch with the physiological

sensations felt in the previous cognitive learning session. When the learner reaches that emotional state of acute awareness of his/her own body sensations, then s/he will be encouraged to visualize a minor stressful situation at work to become aware of the thoughts and feelings that were aroused during this episode. This will allow the learner to form a composite of feelings that gives an indication of the attitudes and emotional climate s/he experiences as a professional nurse working in a high stress environment. This is a modification of Joyce and Weil's "awareness training" model. In groups of five, the learners will identify the feelings that are constantly flowing internally at the workplace.

de Bono's (1982, pp 6-51) "learning thinking and teaching thinking exercises", derived from the CoRT Program [Cognitive Research Trust] which includes the thinking tools like PMI, [plus, minus, interesting], and APC, [alternatives, possibilities, and choices] will be discussed as they relate to logical and intuitive thinking methods.

The final exercise for this session will be a modification of LaMonica's (1985, p.380) list of concepts which could carry biased or slanted emotional charges for nurses [see appendix lesson II, La Monica]. The colour

expression of the emotions aroused by the list words and the formation of a colour collage will end with a discussion of Dr. Luscher's thesis (1971) about the emotional connotations of colour. This will be used in combination with LaMonica's test to identify thoughts and feelings by adding meanings to the colours chosen.

If there is time, the journal entries will be discussed.

Handouts to be distributed at the end of the second learning session will cover cognitive learning and will consist of self learning modules containing the material in a lesson on intuitive thinking [compiled from chapters 3 of this thesis]. This will be the major reference material for this learning experience. The learners will be reminded to keep up with his/her journal entries and daily relaxation, visualization, and centering exercises. Again it will be suggested that the learner periodically try to find his/her center in a calm to moderately stressful working day, if this is still not possible, s/he is not to be discouraged.

8.6. The third learning session

The "models for thinking about models" family of instructional models, (Joyce and Weil, *ibid.*, pp.428-493), "model for matching environment to people"

(ibid., pp. 429-445) will be used to facilitate the learner's address the unknown topic of connatural knowledge.

This session will continue the person-centered model of learning. Again the session will begin with coffee and socialization. The learning will begin with a relaxation centering exercise with visualization, Joyce and Weil's "desensitization model phase three," this time it will be accompanied by soft background music [music Rx] from the Institute of Consciousness and Music. Following the relaxation exercise the learners will be encouraged to tap into the "parallel visual language in thinking" (Edwards, 1986, p. 96) The instructor will suggest that the learners try to picture one of his/her fondest childhood memories with a loved one [if the individual feels s/he has no happy memories which include a beloved, find out if there was a family pet and how s/he felt about the pet, then substitute the animal for the human] The leader will act in the facilitator method of instruction and will suggest the learners become aware of the internal feelings which accompany this pleasant memory and encourage him/her to bask in the "warm fuzzies" (Freed, 1972). This will be done because information will affect a person's behaviour only in the

degree to which s/he "has discovered its personal meaning for ...[him/her]" (La Monica, *ibid.*, p. 365) The learners will divide into two's to discuss their perception of this exercise. Depending upon the time constraints, this could become a group discussion. With the learner's consent coffee break and discussion could be combined and directed towards De Bono's lateral thinking exercises (*ibid.*, pp 53-70).

Following the break the cognitive learning format outlined in session two would be followed. The cognitive learning will deal with Bastick's theory of intuitive thinking and Agor's logic of intuitive decision making. This will be adult learning by information processing with advance organizers of assigned readings. This cognitive learning will be delivered in the directing and facilitating manner.

The group discussion the "group investigation model" following this exercise will explore ways in which the learner may gain more control over his/her emotional responses in view of decreasing the emotional blocks to intuitive thinking.

Betty Edward's exercise (1986, p. 96-101) "drawing on intuition," will be used to encourage the learners to

explore their ability to create analog drawings. This exercise demonstrates "parallel visual language in thinking." Edwards has found that this exercise can be useful in helping the learner understand personal relationships and understand interpersonal drama in crisis situations. This will give the learner the ability to have some control over his/her emotional responses to fellow workers. This interaction should help the participant's thinking process, particularly the ability to think intuitively.

The group discussion the "group investigation model" (Joyce and Weil, pp. 226-240) following this exercise will explore ways in which the learner may gain more control over his/her emotional responses in view of decreasing the emotional blocks to intuitive thinking.

