NURSING PAPERS
PERSPECTIVES EN NURSING

CONTENTS

*THE ARTICLES IN THIS ISSUE WERE WRITTEN BY MEMBERS
OF THE FACULTY OF NURSING OF THE UNIVERSITY
OF BRITISH COLUMBIA*

EDITORIAL:
CHANGE AND GROWTH

MURIEL UPRICHARD

Although the School of Nursing at the University of British Columbia is the oldest university school in Canada, it had not grown to meet the needs of this province for nurses prepared at the baccalaureate level. The reasons for this are many and complex and will not be detailed here. Suffice it to say that this slow growth resulted in a small pool of nurses ready and able to proceed to the Master's degree and therefore a dearth of nurses prepared to teach, direct, consult and undertake research. The lack of leaders has hampered the growth of the profession in this province.

In 1971 the faculty of the School decided to attempt a drastic change in curriculum and in policy in order to increase the number of nurses with baccalaureate degrees. A behavioural system model for nursing was created as a guide to the curriculum, to nursing practice and to nursing research. The model was operationalized by a group of faculty during a year of strenuous labour. An entirely new approach to the teaching of nursing was developed. The core of the curriculum is the unique function of nursing, with emphasis on wellness and the prevention of illness. The emphasis in the teaching methods is on self-learning through the use of modern technological devices and learning materials devised by the faculty to fit the concepts of the new curriculum.

The programme was shortened from five years to four with two three-month summer terms following the first and second years. These summer terms provide for concentrated clinical practice. Students may write the registered nurse examinations any time after the second year summer term. They may then leave to practice as registered nurses and return to complete their degrees at a later date. To date, only one class of students has passed through this experience. Only a few availed themselves of the opportunity to leave. It appears that students who come to university come to take a degree and are not deflected from this course of action.

The obverse of allowing the undergraduates to write their registration examinations and leave is the admission of registered nurses to the third year. Those who qualify are given an admission examination and those who pass take a three-month Summer course. Both

the examination and the course require comment. The screening of students is not entirely satisfactory. We intend to produce a qualifying examination to replace the present purchased examination. The Summer course attempts to help registered nurses from hospital and community college schools to understand the stance of the university towards education and, in particular, nursing education. They are oriented to the university, the library and the School of Nursing's facilities, especially its biomedical communication department, and the means and methods of self-directed study. They are taught the conceptual framework as well as the nursing process used by the School, and given extensive clinical practice in their use.

The Master's programme is developed on the same model. It is two academic years in length and prepares students as clinical nurse specialists and/or as teachers, administrators and consultants.

As a result of the shortening of the total undergraduate programme and widespread publicity about the new programme the School has grown rapidly from 207 students in 1971 to 482 students in 1976. Senate has now established a quota for the B.S.N. programme; we will admit 113 students to the first year for the next five years. The Master's programme has also grown from 23 students in 1971 to 45 in 1976. No restraints will be placed on the growth of this programme, as British Columbia needs more nurses with advanced education.

Some aspects of the B.S.N. programme are described in this volume, though not all that we would have liked to include. The gravest omission is a description of the research and evaluation that are proceeding alongside the development of the programme itself.

We anticipate that an article on this aspect of our work will appear in subsequent issue of this journal.

Needless to say, this has been an exacting and challenging five years. The faculty have worked very hard to make this dream a reality; the students are working very hard making use of the faculty's creation. As with all growth and change it has been difficult and painful at times. We suffer all the problems associated with rapid growth and extensive change. Nonetheless, there is a sense of accomplishment and pride that pervades the School and enables us to overcome the difficulties inherent in the change process.

We realize that what we are doing is both experimental and controversial. We believe there is no right and final answer to the problems of nursing. It is clear, however, that the creation of a discrete and organized body of nursing knowledge demands a conceptual framework within which nursing knowledge can be arranged for

thought as well as for action. Such a science would enable research into the improvement of patient care to be conducted effectively thus increasing the available and proven knowledge. It is toward this end that we strive. Time alone will tell how successful we have been. The opinions of our colleagues across the nation would be much appreciated.

A MODEL FOR NURSING:
UNIVERSITY OF BRITISH COLUMBIA
SCHOOL OF NURSING

MARGARET A. CAMPBELL

MARY J. CRUISE

T. ROSE MURAKAMI

A model for nursing provides a framework for viewing the phenomena about which nursing is concerned: man and the ways in which nursing cares for man. Conceptual in nature, the model is drawn from reality and pertains to reality, but does not constitute reality (Johnson, 1969). As a conceptual framework, the model serves to give direction to nursing practice, research and curriculum development.

The purpose of this paper is to present and explain the model for nursing developed by the School of Nursing at the University of British Columbia*. Designed to view man as a behavioural system, the U.B.C. Model is formed by certain assumptions about man. Supporting these assumptions is a set of beliefs about nursing and its practice. The assumptions and statements of beliefs define nursing's unique function and identity why, when and how this function is carried out.

THE U.B.C. MODEL FOR NURSING

BELIEFS ABOUT NURSING AND ITS PRACTICE

1. Nursing is a member of the team of health professions whose ultimate goal is the optimal health of man.

2. Nursing makes a unique contribution to the goal of optimal health of man.

3. Nursing assumes responsibility for defining and delimiting its unique function.

4. Nursing's unique function is to nurture man during critical periods of his life cycle so that he may develop and utilize a range of coping behaviours which permit him to satisfy his basic human needs and thereby move toward optimal health.

5. The nurturing of man during the critical periods of his life cycle makes a significant difference in the way he copes with these periods.

6. Nursing also has both the privilege and responsibility to determine which of the shared and delegated tasks, traditionally assigned and accepted for a variety of reasons, it will assume, to maximize the quality of total health care provided to individuals.

ASSUMPTIONS ABOUT MAN

1. Man has basic human needs* which he experiences as tensions.
2. Man constantly strives to satisfy each basic human need by using a range of coping behaviours.
3. Man constantly seeks harmony and balance as he strives to satisfy multiple and co-existing needs.
4. Man's coping behaviours are organized into repetitive, predictable patterns which become his characteristic way of meeting his needs.
5. Development of man's coping behaviours is dependent upon his growth, maturation, and life experiences.
6. When man encounters a critical period in his life cycle, his repertoire of coping behaviours may not allow him to satisfy one or more of his needs.
7. When coping behaviours do not permit satisfaction of basic human needs man experiences a threat to his survival or growth.

ASSUMPTIONS ABOUT MAN AS A BEHAVIOURAL SYSTEM

1. Man may be viewed as a behavioural system made up of nine subsystems.
2. Each subsystem is responsible for the satisfaction of one basic human need.
3. Each subsystem may be viewed as a life space.**
4. The structure of each subsystem consists of two parts:
   a) an inner-personal region representing a basic human need and abilities to meet that need,
   b) a psychological environment representing the need-satisfying goal and the forces influencing its attainment.
5. The function of each subsystem is to achieve its specific goal through the following behavioural process:
   a) perception of the need to be met by the subsystem,
   b) recognition of need, goal, abilities and forces,
   c) planning (selecting possible alternatives) to achieve the goal,
   d) action directed toward goal achievement.
6. Each subsystem is interacting and interdependent with every other subsystem.
7. The subsystems are in a balanced relationship with each other and the system is in a balanced relationship with its environment. (Behavioural system balance).
8. Behavioural system balance (steady state) is maintained by feedback mechanisms operating within the system and between the system and the environment.
9. Each subsystem has the potential to develop cognitive and executive abilities.
10. The behavioural system has the potential for growth through the orderly progression of maturation within each substyem.
11. The behavioural system is constantly experiencing tensions arising from internal and external sources.
12. The behavioural system uses tension-reducing responses to make both internal adjustments and adaptions to the environment.
13. Maturation influences the tension-reducing responses used at any given time.
14. When tension-reducing responses are inadequate to maintain behavioural system balance, imbalance results.

*Hereafter "need" refers to "basic human need".