Dr. Max Luscher's Color Test (1971) demonstrates early psychological and physiological stress as an "early warning system" of stress and physicians in Europe have found the use of a short colour test "a useful aid to diagnosis" (p. 17), certain colour choices should be discussed with the learner to facilitate self awareness to perceptual responses.

The learners will be encouraged to continue relaxation with visualization and centering, daily at home and at work. They will also be encouraged to continue with the daily journal as it will become part of a learning experience in one of the later sessions.

8.7. The fourth learning session

The learners will participate in the relaxation exercise accompanied by music. After the learner has been able find his/her center, the leader will suggest that the participants take a moment to imagine one or two incidents in the case histories [for most learners it is better to avoid their own experiences, at first, because personal incidents could be too overpowering] then have the learner visualize the most poignant scenerio. The instructor will encourage the learner to imagine the feelings one of the case study scenerio's would produce.

This will be followed by small group discussions or "group investigations" (Joyce and Weil, pp. 226-240) of the "social family" (ibid., pp. 220-309) group of models. Each group would be assigned to report interpretations and/or feelings back to the group. With the learners' permission a role play exercise, Joyce and Weil's "role playing" (ibid., pp. 241-259) and "simulation model",

(ibid., pp. 295-309) could follow. The class should break up into groups of two or three. Two will role play a ward situation and the third will attempt to find his/her quiet center. All members of the group will have a chance to try to experience his/her center in a role play vignette. Coffee and tea will be available for a break following these discussions and role play experiences.

The "models for thinking about models" family of instructional models, (Joyce and Weil, ibid., pp.428-493), "model for matching environment to people" (ibid., pp. 429-445) will be used to help the learner's address the moral aspect of the unknown topic of connatural knowledge by group development for the formation of the behavioural objectives for this class.

After the break the cognitive learning format outlined in session two will be followed. The cognitive learning will deal with the writings of St. Thomas Aquinas and Jacques Maritain and the concept of connatural knowledge. This-weighty subject should take up most of the remainder of the session. The "cognitive growth instructional model" (Joyce and Weil, ibid., pp. 105-129), section on Kohlberg's work dealing with moral growth (ibid., p.125) should facilitate the moral aspect of the cognitive

learning. This is a member of the "information processing family" (ibid., pp. 22-143), of instructional models. The highly complex individuals perform more effectively in relatively unstructured models such as group investigation and helping the learner how to learn facilitating the ability to become independent learners. The instructional method will be dependant upon the learner's reaction to the material, hopefully the instructor will be able to act in a facilitating manner. This is subject should take up most the remainder of the learning session. The cognitive learning will address the connatural knowledge learning module of the cognitive learning [presented in chapter 4 of this thesis]. The model of instruction hopefully will facilitate the moral instruction by presenting the information in a method where developmental match is possible.

Cornelia Kenner, Cathie Guzzetta, and Barbara Dossey's text, Critical Care Nursing, Body, Mind, Spirit. (1985, chapter 1, pp. 3-21) will be a resource material that the learner's could use as a nursing reference text which addresses a more wholistic approach to nursing practice than most nursing texts.

The tension from the introduction of this new learning material could will released by a learning exercise,

proposed by La Monica (ibid., p 391), to "find out how others perceive your behaviour." This exercise could give the learner's some insight into how s/he comes across to peers and perhaps open the learner to some introspection, during the coming week, into how his/her behaviour comes across to clients within the work-a-day world of the hospital.

Dr. Max Luscher's Color Test (1971) demonstrates early psychological and physiological stress as an "early warning system" of stress and physicians in Europe have found the use of a short colour test "a useful aid to diagnosis" (p. 17), certain colour choices should be discussed with the learner to facilitate self awareness to perceptual responses.

If there is time the session will end with a relaxation exercise, if not, the instructor could suggest that the participants go through the relaxation routine when they get into bed that night. Then make a notation in his/her journal about the night's sleep.

The suggested reference reading for the fourth learning session will be the cognitive information found in chapter 1 of Kenner, Guzzetta, and Dossey (ibid.), the text would be available in the library. The learners

will be encouraged to approach the material on connatural knowledge for a second or third reading. The learners will have the opportunity to purchase relaxation tapes for home use, twice a day. They will be encouraged to continue with the daily relaxation exercises, at home and at work, as well as continuing to make their journal entries. Anyone who has questions about the journal and/or exercises is invited to remain to discuss the matter with the instructor.

8.8. The fifth learning session

The learning session will begin with refreshments and socialization. This will be followed by a relaxation, visualization, centering exercise with music Rx.