**The concept of life space has been adapted from Lewin's field theory. See Bigge (1971) pp. 179-197.
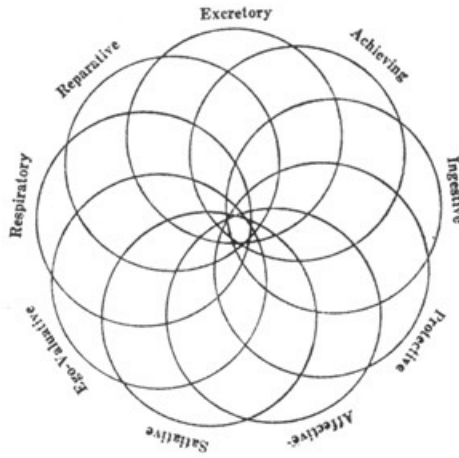
Fig. 1 — Behavioural system of man

EXPLANATION OF THE MODEL

Discussion will serve to clarify these assumptions and statements of beliefs. In the view of man as a behavioural system, each subsystem represents a basic human need. The structure of the system and the interacting and interdependent nature of its parts are shown in Figure 1.

Each subsystem is responsible for the satisfaction of one basic human need. Need satisfaction is determined in relation to goal achievement. The needs and goals are listed in Table 1.

The way in which man's needs are satisfied and goals achieved is dependent upon subsystem structure. This structure is shown in Figure 2.

Man is assumed to have tensions that are the concrete experiences of basic human needs requiring satisfaction. Tension-reduction is equated with need satisfaction. Man uses behaviours of all kinds: physical, physiological, psychological and sociological, to reduce tensions and thereby satisfy basic human needs. These tension-reducing behaviours are coping behaviours.

Coping behaviours are a reflection of both subsystem structure and function. Cognitive abilities or the capacity to know and executive abilities or the capacity to act, are essential determinants of coping behaviours. Forces influence coping behaviours and determine movement toward or away from a subsystem goal. Each subsystem uses problem-solving, that is, perceiving, recognizing, planning and acting to achieve its goal and satisfy the need. It is this last step of the problem-solving process — acting — which constitutes coping behaviours.

7

Table 1: Need and Goal of Each Subsystem

Subsystem	Need	Goal
Reparative	For balance between production and utilization of energy	Capacity for activity
Excretory	For collection and removal of accumulated wastes	Absence of accumulated waste
Achieving	For mastery	Feelings of accomplishment; satisfaction with accomplishments
Ingestive	For intake of food and fluid; nourishment	Nourishment; satisfaction of hunger and thirst
Protective	For safety and security	Integrity of the system
Affective	For love, belongingness and dependence	Feelings of love belongingness and dependence
Satiative	For stimulation of the system's senses (i.e. hearing, vision, smell, touch and taste.)	Sensory satisfaction
Ego-valuative	For respect of self by self and others	Self-Esteem
Respiratory	For intake of oxygen	Oxygenation; easy respirations

Thus far, the assumptions about man and man as a behavioural system have been presented and discussed. This aspect of the model provides part of the framework for viewing the phenomena with which nursing is concerned. The rest of the framework is provided by the statements of beliefs about nursing and its practice.

The model is based on the belief that nursing's unique function is to nurture man during critical periods of his life cycle so that he may develop and utilize a range of coping behaviours which permit him to satisfy his basic human needs and thereby move towards optimal health. This implies that the recipient of nursing care is any individual in a critical period, that is, a maturational stage or an unpredictable event. During this period in his life cycle, an individual encounters demands for modifying existent coping behaviours and/or for developing new ones in order to satisfy his needs. Nurturing activities, described as fostering, protecting, sustaining and teaching, are directed toward reducing negative forces, maintaining and strengthening positive forces and fostering the development of cognitive and executive abilities. As a result of nursing interventions, the individual develops coping behaviours to deal effectively with the critical period so that behavioural system balance is maintained.

8
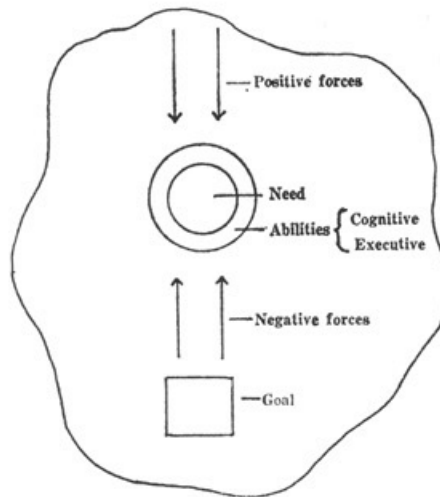
Fig. 2 — The structure of a subsystem

CONCLUSION

In the presentation of the U.B.C. Model for Nursing the beliefs and assumptions have been outlined and explained. From the discussion, it is evident that, when nursing views man as described in this model, system balance is the desired goal. Nursing's function is to nurture man, the behavioural system, threatened by or in a state of imbalance during critical periods of his life cycle. By reducing negative forces, maintaining and strengthening positive forces and by fostering the development of cognitive and executive abilities, nursing seeks to ensure the development and use of coping behaviours which promote man's movement toward optimal health.

References

Adam, Evelyn T. "A Conceptual Model for Nursing." *Canadian Nurse* 71 (September 1975) : 40-41.

Bertalanffy, Ludwig von. *General System Theory.* New York: George Braziller, 1968.

Bigge, Morris L. *Learning Theories for Teachers.* 2nd ed. New York: Harper and Row, 1971.

Chin, Robert. "The Utility of System Models and Developmental Models for Practioners." In *The Planning of Change* pp. 297-312. Edited by Warren G. Bennis, Kenneth D. Benne, and Robert Chin. New York: Holt, Rinehart and Winston, 1969.

Johnson, Dorothy E. "Conceptual Models: Functions and Uses." Los Angeles, 1969. (Mimeographed lecture handout.)

Reihl, Joan P., and Roy, Sister Callista. *Conceptual Models for Nursing Practice.* New York: Appleton-Century-Crofts, 1974.

Uprichard, Muriel. "An Experimental Nursing Curriculum." *Canadian Nurse* 70 (May 1974) : 30-32.

THE U.B.C. MODEL FOR NURSING: DIRECTION FOR CURRICULUM DEVELOPMENT

MARGARET A. CAMPBELL

This paper is devoted to a description of how the U.B.C. Model for Nursing has been made operational in the curriculum of the baccalaureate programme.

As suggested in the preceding article, the model permits a study of man and the way in which nursing assists him to satisfy his basic human needs during critical periods of his life cycle, that is, maturational stages and unpredictable events. It is these two kinds of critical periods which form the organizing centres for the curriculum. While the curriculum objectives serve as the guideposts to the selection of content, the structure and function of the nine subsystems give direction for a more precise selection of content. For example, to be able to assess clients, select appropriate intervention modes and manipulate certain forces, students require a base in both the biological and behavioural sciences. They must also have opportunities to learn how to help clients develop and use new coping behaviours and how to reinforce suitable coping behaviours through the use of such media as teaching, therapeutic groups, therapeutic use of self and crisis intervention. Thus the model gives direction for the development of that part of the curriculum which prepares the student for the unique function of nursing. In addition, the requisite learnings related to the shared and delegated tasks are provided. A brief outline of the curriculum as it is planned for each year of the programme will serve to explicate how the model has been made operational.

FIRST YEAR

In the first year of the B.S.N. programme, the curriculum focus is on the well person, that is, the individual whose coping behaviours are permitting him to satisfy his basic human needs. In the clinical nursing courses, the student learns to assess the well person at different maturational stages. This implies not only an understanding of basic human needs and of cognitive and executive abilities, coping behaviours and forces characteristic of each maturation stage; it implies also the ability to collect data from physical assessments and interviews and to analyze them in relation to subsystem goal achievement. In addition, the student is introduced to those potential patient

10

problems which exist when there are threats to subsystem goal achievement during the various maturational stages. In this first year, nursing interventions are those related to teaching and comfort and safety measures. The courses taken concurrently include Human Biology, Human Behavioural Science, Microbiology and English.

SECOND YEAR

The second year curriculum focusses on the other kind of critical period in man's life cycle, that is, unpredictable events. It is assumed that an unpredictable event (e.g. circulatory disorder, degenerative process, trauma — to cite three of the categories) leads to a loss or threat of loss and that loss may lead to certain consequences. The loss and the consequences influence the cognitive and executive abilities the individual has and as a result the coping behaviours which he uses. The clinical nursing courses are designed around the concept of loss and the various consequences. The maturational stage the individual is in is seen as a significant force. Two examples of the consequences included are disturbance (impairment) in mobility and disturbance in information processing. The student studies each disturbance in terms of the losses which could cause it (e.g., loss of motor function, transport function, cognitive function), the effects of the disturbance on subsystem goal achievement in terms of actual patient problems, well established nursing interventions, the associated delegated tasks, and community facilities and resources serving clients with the disturbance. In relation to each consequence, prototypes of unpredictable events are included to help students understand the common health problems as negative forces influencing need satisfaction of individuals at different maturational stages. Toward the end of the second year, the student is introduced to the concept of coexisting losses and consequences and their significance to the organization of nursing care. Other courses in the second year include Pathology, an elective from Sociology or Anthropology and a free elective.

THIRD YEAR

In the third year, the scope of the student's attention is extended to include the family, and in particular, the family in which one or more of its members is in a maturational crisis situation. The clinical nursing course in this year is introduced by a study of family structure and interaction. The student then examines the interplay of self-concept and role-performance and the effect of this interplay on subsystem goal achievement during maturational crisis situations.

Therapeutic use of self and therapeutic groups are two forms of nursing interventions the student learns to use as a way of helping family members prevent, alleviate or resolve problems associated with maturational stages. Other courses in the third year include: Elementary Statistics and Research Methodology, either Behaviour Disorders or Deviance and Social Control, an elective from the Faculty of Arts (except Psychology, Sociology or Anthropology), and a free elective.

FOURTH YEAR

The fourth year of the B.S.N. programme is now in the detailed planning stage. The clinical nursing course is being designed to promote both a synthesis of previous learnings related to maturational stages and unpredictable events and a deeper understanding of the impact which an unpredictable event and its associated loss can have on a family. The student will study concepts such as alienation, aggression and hope; anxiety; and pain; considering theories or constructs underlying the concept, clinical manifestations of the concept, relationship of the concept to each subsystem, to the system and to other systems, that is, family members, and nursing interventions used in relation to the concept. The interventions will be provided through media such as reality therapy, crisis intervention, individual and group teaching, and counselling. Courses offered concurrently with this course include: Nursing and the Changing Society, Independent Study in Nursing and a free elective.

In presenting this overview of the clinical nursing courses in each year of the undergraduate programme, an attempt has been made to show how the model for nursing, created at the University of British Columbia School of Nursing, is being used in developing the curriculum of the B.S.N. programme. As the model continues to be refined, so will the curriculum be refined as its development continues to take its direction from the model.

THE U.B.C. MODEL FOR NURSING: DIRECTION FOR NURSING PRACTICE

MARY J. CRUISE

T. ROSE MURAKAMI

A model for nursing, a conceptual framework, is a mental image which provides a means for viewing the phenomena about which nursing is concerned: man and the ways in which nursing cares for man. The purpose of this paper is to identify and explain the direction the model gives for nursing practice, specifically, the provision of direct nursing care to patients.

The beliefs about nursing and its practice, assumptions about man, and assumptions about man as a behavioural system form the framework. This framework identifies for whom, when, why, where and how nursing functions in a unique way. The definition of nursing explicitly answers the following questions. Who receives nursing care? Man. When does nursing provide care? During critical periods of man's life cycle. Why is nursing care required? So that man may develop and utilize a range of coping behaviours which permit him to satisfy his basic human needs and thereby move toward optimal health. Implicit in the framework is the indication of where and how nursing functions in a unique way. Nursing provides care in a variety of settings. This implication is derived from the belief that man encounters critical periods and the inference is that critical periods may be encountered in any setting.

The implication of how nursing provides care is derived from sub-system structure and function. Forces and cognitive and executive abilities, the essential determinants of coping behaviours, are manipulated to effect suitable coping behaviours. This manipulation of forces and abilities constitutes the way in which nursing functions in a unique manner.

Thus far, the directions for nursing practice offered by the model have been specified. A conceptual framework is of limited use in practice, however, without a mechanism by which it can be made operational. Such a mechanism is the nursing process. The nursing process, a problem-solving approach, is a systematic, cyclical, ongoing method of providing nursing care. The nursing process usually is viewed as having four phases: assessment, planning, implementation and evaluation (Yura and Walsh, 1973). In addition to the direction for nursing practice previously stated, the model offers direction for each of the four phases of the nursing process.

The assessment phase includes data collection and analysis. The structure and function of each subsystem dictate what data are to be

collected. This mandate for data collection prompted the U.B.C. School of Nursing to develop a data collection tool. In this tool the major categories of subsystem data to be collected are identified. For example, in relation to the ingestive subsystem, the categories of nutritional status, patterns of food and fluid intake and perception of satisfaction of food and fluid intake are included. Further, the category of nutritional status necessitates data such as height, weight, ability to chew and knowledge about nutrition be collected.

The requirement to determine subsystem goal achievement and degree of need satisfaction demands that the data collected be analyzed. Analysis reveals concerns for nursing in relation to the presence and/or suitability of coping behaviours, the presence of negative forces and the presence and/or absence of positive forces.

The planning phase includes setting priorities among the concerns identified, establishing objectives in behavioural terms and formulating nursing interventions to be employed. Objectives are stated as coping behaviours to be developed and/or utilized. For example, analysis might reveal a concern identified as "anorexic for two weeks". An objective might be: "within three days, the patient will be eating one balanced meal per day at a time of his choice." Specific nursing interventions are derived from the three major means of intervention: reduction of negative forces, maintenance and strengthening of positive forces and fostering the development of cognitive and executive abilities. For example, in reducing a negative force, "tension headache", specific nursing interventions might include providing quiet surroundings and utilizing relaxation techniques. The framework does not offer direction for setting priorities; clinical judgement is used to determine the priority of concerns.

The implementation phase is the carrying out of nursing interventions as planned. The direction that the model gives for this phase has been discussed on page 13. The evaluation phase includes determining the effectiveness of nursing interventions, whether objectives are met and whether concerns have been resolved. These activities culminate in appraisal of behaviour change. This appraisal determines presence and/or suitability of coping behaviours and is related to goal achievement, need satisfaction and, therefore, behavioural system balance. In the example of the anorexic patient, eating one balanced meal per day would be a behaviour change. Appraisal in this instance indicates presence of a suitable coping behaviour which should facilitate goal achievement, need satisfaction and, therefore, behavioural system balance.

Validation, an activity employed throughout the nursing process, includes clarifying and confirming data collected. Data collected re-

present, in part, patient perception of subsystem structure and function. For example, statements regarding feelings of being loved and cared about indicate patient perception of goal achievement and need satisfaction in the affective subsystem. Because each phase of the nursing process depends upon patient perception of subsystem structure and function, validation is required throughout.

Explicit and implicit direction for nursing practice provided by the U.B.C. Model for Nursing has been explicated. The mechanism required to make the framework operational was identified as the nursing process. In addition, direction offered by the model for the four phases of the nursing process was delineated and discussed.

To show how direction can be utilized in giving nursing care to one patient, one example follows.

THE CASE OF MRS. A. T.

Mrs. A.T., a 61 year old lady, living in Vancouver for the past 40 years is originally from Sweden. Her second language is English. She has been separated from her husband since she was 21 years old. She has a married son, an only child also living in Vancouver. A. T. supports herself by cleaning other people's homes. She lives in a rooming house with five people whom she calls "friends".

During her life A.T. has been hospitalized three times: for childbirth, for pneumonia in 1955, and for a psychiatric episode in 1969. A.T. visits her general practitioner yearly for a physical examination which to date reveals that she is essentially well. She attends a psychiatric clinic every other week. Her main contacts at the clinic are nurses. Her only medication is a major tranquilizer she takes daily. A.T. perceives herself as being "O.K." and that she needs to come to the clinic every two weeks. When she does not feel "good", i.e. when she has a cold, a stomach upset or an injury, she sees her general practitioner.