Return to "social family" group with "role play" (ibid., pp. 241-259) and "social simulation" (ibid., pp. 295-309), the following;

The cognitive learning will be presented early in this session because connatural knowledge is still a relatively unknown subject to almost all of the learners. Time should be allotted for lengthy discussions, "social family" group (Joyce and Weil, ibid., pp. 220-309) which conducts "group investigation" (ibid., pp. 226-240) The format outlined in session two will be followed. The

cognitive learning will deal with connatural knowledge. The cognitive growth learning model, as that used in lesson four, will be used. This subject matter should take up most of the remainder of the session.

If there is time the session will end with a relaxation exercise and centering "role play" (ibid., pp. 211-259) plus "social simulation" (ibid., pp. 295-309) of the scenerio visualized during relaxaton. The learners should be able to center in moderately stressful work situations by now. The students who are able to find their quiet center in a moderately stressful situation should now try to see if it is possible to find his/her quiet center in a crisis situation. These experiences should be part of the journal entry.

Scenereo for role play with harassment in an ego-threatening environment which included participants such as;

- anxious "important other"
- demanding intern
- terrified patient
- know-it-all supervisor
- metrinome to increase feeling of urgency and time constraints.
- this is followed by visualization of a tree that is whole and deeply rooted in the ground.
- the group will then a repeat performance and compare inner feelings.

Handouts for the fifth learning session will be the cognitive information dealing with the theory of intuitive discretionary decision making by affective connatuality [I.D.D.M.A.C.]. The learners will be asked to prepare scenerios from the work environment to be vignette learning experiences during the next lessons. Again the learners will be reminded about regular exercises and keeping their journals up to date.

8.9. The sixth learning session

Centering exercise with visualization where images inhibit the left cerebral hemispheres (Wonder and Donovan, 1984) This exercise will be accompanied by background music Rx. The learner will also attempt to add colour to his/her visualization. Experiences are shared in groups of two or three.

Following the relaxation, visualization and centering exercise, the group will be encouraged to go through the process of imagining a house with two rooms sitting just above the eyebrows. [This exercise is a combination of many learning models and theories of hemispheric assymmetry:] The learners are to imagine that there are two rooms in the house which are connected by a hallway. At this point the learner would be encouraged to imagine

how it would feel to climb up into the room on the left side where s/he would find all sorts of printed material arranged on shelves as books in a library. After an imaginary period of book browsing and feeling the texture of the paper, the learner is to put down whatever s/he is reading and go through the connecting corridor to the room on the right. This room is filled with all kinds of objects which the learner is encouraged to touch and fondle in order to stimulate his/her tactile sensations. The learner will be encouraged to imagine feeling such things as the texture of a child's soft cuddly toy, a favorite chair or a soft dressing gown, in an attempt to become aware of the tactile feelings. The learner is then encouraged to get in touch with his/her inner emotional feelings at that moment. Then just be aware of the feelings in the body and sit and enjoy feeling the feelings. The learner will suggest that the learner try apply colours to good feelings then suggest that the learner colour the other feelings experienced. Following this exercise the learners will share the experience with a member of the group with whom s/he has not previously participated. This part of the learning experience will end with de Bono's exercise dealing with emotions and values (ibid., pp. 103-113)

The cognitive learning will follow the format outlined in session two. It will deal with connatural knowledge as it relates to affective connaturality and the formation of caring prudent habits. [presented as chapter 4 of this thesis]. The instructional model will be the same as that used in the last two sessions and instructor will use the facilitating method of instruction.

This learning session will end with Agor's cognitive awareness exercise, (1986, pp. 54-64)

Assigned readings for the sixth learning session will be the two texts of Weston Agar, particularly the research findings presented in the 1986 text. Again these texts should be available in the library. The students will be cautioned to have their journal entries ready for a group discussion next session, they are also reminded about the need for daily relaxation exercises, and encouraged to expand methods for relaxation and centering at home and at work.

8.10. The seventh learning session

This session will be a stark directional turn from the previous sessions which began with refreshments and relaxation. The refreshment will remain but the learner will be presented with two brain functioning tests at the

beginning of the learning session. This change in format will be staged to make the learner aware of the difference between starting something in a relaxed centered state of mind and starting in the normal frame of mind. For this session, the learner will first, complete Wonder and Donovan's brain preference indicator test (1984, pp.31-36), then s/he will complete Weston Agar's personal style management test (1984, pp. 11-14) which he call the AIM test for intuitive management skills [the first 15 questions are from the Human Information Processing [tm] Survey, copyright (c) 1983 and questions 16-27 are from the Myers-Briggs Type indicator copyright (c) 1962].