REPARATIVE SUBSYSTEM   **Need:** for balance between production and utilization of energy

           Goal: capacity for activity

Physical Assessment	Interview
— facial appearance: alert and relaxed	— makes sure that she gets 7 hours of sleep per night, in bed by 11 p.m., no aids required to help fall asleep
— general posture: upright, relaxed	
— movement from one position to another: smooth and easy	— states she feels rested and ready for the day's activities at 6 a.m.
— has full range of body movement and joint mobility	— takes brief rest periods at work as required
— occasional pain and swelling of left knee	— relaxes by watching TV, by visiting with fellow roomers
— no indication of skin breaks or slow healing of minor cuts	— goes to work six days per week
	— work day averages 4 to 6 hours

15

Reparative Subsystem (continued)

Physical Assessment

— good coordination of fine and gross movements
— good muscle strength except for weak ankles

Interview

— walks to and from work but takes the bus when distance more than 16 blocks
— work includes light and heavy house cleaning duties
— babysits occasionally
— On Sundays, does personal chores, e.g. washing
— sees self as being agile, energetic and productive
— supports weak ankles by using tensor bandages
— states no problems with tissue healing

Results of Analysis:

Data indicate that reparative subsystem goal is being achieved and that the need is being satisfied. Sleeping seven hours per night, resting when tired and carrying out work activities are examples of coping behaviours in this subsystem.

RESPIRATORY SUBSYSTEM

Need: for intake of oxgygen
Goal: oxygenation; easy respiration

Physical Assessment

— easy rhythmic, regular respirations, breath sounds clear
— colour of skin, lips, nailbeds: pink
— sits up straight with good chest expansion
— no dyspnea in any position
— apical rate 80 per minute
— radial pulse, 80 per minute full and regular
— standing and sitting, BP140/80

Interview

— states she easily catches colds and flu
— in all seasons, wraps chest with woollen material
— wears clothes to keep self warm
— knows importance of chest expansion
— knows being overweight makes breathing harder
— does not smoke
— states she has no allergies
— likes a well ventilated room
— avoids drafts
— in maintaining daily activities does not experience shortness of breath

Results of Analysis:

Data indicate that subsystems goal is being achieved and the need is being satisfied. Data suggest that the respiratory subsystem is susceptible to problems. Coping behaviours such as assuming a posture which ensures good chest expansion and keeping the chest wrapped are used to prevent the occurrence of problems. Mrs. T. recognizes that her weight interferes with respirations and says she diets in an effort to reduce weight, therefore enhance the ease of respirations.

INGESTIVE SUBSYSTEM

Need: for intake of food, fluids; nourishment
Goal: nourishment; satisfaction of hunger and thirst

Physical Assessment

— general condition of skin: clear, intact

Interview

— shops for and prepares own food

16

Ingestive Subsystem (continued)

Physical Assessment
— colour: pink
— nails not brittle
— has full set of natural teeth in good condition
— able to chew and swallow with ease
— height — 5 feet, 2 inches (155 cm)
-- weight — 180 pounds (82 kg)

Interview
— cooks for self on one burner hot plate
— no access to a refrigerator
— depends on own income
— eats 3 meals per day, no snacks
— knows the Canada Health Rules for foods
— eats meat once a week, fish twice a week, cheese once a week
— eats fresh fruits daily
— eats large amount of starches
— uses fats for frying
— doesn't like eggs, vegetables cooked or raw
— likes but tries not to eat breads, sweets or milk
— takes 1 multivitamin tablet daily
— says she is always trying to lose weight
— realizes she doesn't need all the food she eats
— drinks water, coffee, tea
— once or twice a month invited by son to dinner
— once or twice a month cooks fish supplied by a fellow roomer then dines with him
— usually eats alone
— states she periodically experiences indigestion, unable to identify cause

Results of Analysis:

In spite of the cognitive abilities to know food values and nutritional requirements and the executive abilities to procure and prepare nutritious meals, economic resources plus environmental forces such as inadequate food storage and cooking facilities influence the coping behaviours used. An inference might be made that the goal is being achieved and the need is being met but the quality of the coping behaviours used should be monitored for their continued effectiveness.

ACHIEVING SUBSYSTEM   **Need:**   for mastery
                                        Goal: feelings of accomplishment, satisfaction with accomplishments

Physical Assessment

Interview
— likes work involved in house cleaning, likes people for whom she works
— experiences feelings of accomplishment for keeping clients for a number of years, and when the clients' children are happy to see her each week

17

Achieving Subsystem (continued)

— taking care of self, earning own income, using own resources to live her life in her own way are very important
— takes pride in being reliable in fulfilling commitments

Results of Analysis:
Data indicate subsystem goal achievement and need satisfaction. Coping behaviours reflect feelings of accomplishment and the ability to be autonomous.

EXCRETORY SUBSYSTEM **Need:** for collection and removal of accumulated wastes

Goal: absence of accumulated waste

Physical Assessment	Interview
— perspires moderately on exertion	— bowel pattern: every two days
— no evidence of edema	— consistency: well formed although experiences diarrhea-type stool approximately once a month
— urine: clear, straw coloured, specific gravity within normal range	— states she doesn't know the cause but believes limiting food and fluid intake helps Does not use aids
— exhales evenly with ease	— states no difficulty with urination
	— places importance on cleanliness of bathroom facilities; takes responsibility for keeping shared bathroom clean

Results of Analysis:
Data indicate that the goal is being achieved and the need is being satisfied. The occurrence of diarrhea should be explored in relation to food preparation and storage.

SATIATIVE SUBSYSTEM **Need:** for stimulation of the system's senses (i.e. hearing, vision, smell, touch, taste)

Goal: sensory satisfaction

Physical Assessment	Interview
— able to receive stimuli through her five senses	— states hallucinations interfere with sensory input and cause her to be uncomfortable
	— seeks sensory stimulation by watching TV, reading, conversing with fellow roomers
	— enjoys relating to children e.g. grandchildren, children she meets at work, but opportunities for contact are minimal
	— likes to travel, but cannot afford to travel
	— enjoys having and caring for her plants
	— limited number of friends
	— does not go out at night
	— no telephone
	— gets "tired" of TV and reading

Results of Analysis:
Coping behaviours in relation to number and variety are limited. Data indicate lack of subsystem goal achievement and need satisfaction. Extrapolating from the data, the feelings of boredom and loneliness might be identified.

PROTECTIVE SUBSYSTEM   **Need:** for safety and security
                           Goal: integrity of the system

Physical Assessment	Interview
— ability to see, hear, smell, taste and touch, within normal limits	— experiences hallucinations
— no mechanical aids required	— knows hazards in the environment to avoid, e.g. proper foot wear, no scatter rugs on floor
— skin intact but area covered by tensor bandages is dry, marked and flaking	— knows parts of her body that are vulnerable i.e. left knee joint, chest and lungs, ankles: employs protective measures: occasionally, applies tensor bandage too tight and leaves on too long i.e. day and night. Wears support hose for comfort
— hair clean, combed	
— nails clean, trimmed	
— coordinated gross and fine movement apparent	— keeps her living environment clean and safe
	— chooses to live in rooming house where presence of others ensures her feelings of security
	— ensures she is home before sundown; feels safe in own room after dark
	— visits doctor routinely for yearly physical examination
	— seeks professional help when she feels uncomfortable e.g. when knee becomes swollen and painful, when hallucinations make her feel "bad"
	— bathes every second day, brushes teeth twice a day; shampoos hair once a week
	— has made applications for supplemental income and for low cost housing facilities
	— states this is preparation for when she can no longer work and to prevent being a burden to son
	— when unable to follow conversation due to limited English comprehension, physically and/or psychologically retreats until drawn back by another person

Results of Analysis:
Data indicate that most aspects of the environment are safe and secure. Application of tensor bandage too tightly and for too long may lead to a problem of skin breakdown. Data from the other subsystems, such as the affective and satiative, indicate that there are few significant people and that boredom and loneliness exist. Experiencing hallucinations may be a coping behaviour to protect against loneliness and boredom and to deal with having few significant people in her world.