Coffee and tea will be available for those who complete the questionnaires quickly. The late finishers will be encouraged to obtain some refreshments while answer sheets and data explanation papers are handed out. The student may mark his/her own paper or share marking with a colleague or friend. This will be followed with a discussion about the purpose of the questionnaire and the significance of the learner's score in relation to his/her hypothesized "brain preference." This will be an "information processing" (Joyce and Weil, *ibid.*, pp22-143) session where the instructor acts in the

directive instructional manner during the testing and in the facilitative instructional manner during the discussion following the test scoring.

The cognitive learning for this lesson will deal with chapter 6 of this thesis, the theory of intuitive discretionary decision making by affective connaturality [I.D.D.M.A.C.]. This lesson's information processing and skills testing will be given in the directive method of instruction. This section of the lesson will end with a repeat of the social family, group investigation model to discuss connatural knowledge.

The leaning session will return to the "desensitizing" model of instruction to facilitate the learner's ability to develop hierarchies by identifying emotions, and rating them in degrees of intensity and/or stressfulness. The learners will be encouraged to remember and possibly visualize memories of experiences from work which deals with crisis situations. Again, the instructor will encourage the learners to get in touch with the feelings this work scenerio produces, then apply colours and possibly a temperature to these feelings. Following the visualization exercise, the learners will divide into groups of three or four to discuss this experience and contrast it to the previous experience. A

spokesperson will report back from each group and the learners will be encouraged to share findings and create a hierarchy of impressions. This is a cross between the awareness training model and the desensitization model of instruction which could be placed within the humanistic, person-centered model of instruction and the instructional method will be facilitating. Time permitting, role play could follow.

The learners will be able to listen to "Music Rx" tapes during this visualization session. Music Rx consists of music which has a particularly soothing effect, Helen Bonny, a PhD in music, specifically selected this music to be a helpful part of the atmosphere within the acute care nursing areas. The learner will be encouraged to select one or two entries from his/her journal to present to the group the following session.

Handouts will consist of a list of suggested reference readings and information about the Institute for Consciousness in Music, Port Townsend, Washington.

8.11. The eighth learning session

Session eight will revert to the relaxed atmosphere of the first few learning sessions with music Rx, to experience feelings of wholeness and rootedness.

Refreshments will be followed by relaxation, centering exercises which encourage visualization of some favorite spot in nature and the feelings of wholeness and rootedness.

At this time the participants will be encouraged to share their journal experiences. Agar's work will be discussed with the view of the applicability of some of his principles and practical exercises, which expand a persons intuitive ability, to the nursing profession.

Bastick's empathetic projection test, selected phrase empathetic ability-key test [S.P.E.A.K.], will also be presented. This test will be used to demonstrate the participant's personal involvement, through empathetic projection with otherwise non-emotionally involving elements in the environment. This is pedagogical examination which just might be useful here with adults because it demonstrates the need for empathetic projection. This need for will then be discussed. The instructor will be leading the learning by the collaboration method of instruction. This will be followed by a refreshment break.

Lynn Brailier's assessment of spiritual beliefs (pp. 255-264) will be completed and evaluated. This will be

followed by a group discussion. Braillier's text, Successfully Managing Stress, chapter 6 (1982, pp. 249-281) will be a useful contemporary tool to approach the spiritual aspect of intuitive behaviour and affective connaturality in a non-sectarian manner. Hopefully this exercise will lead the learners into his/her own inner thoughts and feelings about the existence of "a greater power". Since this is a nonsectarian presentation, it should not cause the participants any distress, hopefully the learner will find this learning session enlightening. A further discussion period will follow this evaluation procedure. [This chapter deals with the spiritual aspects of human behaviour and how stress influences and is influenced by the individual's spiritual nature.] The learner's will be given Braillier's assessment tools which will monitor the individual's spiritual belief and their effectiveness in managing stress. Agar also addresses the spiritual level of intuitive awareness and quotes the biblical saying "as ye sow so shall ye reap" (ibid pp. 6, 56, 57).

The learners will be encouraged to continue with the relaxation exercises and journal entries. Supplementary reading could be suggested if so requested by the learner.

8.12. Additional sessions, or material to use as fill
in if and where needed.

This session will begin in the usual manner with centering, visualization, hearing practice accompanied by music Rx. And attempting to experience a visualization of extending beyond the self.