AFFECTIVE SUBSYSTEM **Need:** for love, belongingness and dependence

Goal: feelings of love, belongingness and dependence

Physical Assessment

— well groomed, neatly, appropriately and attractively dressed

— slow to initiate contact with others but responds to others reaching out to her

Interview

— states she has few outfits due to financial resources and an inability to sew

— states is slow in making friends but maintains friendships

— husband in Sweden, separated for forty years, no contact

— one brother and three sisters living in Sweden, corresponds regularly with them

— son, only child, lives with wife and two children in Vancouver: sees them irregularly i.e. Christmas, Easter, Mother's Day: states irregular visits is "OK" with her because doesn't want to interfere with son's life, nor be a burden to him

— friends in the rooming house

— financial resources prevent extensive travelling and visiting

— walks or relies on bus transportation

— afraid to go out at night to visit

— no telephone

— states she feels loved and cared about by her son and grandchildren

— states she loves them and cares about them

— states she does not expect more of her son than what he already does for her

— hallucinates

Results of Analysis:

Data indicate that Mrs. T. perceives subsystem goal achievement and need satisfaction. However, in view of the data collected in other subsystems such as the protective, satiative and ego-valuative, there appears to be incongruency with Mrs. T's perception. Again loneliness and boredom can be identified.

EGO-VALUATIVE SUBSYSTEM: **Need:** for respect of self by self and others.

Goal: self-esteem

Physical Assessment

— included previously: grooming, dress, posture; hygiene and communication patterns

Interview

— states she requires times for being alone and enjoys times when she is alone

— also believes others have this same requirement

20

Ego-Valuative Subsystem (continued)

- feels good about self when able to do for or give to others
- when recognition given for her work well done, she feels good about herself
- is less able to receive "gifts" from others than to give "gifts"
- feels not as able as 10 years ago
- lives one day at a time but plans for the future
- states she enjoys life
- hallucinates

Results of Analysis:
Data suggest that this subsystem goal is achieved and need satisfied. However, hallucinating is a negative force which may lead to alienating employers and significant people and therefore reduce self-esteem.

Analysis of data within each subsystem and among the nine subsystems indicate behavioural system imbalance. Based on analysis the following concerns can be delineated:

1. Hallucinating due to boredom and loneliness
2. Threat to skin intactness due to use of tensor bandage
3. Enhancing easy respirations
4. Improving nutritional status

Nursing Concern	Objectives	Interventions
Hallucinating due to boredom and loneliness	1. Within one month Mrs. T will recognize that hallucinating is inappropriate behaviour. Indication of this recognition is verbal statements of adverse consequences of hallucinating. 2. Within 6 months Mrs. T will substitute appropriate behaviour for hallucinating behaviour as soon as hallucinations begin. Indication of this substitution is verbal statements of taking specific action when hallucinations occur.	1. Point out in a non-threatening manner hallucinating symptoms when they occur. 2. Help to develop socialization skills which can be used as substitute behaviours. 3. Enlarge world of social contacts by means of a group milieu. 4. Monitor use of a prescribed tranquilizer.

[Interventions are directed toward manipulating positive forces, e.g. the group milieu, and fostering the development of congitive and executive abilities by helping her acquire socialization skills.]

21

Progress Notes

1st week — Completely involved in describing hallucinations and explaining frequency and duration of occurrence; uses verbal and non-verbal behaviours to describe and explain her situation.

2nd week — Less involved with describing hallucinations. Less overtly expressive with hands and arms. When asked about her ability to carry out job activities, stated she was afraid people might think she is crazy.

3rd week — Pointing out hallucinating symptoms resulted in patient recognition and verbal expression of experiencing hallulucinations. Also expressed undesirability of hallucinating. Appears more relaxed.

4th week — Patient not describing the frequency or duration of hallucinations. Starting to use substitute behaviors when symptoms of hallucinations are pointed out.

The interventions decided upon seem to be effective in allowing Mrs. T to meet objective #1. Continue with same interventions to meet objective #2.

Over the 6 months period Mrs. T demonstrated substitute behaviours such as describing events in her past and present life, or carrying out exercises instead of hallucinating. Mrs. T stated that when experiencing hallucinations at home, she did exercises or sought out companionship as substitute behaviours. She also stated that the hallucinations disappear when she uses substitute behaviours. In relation to this objective the group members continue to support and reinforce her new coping behaviours. Occurrence of hallucinating behaviours in the group has become minimal. Monitoring the use of the tranquilizer resulted in establishing a desirable maintenance dose.

These interventions continue to ensure that Mrs. T will remain out of the hospital and functional on a day-to-day basis.

Nursing Concern	Objective	Interventions
Threat to skin intactness due to use of tensor bandages	When Mrs. T's skin under the tensor bandage is examined, the skin will feel moist and look unmarked.	1. Check for tightness of bandage and condition of skin. a) If too tight show the patient marked and dry skin. Indicate clearly that this is undersirable. b) Apply lotion and have Mrs. T. feel skin c) Reapply bandage and show patient correct tension. 2. Ask if bandage is kept on day and night. If so, explain importance of taking bandage off at night and then applying lotion to skin.

[Interventions are directed toward fostering the development of cognitive abilities, e.g. knowledge about undesirability of tight bandage, and executive abilities, e.g. ability to apply bandage correctly.]

Progress Notes

Initially the skin was checked every two weeks. Within two months, Mrs. T. was reporting that she removed the bandage at night and applied lotion to her leg. The skin has remained intact, feels moist and marks have occurred less frequently. The objective is being achieved but Mrs. T. has difficulty comprehending the English language. Regular monthly checking has been maintained and suitable coping behaviours have been reinforced.

Nursing Concern	Objectives	Interventions
Enhancing easy respirations	1. Within 6 months Mrs. T will present a plan for reducing weight as an expression of her desire to lose weight and therefore make breathing easier. 2. Within 3 months after initiating her diet plan, Mrs. T will show a loss of 3 kg.	When Mrs. T makes statements about her weight, remind her about her desire to lose weight. Then ask: "What can you do about your weight?" If response is in relation to dieting, problem-solve with Mrs. T to help her develop a plan for dieting. Reward her for her problem-solving ability and reinforce that her plan will be of value to her. Weigh every 2 weeks. If weight loss noted, praise her. If no weight loss noted, reinforce value of diet plan to her.

[Interventions are directed toward fostering the development of cognitive abilities, e.g. knowing the relationship between being overweight and easy respirations. Although she perceives and recognizes the benefits of dieting, Mrs. T is unable to plan and therefore act with a suitable coping behaviour, i.e. dieting.

Interventions are also directed toward maintaining and strengthening positive forces, e.g. her desire to lose weight and breathe with greater ease.]

Progress Notes

Up to now the other concerns, particularly "hallucinating due to boredom and loneliness" have precluded instigation of the intervention related to easy respirations. Within the next few weeks the intervention decided upon will be implemented as Mrs. T would appear to be ready to work toward the established objective.

Nursing Concern	Objective	Intervention
Improving nutritional status	—	—

Dealing with this concern depends upon Mrs. T achieving the objective established for "enhancing easy respirations". Interventions will be in relation to reinforcing the suitable coping behaviour acquired, i.e. dieting by eating the proper foods and to supporting her accomplishment for being able to plan and to carry out that plan. Until the objective for the preceding concern is achieved, this concern is only acknowledged. However, the coping behaviours of eating the amounts of protein foods that she desires and eating fresh fruits daily will be monitored to ensure that these coping behaviours are continued.

An example of giving patient care using the U.B.C. Model for Nursing has been presented. Data collected are shown in relation to

the nine subsystems. Results of analysis, within and among subsystems, are stated and culminate in identification of four nursing concerns. Objectives, interventions, and progress notes relative to each concern are delineated.

In conclusion, the benefits of using a conceptual framework in nursing practice can be viewed from two perspectives. From the patient's point of view all his needs are considered in an integrated manner. His perceptions and concerns are acknowledged and solutions sought are in relation to goal achievement and need satisfaction.

From nursing's point of view, using a conceptual framework allows nursing to become precise and effective in the provision of direct care to patients. Utilizing the model in practice provides the opportunity to test the model for its usefulness and effectiveness. The information obtained about its usefulness and effectiveness indicates further development and refinement required. Ultimately, as a result of testing, refining and retesting the framework in practice, a body of nursing knowledge can be established.

Reference

Helen Yura and Mary B. Walsh, *The Nursing Process,* 2nd ed. (New York: Appleton-Century-Crofts, 1973), p. 69.

A MULTIDIMENSIONAL TOOL FOR CLINICAL EVALUATION

ANDREA BAUMANN
EDIE BENOIT

Clinical evaluation has been a problem for nursing educators for many years. Previous attempts to deal with this problem are well documented in the literature. Nursing authors such as Palmer (1962), Slater (1967), and Fivars and Gosnell (1966) describe a variety of approaches to clinical evaluation. The descriptions of the tools they developed were helpful in the initial stages of developing a clinical tool.

This article describes the development of the clinical evaluation tool used in the second year of the nursing programme at the University of British Columbia. One of the first decisions which had to be made was the design of the tool. There were a number of variables which had to be considered. The design had to meet course requirements and the constraints which accompanied these requirements. It also had to be congruent with the faculty's beliefs and assumptions about evaluation in general, and clinical evaluation in particular. A review of these variables led to the decision that the measurement of clinical competency required the development of a multidimensional tool. This approach agrees with Reilly (1975, p. 145) who states "Clinical practice is complex and of course cannot be evaluated by any single procedure. No form by itself is an appropriate evaluation device."

The tool is comprised of six separate dimensions. These are behavioural objectives, weighting, a rating scale, computer scoring, methods of data collection and a guide for the use of the tool. Each of these components will be discussed.

OBJECTIVES

Behavioural objectives were the basis of the tool. These were drawn from the overall objectives of the course. Two levels of objectives were identified — general and specific. Each general objective was broken down into specific objectives which further described expected student behaviour. Figure 1 demonstrates the breakdown of one general objective.

Because of the commitment to the nursing process, the objectives were arranged according to the following major headings — assessment, planning, implementation, evaluation. Each objective was used throughout the second year clinical experience. They were designed to be applicable to a variety of clinical settings.

25

1. **Demonstrates ability to organize nursing care.**

   1.1 performs nursing interventions and delegated tasks in an appropriate time period

   ---

   1.2 completes nursing interventions and delegated tasks in appropriate time period

   ---

   1.3 arranges factors in situation to facilitate nursing care

   ---

   1.4 reorganizes nursing interventions as necessitated by situation

Figure 1   General objective with appropriate specific objectives

WEIGHTING

Another dimension utilized in the tool was the technique of weighting. Weighting was used to alter the emphasis placed on designated clinical objectives. Each general objective was assigned a weight of from one to four. A weight of four designated greatest emphasis; a weight of one designated least emphasis. This enabled the student to see where the emphasis was being placed at specified times throughout the clinical year. It was also a means by which student progress could be assessed. As the student progressed through three different clinical settings in the second year, the expectations placed on her were reflected in the assigned weightings. (Figure 2).

The assignment of weights was based on a number of variables. One of these was a belief in how a student learns (Rines, 1963). Another was the student's knowledge and skills upon entering second year. These influenced the initial weighting. Subsequent weightings were assigned in the context of the student's expected knowledge and skill level at designated intervals throughout the second year. These expected levels of knowledge and skill are based on the current course content, laboratory content and independent study content.

RATING SCALES

A twelve-point rating scale was devised. The ratings ranged from 3.5 to 10 and were grouped into four levels of performance. Each level of performance had a range of three ratings. Figure 3 illustrates the four levels of performance and the behaviours used to define them.

The student is assigned a rating for each specific objective. This rating is decided upon by the teacher or the student* in the context of the student's current experience. There are three steps in the assignment of a rating to each specific objective. First, the teacher must review collected data. These data are in the form of anecdotal records,

*The student follows the stated procedure when doing self-evaluation on assigned objectives.

	November	February	March
A. ASSESSMENT			
1. Collects relevant data	4*	4	4
2. Interprets relevant data	4	4	4
B. PLANNING			
1. Formulates patient objectives	3	2	2
2. Plans appropriate nursing care	2	3	4
C. IMPLEMENTATION AND EVALUATION			
1. Applies principles of comfort and safety when giving nursing care	3	4	4
2. Demonstrates motor skills when nursing individuals experiencing loss	2	4	4
3. Demonstrates ability to organize nursing care	1	3	4
4. Demonstrates clinical judgement	1	3	4
5. Demonstrates communication skills	2	3	4
6. Relates purposefully with individuals experiencing loss	1	3	4
7. Applies principles of learning and teaching while performing nursing interventions	2	3	3
8. Evaluates the effectiveness of the nursing care provided	2	3	4
9. Assumes responsibility for fulfilling a team member role	1	2	2
10. Assumes responsibility for improving the quality of own performance	2	3	3
11. Assumes responsibility for self-directed preparation to enhance the subsequent learning experience	4	4	4

Scale of Weights
4. The objectives assigned this weight have the greatest emphasis
1. The objectives assigned this weight have the least emphasis

Figure 2   Weights assigned to each general objective

written assignments and the student's self-evaluation. Then, the teacher identifies the student's level of performance on the basis of these collected data. Finally, within the assigned level of performance, the teacher selects the most appropriate of the three possible ratings.

If the teacher is unable to rate the student on a particular specific objective, she may omit that rating. She records 0.0 instead of a rating. The computer has been programmed to omit this objective and to calculate the mark from the remaining specific objectives.

COMPUTER SCORING

The tool was designed for computer scoring. The computer calculates a mark for each general objective as well as an overall clinical

Unacceptable Performance — Student does not meet objective
(Rating - 3.5, 4.0, 4.5)   — Requires intensive teacher guidance
                             in assigned situations
                           — Does not demonstrate initiative in
                             meeting objective
                           — Demonstrates little or no application
                             of knowledge

Marginal Performance   — Student is inconsistent in meeting objective
(Rating - 5.0, 5.5, 6.0)   — Requires intensive teacher guidance
                             in assigned situations
                           — Has difficulty demonstrating initiative
                             in meeting objective
                           — Demonstrates inconsistent application
                             of knowledge in assigned situations

Acceptable Performance   — Student meets objective in assigned
(Rating - 6.5, 7.0, 7.5)   situations and requires only appropriate
                             teacher guidance
                           — Frequently demonstrates appropriate
                             initiative in assigned situations
                           — Demonstrates application of knowledge
                             in assigned situations

Superior Performance   — Student meets objectives in assigned
(Rating - 8.0, 9.0, 10.0)   situations and requests teacher guidance
                             when necessary
                           — Consistently demonstrates appropriate
                             initiative in assigned situations
                           — Demonstrates application of knowledge
                             in assigned situations

*Definitions**

Consistent   — holding always to the same practice
Initiative   — the act of taking the first move; the ability to think and act
               without being urged
Frequent   — happening repeatedly at brief intervals
Occasional   — of irregular occurrence; infrequent
Situation   — combination of circumstances at any given time

*Guralnik, D. (Editor), *Webster's New World Dictionary,* 2nd edition,
Toronto: Nelson, Foster and Scott. Ltd., 1970.

Figure 3   Levels of performance and accompanying definitions

$$\frac{\text{sum of ratings in specific objective}}{\text{sum of total possible ratings in specific objectives}} \times \text{weight} = \text{mark}$$

Figure 4   Formula for the calculation of the mark for each general objective

$$\frac{\text{sum of "marks"}}{\text{sum of total possible weights}} \times \text{maximum grade} = \text{overall grade}$$

Figure 5   Formula for the calculation of the overall grade

grade. The mark for each general objective is calculated on the basis of the formula in Figure 4. This gives the student specific feedback on her performance on each general objective.

The student's overall grade for each of the three eight-week clinical settings is calculated on the basis of the formula in Figure 5. The maximum grade is twenty per cent of the total course mark.

FORMAT OF THE TOOL

The tool was designed as demonstrated in Figure 6. In the 'Score' column the teacher places the rating she has assigned each specific objective. The 'Key Punch Information' column is utilized by the keypuncher to transcribe the student's rating onto computer cards. The 'Weight' column is used by the teacher to list the applicable weights for each general objective. The 'Mark' column is used by the teacher to list the student's mark for each general objective when it returns from the computer. The 'Comments' column is used by the teacher to support the rating assigned.

The face sheet of the tool includes a summary of the evaluation and an area for student comments. It also includes student identification data.