Following the relaxation exercise the learners will form pairs for a shadow figure perception exercise in which the twosome stands together, almost nose to nose if possible. [it would be wise to suggest that the learner's pair off by height wherever possible]. One member of the group will be the leader and the other the follower in a sensory perceptual experience where the leader will go through the actions of an individual longingly looking into a room but his/her way is blocked by a pane glass window. The follower will pretend to be a shadow figure on the other side of the glass. They will see how closely the shadow figure intuitively knows the movement of the leader and is able to shadow the leader's movement. Then they will exchange roles of leader and follower.

Following this exercise the learner will be encouraged to examine the energy field that exists around his/her body by bringing the hands almost together then withdrawing

them as if s/he were playing an imaginary concertina.

This is Dolores Krieger's hand exercise (1979), for tactile awareness and awareness of the energy field that extends beyond the body. This is how it is possible to receive good or bad "vibes," or non verbal messages from a friend or coworker.

de Bono's TEC [target, expand/explore, contract/conclude] exercise (ibid., pp 151-161) would be another useful learning experience just before the break.

Following the break the instructor will conduct a review lesson on the important points from his/her point of view. S/he will then encourage the participants to ask for clarification on points within the learning experience. There will be an open discussion for the remainder of the class time.

Second extra session--

This session will begin in the usual manner. Following the relaxation exercise the participants will be divided into groups to formulate a scenerio which they will role play to the remainder of the participants. The instructional model will be "role play", (Joyce and Weil, ibid., pp. 241-259) [see section 8.3.1.9. for details]

Another useful exercise which will increase the learner's ability to perceive non verbal messages, vibes, is a combination of tactile awareness and visualization. For this exercise the learners will be allowed to choose a partner. Once chosen the learners will sit beside a table facing each other. The instructor will encourage the partners to do a head to toe scan of his/her partner, then let the impression sink into the subconscious mind by visualizing filing the material into the second drawer of a three drawer cabinet. The learners will then center and have the right hands resting on the table, palms facing but not touching. First one learner will be the "reader" and the other will be the "sender," then the roles will be reversed. The sender will visualize one of three colours, yellow, green, and blue. Once the sender has the colour vividly in his/her mind, the learner will nod to the receiver that s/he is sending the colour sensation down his/her right arm to the palm where it will be transferred to the receiver. The receiver is to close his/her eyes and "feel" the colour message being sent. The learners are cautioned not to feel disappointed if s/he is unable to perceive the vibes sent by his/her partner. This is an exercise which requires a high degree of openness and perceptual awareness to facilitate. The learners are then encouraged to repeat

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the exercise with another partner. This can be an on going learning experience which the learners can take home to practice.

Other possible learning exercises include:

- scenerio role play vignette
- de Bono's (ibid., p. 53-70) lateral thinking exercise.
- La Monica's ethical choosing exercise (ibid., pp 270-286) deals with ethical nursing decisions.
- --Joyce and Weil's "social family" group of instructional models, "simulation model" (pp. 241-259, 295-309) for role play exercise with moderate scenerio stressors in a vignette.
- Wonder and Donovan's "hearings: 1,2, and extra" (ibid., pp. 125-135) for practioner in hearing extras [intuitive perception].
- Lorraine Bouthelet's (1948, pp. 49-65) measurement of intuitive thinking by examining the processes of concept formation as a paired-associated memory task,

8.13. Summary of instructional models, instructional techniques and course outline.

Joyce and Weil, (ibid., p. 493) state that to "live with truth and dignity as educators we must teach so that our models have moral validity." That is what this author has attempted to do with this proposed learning module.

Oliver Wendell Holmes stated that the "human mind, once stretched to a new idea, never goes back to its original dimensions. It is the hope of the author that this learning experience will, in deed, stretch the minds of the learner so that s/he will have the daring to try new ways of thinking and reasoning, and to enter a fuller and richer life experience with a wholistic, caring, prudent world view.

CONCLUSIONS, BENEFITS, FUTURE RESEARCH

CHAPTER 9

"Train a child the way he should go,
and when he is old he will not turn from it"
(Proverbs 22:6, N.I.V.)

9.1. Introduction

The premise of this thesis is that a synthesis of affective connaturality and intuitive thinking yields the qualities required in order to facilitate the integration of prudence and caring into non-routine intuitive discretionary decisions. I.D.D.M.A.C. is an adjunct to present decisional practices, it is not a panacea. This symbiosis would allow all concerned to benefit by releasing those "other skills" required to make spur-of-the moment decisions. A syzegy of affective connaturality and intuitive thinking should allow the yoked pair of non-rational decisional skills of intuition and affective connaturality to function as one.