OBJECTIVES	Score	Key Punch Info.	Wgt.	Mark	COMMENTS
A. Assessment					
1. Collects relevant data					
1.1 utilizes pertinent sources					
1.2 identifies positive and negative forces					
1.3 identifies immediate observable indicators of goal achievement					
1.4 identifies coping behaviours perceived by individual					
2. Interprets relevant data					
2.1 identifies patient problems					
2.2 justifies the identification of patient problems					
2.3 orders and justifies ordering of patient problems					

Figure 6. Format of the clinical evaluation tool

GUIDE TO THE CLINICAL EVALUATION TOOL

The authors developed a guide to be used in conjunction with the clinical evaluation tool. It included the rating scale, the table of weights and the directions for scoring. The teachers and the students

received a copy of the tool and the guide at the beginning of the course. Each teacher met with an assigned group of students in order to interpret the tool.

DISCUSSION

In order to ensure the effective use of the tool numerous faculty meetings were held. Each dimension of the tool was reviewed as well as the subsequent implementation.

To clarify the interpretation of the objectives the authors identified examples of students' behaviours applicable to specific objectives. This was done in order to develop consistency in the interpretation of these objectives.

The implementation of the clinical evaluation included a mid-term and a final interview with the student. The mid-term interview was not a grading session but a discussion of the student's performance up to that point. The final interview included a grading and a detailed diagnosis of strengths and weaknesses. At this time the student also received a computer print-out listing the mark obtained on each general objective and the overall grade. This was used by the student as a guideline for improvement in performance in the next clinical setting.

The authors have begun statistical analysis of the tool. Studies have been completed comparing students' clinical grades and academic grades. The authors plan to conduct further correlation studies as well as inter-rater reliability studies.

References

Fivars, G., and Gosnell, D. *Nursing Evaluation: The Problem and the Process.* New York: The MacMillan Co., 1966.

Litwack, L.; Sakata, R.; Wykle, M. *Counseling, Evaluation and Student Development in Nursing Education.* Philadelphia: W. B. Saunders Company, 1972.

Moritz, D., and Sexton, D. "Evaluation: A Suggested Method for Appraising Quality." *Journal of Nursing Education,* IX (January 1970): 17-34.

Palmer, M. *Self Evaluation of Nursing Performance Based on Clinical Practice Objectives.* Boston: Boston University Press, 1962.

Pearson, B. "A Model for Clinical Evaluation." *Nursing Outlook,* XXIIII (April 1975): 232-234.

Reilly, D. E. *Behavioral Objectives in Nursing: Evaluation of Learner Attainment.* New York: Appleton-Century-Crofts, 1975.

Rines, A. R. *Evaluating Student Progress in Learning the Practice of Nursing.* New York: Teachers College Press, 1963.

Schweer, J. E. *Creative Teaching in Clinical Nursing.* 2nd ed. Saint Louis: The C. V. Mosby Company, 1972.

Slater, Doris. "The Slater Nursing Competence Rating Scale." Wayne State University College of Nursing, Detroit, 1967. (Mimeographed.)

EVALUATION OF THE USE OF INDEPENDENT STUDY MODULES

MARGERY FURNELL
RAY THOMPSON

The only man who is educated is the man who has learned how to learn . . . how to adapt and change . . . that no knowledge is secure, that only the process of seeking knowledge gives a basis for security. (Rogers, 1969)

Independent study modules have been used in each year of the new undergraduate curriculum as one means of meeting the instructional demands arising from increased numbers of students with a variety of learning needs and styles. (Lange, 1973, Postlethwait, Novak and Murray, 1969; and de Tornyay, 1971). Since evaluation of student response to this learning approach is an integral component of educational planning, the third year of the B.S.N. programme has implemented two methods of assessing effectiveness of self-directed learning in relation to expected behavioural changes.

The third-level nursing course has been directed toward the study of maturational problems of individuals and families. Based on the U.B.C. School of Nursing Behavioural System Model, it reflected the spiralling nature of the ladder curriculum.

The student body of the third year was composed of two groups. One group (approximately two-thirds of the class) entered from the preceding two years of the programme. Another group (approximately one-third of the class) entered having received a diploma in nursing (R.N.) from other educational institutions. These groups of students were combined in all phases of instructional activity, that is, lectures, seminars, and clinical experiences.

The individuals who made up these groups embodied a multiplicity of variables. Chronological ages ranged from twenty to fifty years. Many students had previous university courses or degrees and others had extensive nursing experiences as head nurses, intensive care nurses, and general duty nurses. However, two-thirds of the students had minimal nursing practice outside the prescribed clinical experiences.

In an attempt to accommodate the variety of life experiences, previous learnings, professional work experiences, and personal/professional goals, independent self-directed study modules were used in the third year.

THE MODULES

Nine modules were designed to enable students to study core course concepts independently of instructors. Units of study were self-contained and inclusive of:

1. objectives
2. suggested learning activities
3. reading guides
4. pre- and post-tests with answer key
5. xeroxed copies of selected readings
6. five-to-ten minute video-cassettes which demonstrated application of selected concepts in a family setting

The titles of the modules were:

1. Family Structure
2. Family Interaction
3. Self-Concept
4. Role Performance
5. Interplay of Self-Concept and Role Performance
6. Maturational Crisis Situations
7. Potential for Use of Therapeutic Groups
8. Teaching in Therapeutic Groups
9. Therapeutic Use of Self

The sequence of the modules was correlated with lecture topics throughout the fall term.

METHOD OF STUDY

The nine modules were available for student use eight to twelve hours daily six days a week. Access was on an "honour" basis, that is, students were free to choose if and when they studied them, and the suggested learning activities within each module provided for a selection of options best suited to the individuals' learning needs. An attendant was present at all times to solve minor technical and administrative problems.

EVALUATION

Two module evaluation forms were administered to the student body. One, designed to elicit descriptive information, was distributed at the end of the first term prior to the examination period. The other, designed to gain data in relation to time of study, exam scores, and term paper scores, was distributed for completion during review of the Christmas exam. The total student population in the third year was 117; the response to both evaluation forms was 85. Some students did not respond to some questionnaire items; others chose not to respond at all.

The first evaluative tool sought to obtain information on each of the nine modules in relation to:

1. use of the module
2. module design
3. learning need satisfaction

The number of students who completed any given module ranged from 79-84. A large proportion of respondents, therefore, completed each component of study.

Students who completed all the suggested learning activities for each module ranged from a low of 41 percent in one module to a high of 53 percent in another module. Thus, a large proportion of students did not complete all learning activities. One reason could have been that some activities were not perceived as useful. This may be due to previous learning or inappropriate content.

For each module, different percentages of students reported satisfaction with different elements of design. In the first three modules only 63 percent of the students saw a relationship between the objectives and the content. A maximum of 81 percent of students were able to identify this relationship in another later module. These low percentages, particularly in the first three modules, suggest that the objectives may not have been clearly stated. Also, content included in the modules may not have related closely to the learning objectives. Additional materials may need to be added and review of the objectives may need to be undertaken.

Considering the quantity of material included in the modules, students reported low levels of satisfaction. In three modules, only 50 percent of the students felt that there was sufficient content. A maximum of 78 percent of students expressed satisfaction with the quantity in another module. These low percentages further indicate the need for revision of content.

However, repetition of content was not a major source of dissatisfaction. A minimum of 20 percent and a maximum of 30 percent of the students identified it as a problem in different modules. Therefore, when additional materials are added to improve content, care will have to be exercised to avoid repetition.

The organization and clarity of instructions in all modules were satisfactory to the large majority of students.

Generally, students indicated that the last four modules in the sequence were the most useful and enjoyable. Possible reasons for these findings were:

1. level of sophistication of the user (student)

2. level of sophistication of construction of the modules (Module 1 was developed first, Module 9 last)

3. lecture content at the beginning may have overlapped too much or may not have correlated well with the content of the modules

4. clinical experiences towards the end of the term may have provided an arena for immediate application of theory.

The second evaluative tool sought data on how students studied each of the nine modules, their term paper marks, and their correct responses to examination items specific to each module. These data also permitted study of relationships between raw scores on the term paper and the proportion of correct responses on the examination.