9.2. Benefits

Through empathetic projection [a property of both intuitive thinking and affective connaturality], the

nurse's work may, in a certain way, become part of him/her -- there is a certain degree of intrinsicity by affective connaturality, cordiality, correlation, consonance, or sympathy that exists between the nurse and his/her work. This affection for the work heightens the nurse's perception of the profession and the job at hand. In summary, the nurse's "world view" profoundly influences how work is carried out -- "world view" is more than mere habit it is a co-natured action which results from a frame of mind.

Empathetic projection allows the nurse to be aware of the role of dedication and the inexhaustible depths of inner resources that allows freedom during periods of uncertainty because s/he is a multi-faceted being who is able to make free choices which are directed towards the good through inclination or habit. In the chapter on affective connaturality it is stressed that compassion and affection are both integral parts of this form of connatural knowledge.

Yet another benefit of this course, which teaches mastery of stress related responses [a mediating factor to uncertainty], is homeostasis through stress management. Since the amount of stress depends on the intensity of the demand and the ability to cope with the demand, this

will determine its good or bad outcome. The ability to control perceived stress will determine whether the response is a distress or discomfort body response to the stressor. "Stress response" includes the psychophysiology described by both Cannon (1932, 1953) and Selye (1975, 1976, 1978). Mild stress, interests the individual and motivates him/her for creativity and problem solving, moderate stress, thought motivating and challenging is anxiety provoking. Under strong stress the individual begins to demonstrate the symptoms of dysfunctional behaviour while very strong stress immobilizes and overwhelms the individual and leads to illness or disorder and finally death. "Professional burnout" is a stress response. Storlie (1979) defined burnout in nursing as the disillusionment nurses feel when reality does not match his/her ideals and the nurse's hope for change is nearly nonexistent. It is the "resignation to the feeling of the lack of power to make a difference" (Brailier, 1982, p. 76). Now if the individual is able to make a difference by use of his/her personal mediating factors, this will enable the nurse to reduce the effects of the stressor. This will allow the mediating factor, such as relaxation, to lead the individual towards homeostasis and health rather than imbalance and disease.

The investigator admits that this undertaking could perhaps be best considered as an initial study into rather virgin territory. In sum, if any value is derived from this investigation, for the investigator it constituted a learning experience without previous parallel, and for the reader, hopefully it will suggest the feasibility of an alternate view of the workplace which could replace the predominant humanistic, materialistic, empirical, western, rational, world view, commonly held today.

If this study can awaken in the nurse the hope that there is a possibility to have a faith, which is the conviction of things not as yet seen. With this faith, a critical care nurse would be able to deal with the myriad of crisis situations and discretionary decisional problems in a totally different way than s/he is presently perceiving his/her ability to influence change in the workplace. The investigator suggests that this can be achieved when the nurse is able to utilize his/her intuitive thinking and feeling, allowing the affection for the workplace to heighten his/her perceptual field enabling the nurse to function in and by affective connaturality.

The proposed instructional packet should prepare individuals, who will be working in authority positions, to be able to "connature" compassionate morality with "right" thinking and decision making. Hopefully, this "mode of inclination" combined with this "mode of thinking" will become part of each participant and will enable the him/her to form habits of choosing the "right" decision intuitively by affective connaturality. Therefore, the "right" decision will not only be intuitively "correct" but it will also be prudent and caring. This allows the individual making decisions to do so by "mode of inclination" with affective connaturality.

Maritain might express it thusly; there is a need to transcend the need of self and identify with others with some level of serenity and peace. This happens when the individual comes to value wisdom by a powerful image of where s/he had to go and what s/he had to do and by an identification with a deeper and richer meaning of life.

There is a distinction to be drawn between the understanding as ratio and the understanding as intellectus. Understanding as ratio refers to the power of discursive, logical thought, of searching and of examination, of abstraction, of definition and drawing

conclusions. While understanding as intellectus refers to that aspect of understanding which corresponds to the simple vision which sees truth offering itself like a landscape to the eye. It is the capacity of simplex intuitus. The philosophers of Greece and the Middle Ages regarded the simplex intuitus of the intellectus as being a sphere of human activity which was not fully understood, and indeed it is not presently fully understood.

9.3. Conclusions

It has been shown that ethics and spirituality has returned as a new focus. This is affecting health care decisions, as never before, because advancing medical technologies have caused new ethical problems. Nursing problems, which sound like a science fiction tale, have been surfacing in recent newspaper items. These problems arise where old principles and old decisions are no longer adequate for the problems at hand. When changing technology and changing economics leave behind the old ethical legal answers they raise new and complex questions. The nurse cannot avoid ethical decision making by referring troublesome questions to another authority, for even the discretionary decision to avoid ethical responsibility by delegating to superiors.

There is a decision to be made and that has moral implications. Because of the afore mentioned ethical problems, this study into discretionary decision making is appropriate.

This investigation was instigated to determine whether it would be possible to create a teaching module which could assist graduate nurses make competent, compassionate, right, intuitive discretionary decisions in crisis situations. The studies concerning a variety of rational decision making processes were examined and contrasted with the studies concerning non rational intuitive decision making and the little known non rational method of intuitive decision making by affective connaturality.

The experienced nurse often displays an intuitive knowledge. The question is, can the appropriation of this intuitive process be facilitated by a teaching module which says to the nurse: "It is 'OK' to use one's innate intuition when making discretionary decisions"? Other questions addressed by this study are; is intuition enough? can intuition be trusted to make the right decision? and is the right decision enough? would it not be more expedient if the discretionary decisions were also compassionate, caring and prudent?

Except for the work of Ellis Joseph (1975), which addressed this issue of caring, prudent, intuitive decision making by affective connaturality, it has been noted that the subject of affective connaturality has not been considered in studies which dealt with intuitive discretionary decision making. This study has attempted to show that intuitive discretionary decisions by affective connaturality [I.D.D.M.A.C.], could answer the need to make caring, prudent, spur-of-the-moment decisions.

First, this study outlines the properties of intuitive thinking compiled by Bastick (1979), when he developed his theory of intuitive thinking. Then, this investigator examined other pertinent literature on intuitive thinking and connatural knowledge to demonstrate that a similarity in properties exists between the two types of thought processes, the concept of intuitive thinking and connaturality.

When faced with a decision, the intuitive person has an uncanny ability to know when to ignore advice given by analytic professionals yet make the right decision at the right time. This occurs even when the information on which decisions are based is incomplete or is totally inadequate. In these situations, the accuracy of a

judgment during decision making is based on the accuracy of the information upon which it rests. How a person formulates a plan of action is based on clarity of perception and "world view." Therefore, how the individual perceives and thinks colours the formulation. Faulty problem-solving can be broken if thinking blocks [whether they are perceptual, emotional, cultural, environmental, or intellectual], can be eliminated and the individual can be taught to overcome a conceptual bias and to overcome the "taught" belief that intuition is too elusive and unreliable for nursing.

Perceiving, includes the processes of becoming aware of things, people, occurrences, and ideas while judging includes the ability to come to conclusions about what has been perceived. These two abilities make up a large portion of the individual's total mental activity and govern much outer behaviour since perception determines what the individual sees in a situation and his/her judgment determines what s/he decides to do about it.

Bastick indicates that these processes are stored as response reactions within emotional sets. Sensing occurs when the individual becomes aware of things directly through the senses, while intuition occurs as an indirect perception because the individual is not consciously

aware of the incorporation of ideas or associations subliminally. Individuals will utilize one of these perceptions more than the other but everyone has the ability to perceive consciously or unconsciously by sensing or intuition. Judging also has two ways in which the individual may come to a conclusion. S/he may use the logical process of thinking which is aimed at an impersonal finding in a thinking judgment, or the individual may be more inclined to judge by appreciation or feeling. Feeling is a subjective value judgment rather than an objective value judgment. Ideas already held are seen as pleasing or displeasing, supporting or threatening, where s/he is using feeling-judgment.

A feeling judgment allows an empathetic projection towards reality while a thinking judgment does not. According to Bastick, there is a need for the ability to drift through emotional sets which contain empathetic projections towards reality. With contiguity conditioning, response tendencies are repeated in various emotional sets, which when restructured or centered, produce a redundancy of reactions. The redundant reactions rise to the conscious mind as an intuitive experience.

The individual who is able to think intuitively by affective connaturality is not only capable of making important decisions based on partial information but also the capable of making decision quickly and easily and with the sense that his/her decisions will probably be prudential ones.

Virtues or habits are paramount factors in affective connaturality and they play a large role in the individual's knowledge by connaturality. It has been shown that it is the operative habits [redundant response reactions to emotional sets], which are peculiar to the caring, compassionate, prudent, intuitive person. A nurse who possesses a degree of cognition, harmony, understanding, temperment, or sympathy by affective connaturality is united to his/her work. The nurse's feeling for work colours his/her perception of the workplace.

By illustrating how the concept of affective connaturality can be applied to nursing, it has been shown that the relationship between the two is desirable. Certain virtues or habits, when a part of the nurse, facilitate the ability of the nurse, by mode of affective inclination, to make decisions quickly and easily in

cases connected to his/her care with the probability that his/her decisions will be caring and prudent.

Virtues or habits play a large part in the nurse's knowledge by connatural knowledge. It has been suggested in this thesis that it is the operative habits particular to nursing which should become the medium whereby the nurse is able to act by and in the mode of affective inclination.

Compassion and empathy, as they relate to the ability to think intuitively by affective connaturality and in relation to the practice of nursing, were discussed to demonstrate how the nurse's work may, in a way, become part of him/her. It was demonstrated that the nurse, as a thinking being, is self-concerned. S/he becomes aware of inner feelings, and modes of free choices, desires, affections, strengths and weaknesses, loves and pains. The nurse has become aware of who s/he really is and this lends meaning to everyday acts. This nurse is cognizant of him/herself as "subject" and everyone else as "object," and in turn everyone else sees this nurse as "object." Love allows one person to know another as other than "object." It is this union in love which makes the beloved "object" a "subject" because the person loved becomes a part of the lover. Since emotions

produce a subjective value judgment rather than an objective value judgment in both intuition and affective connaturality, a connection exists between these two modes of thinking.

The need to transcend the need of self and to identify with others with some level of serenity and peace can be addressed by affective connaturality. This allows the individual to come to value wisdom and gives him/her a powerful image of where s/he has to go and what s/he has to do to identify with a deeper richer meaning of life.

9.4. Future Research

Recommendations for possible research using an adaptation of Bastick's Selected Phrase Empathetic Ability Key, S.P.E.A.K. test for discerning adult ability for empathetic projection. Another interesting research project would be to see how adults scores for intuitive ability compare to Bastick's pedagogical scores on the computer aided instructional packet he designed.

Recommendations for further research derived from the need to verify the assumed benefits of I.D.D.M.A.C. are;

The formation of a unified theory about prudent information processing and judicious discretionary decision making synthesizes the properties of intuition and those of affective connaturality requires verification through empirical research. Also the proposed classroom teaching model which demonstrates how an individual may tap into his/her innate ability to use affective connaturality requires empirical research to see if, in fact, the skills proposed by the theory of intuitive discretionary decision making by affective connaturality [I.D.D.M.A.C.] are in fact teachable skills. If, in fact, the proposed skills are teachable, that is the skills can be reproduced within the learning environment, are these skills replicable in a stressful work situation?

The proposed teaching models, exercises, and tests need verification by empiricible research to demonstrate that they do, in fact, facilitate the desired learning outcomes. That is, nurses in acute care units, will no longer be torn between the need for immediate, intuitive, prudent, caring decisions and his/her ability to make such decisions.

In regard to the scope and limitations of this investigation, it has been suggested that an evaluative

pretest would appear to be an enabling element whereby the learner could establish his/her ability to function in a highly stressful environment. Expansion instruction for individuals functioning below this level is needed to free the learner's intellectual capacity and enable the organization of additional schemata for alternate ways to increase the ability to further integrate comparison rules, this remains to be produced and tested.

Another concern, not addressed by this thesis is a report of the variables or concerns of the adult educator. The variables listed are the diverse concerns of learning resources, physical setting, social climate, instructional climate, accessibility, obstacles to learning or participation [a paramount concern for adult educators, particularly for hospital in-service educators], teacher personality, teaching methods and other learners. Any one of these variables could become the focus of empirical research.

The most obvious recommendations are the following:

The author will now seek teaching possibilities where it would be possible to have students learn the skills

of I.D.D.M.A.C. and then evaluate the outcomes of this teaching/learning experience.

Following the initial presentation of the learning experience, the author would seek to retest the learning module, then evaluate the results to see if the learning objective has been met, make changes and retest the revised learning module.

These are just a few of the many possible recommendations which could be made to improve the ability of the nurse in critical care areas to utilize the ability to utilize the proposed benefits fo I.D.D.M.A.C.

If this instructional material is, in fact, a beneficial adjunct to decision making processes for nurses, could it also benefit interns and doctors who, when faced with the need to make discretionary decisions in crisis situations; suffer stress from the decisional process? and lack caring, compassionate habits which illicit decisions which will truly be for the "good" of the client? Then, if the medical profession would benefit from the ability to utilize I.D.D.M.A.C. what about other professionals who also are faced with discretionary decision making under pressure?

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