Students could have selected to study the modules:

1. during the assigned week
2. prior to Christmas exam
3. prior to writing the term paper
4. not at all
5. during the assigned week *and* prior to the Christmas exam
6. during the assigned week, prior to writing the term paper, *and* prior to the Christmas exam

There was no difference between the study approach students used and their term paper marks. Variables which may have been operating in this instance were: inter-rater reliability in term paper grading may have been low; term paper design may have been such that lecture material was sufficient to meet term paper criteria.

Both the time when modules were studied and the correct responses to exam questions specific to each module were examined and no difference was found with the exception of one module. In this instance it was found that studying the module during the assigned week was more effective. Because this difference occurred only with the first module, discretion must be used in attempting generalizations. Other variables which may have been operating in the situation require isolation and study. More sensitive tools should be effective in isolating pertinent factors and in determining their degree of significance.

The relationship between term paper scores and the proportion of correct responses on the examination was insignificant. Again, inter-rater reliability on term paper grading could have been questionable. Content tested by the two measurement techniques was not analogous. Student skills required in both evaluation methods were not of the same order. Reliability of both measuring instruments is subject to investigation.

SUMMARY

Nine independent study modules were used in the third year of the U.B.C. nursing programme. Nursing students with a variety of backgrounds used this method to study core concepts in relation to working with families. Descriptive information on the modules was collected prior to the examination period. A large proportion of students completed the modules and generally expressed satisfaction with them. A need for additional content was identified. Objective data were collected during review of the Christmas exam. No difference was found in relation to the time when the modules were studied, term paper marks and examination scores.

Additional revision and study are indicated. Refined and more sensitive evaluative tools are being planned for further investigation of module use. Module revision is scheduled to occur during the summer months, using the services of a part-time educational consultant.

References

Rogers, Carl, *Freedom to Learn.* Columbus, Ohio: Charles E. Merrill Publishing Company, 1969, p. 104.

Postlethwait, S. N., J. Novak and H. T. Murray, Jr. *The Audio-Tutorial Approach to Learning.* Minneapolis: Burgess Publishing Company, 1969, pp. 4-96.

Lange, Crystal M. *Autotutorial Techniques in Nursing Education.* Toronto: Prentice-Hall Canada Ltd., 1972, pp. 9-12.

de Tornyay, Rheba. *Strategies for Teaching Nursing.* New York: John Wiley and Sons, Inc., 1971, p. 102.

SATISFYING AND STRESSFUL INCIDENTS REPORTED BY STUDENTS DURING THE FIRST TWO YEARS OF A NEW BACCALAUREATE PROGRAMME IN NURSING

HELEN ELFERT

"What is it like to go through nursing school from the student's point of view?" This was the question behind a study done by Fox and Diamond (1964), and expresses the reason for using the same technique with students in a new baccalaureate programme at the University of British Columbia. The students whose answers are discussed here were the first class to be admitted to a newly revised baccalaureate programme in nursing. Not only were they the first taught with a new curriculum, they were the largest entering class in U.B.C.'s history (three times the size of previous classes). It was therefore of interest to the faculty to have some ideas of how students perceived their experiences.

METHODOLOGY

The technique developed by Fox and Diamond (and used here with the permission of Dr. Fox) asks students to describe a satisfying and a stressful incident within some specified time period. At U.B.C. we asked students to write descriptions of such incidents at the end of each term during the first two years of the programme. Incidents were collected in December, March and July of each year. At the end of the second year students could choose to write registration exams, and leave university to work in nursing, or continue at university for two further years to complete the baccalaureate proramme. Those who chose to continue were joined in third year by a group of registered nurses entering the B.S.N. programme. Data will continue to be collected on this class over the next two years.

Students were told that this was a research project, part of a larger study of the programme, and that their responses could help those planning and implementing the new curriculum. They were asked not to put any identifying information about individuals in their reports. Time for collecting data was scheduled during regular class time, and students were told that their participation was voluntary. The proportion of students responding varied from 47 - 78%.

36

Table 1 : Percentage of Satisfying and Stressful Incidents in each Category during each Term of the First Two Years.

	Satisfying					
	1st year			2nd year		
	1	2	3	1	2	3
Total number of incidents	72	106	95	63	62	43
	% in each category					
Personal	18	9	6	2	5	0
Social	35	18	15	22	35	16
Academic	47	34	7	5	5	9
Clinical	0	29	72	71	55	75
	Stressful					
	1st year			2nd year		
	1	2	3	1	2	3
Total number of incidents	84	107	101	66	62	43
	% in each category					
Personal	19	7	5	3	8	9
Social	17	6	7	8	6	7
Academic	64	63	59	53	34	16
Clinical	0	24	29	36	52	68

Responses were analyzed for content and grouped into the three broad categories (Table 1) identified by Fox:

(1) Personal-social. These are events involving family and friends, living arrangements, health, activities, personal values, etc.

(2) Academic. These are events related to university courses, exams, teaching, library facilities, studying, work pressures, etc.

(3) Clinical. These are any events relating to clinical practice, clinical teaching and evaluation.

In the remainder of this paper the predominant themes in each time period will be discussed.

SATISFACTIONS AND STRESSES

FIRST TERM

In the first term students were adjusting to a new programme and for some were experiencing their first time away from home at university.

In the personal-social area students described the satisfactions of meeting new friends, developing new kinds of relationships with their families and meeting and relating to boy friends. Stresses in

this area were in two areas: adjusting to school, and relationships with boy friends. One student describes the importance of recognition by new friends:

> "My friends and roomates gave me a surprise party with cake, wine and gift and card . . . this incident made me feel more secure in my relationship with these people. University can be very lonely if one has trouble making friends."

Entering university is a significant maturational stage for students and can lead to stress or satisfaction. For some students this created both feelings.

> "Coming to a large university campus and adjusting or feeling comfortable in my new way of life. It's so nice to see kids who wouldn't talk to you two years ago because you were only in high school now smiling and asking how your courses are. They seem to recognize you as being mature and grown up in a sense . . . "

> "Adjusting to university was particularly stressful to me as I was leaving home and living with someone I'd never met before. I didn't like the room and I didn't like being around people all the time . . . now I realize how much work is necessary and I've adjusted to working with people, now I can sit back and enjoy my social life."

A number of episodes related to boy friends: meeting, going out with, breaking up, being separated, being reunited. One student describes meeting a medical student and being asked out . . . "I was thrilled. It was the first time a boy had asked me out . . . I had confidence in myself and the incident pushed all worries of being a spinster away." It is sometimes hard to remember the agonies of the late adolescent years, the need to be loved and wanted and the conflicts involved in heterosexual relationships. One student described her joy in becoming engaged, and in the next paragraph the stress of knowing she could never marry this boy!

Students also describe new closeness in relations with their families, the satisfaction of having them visit, or being able to go home.

To summarize, in the first term many students described satisfactions and stresses in the personal-social area. The proportion of episodes in this category was never as high again and suggests that this is a particularly significant area in the beginning of the programme and diminishes in importance as students move along.

In the academic area, there were many described stresses relating to exams and assignments and evaluation. There were also more general comments about the pressures of studying. A number of

students described satisfaction with getting good grades and good evaluation of their work. There were some comments about teaching and the programme in general.

Several students described specific classes that especially moved them, for example a particular slide-tape presentation. "There was something about the presentation that really touched me, it related what we'd been taking to people and this is really important to me. It made me very happy and content with my decision to go into nursing."

On the other hand, negative valuation can be very stressful. " . . . my English teacher gave an example of bad English from an essay I had written. She did not tell the class that it was mine but when they laughed at it I felt humiliated and belittled."

The overall feeling in this area was of student's need to know if they could succeed in the programme, and therefore considerable concern with exams and evaluation, and satisfaction when they do well. Specific comments about how the programme meets their expectations about nursing will be discussed later.

SECOND TERM

During the second term episodes were predominantly related to nursing courses, as the students began to learn some clinical skills and to have their first encounters with clients. They were meeting people of various ages in the community, interviewing and doing physical appraisals of well people. Many described how happy they were to be learning skills which they identified with "real" nursing. The actual assessments could be either stressful or satisfying, depending on how it went. It was satisfying when they felt they did well and the client expressed satisfaction. It was stressful when they ran into problems they could not solve, or felt rejected by their clients.

There were again a number of episodes related to evaluation. The greatest number related to a videotaped interview which students had to do, to be evaluated. Many described how exposed they felt doing it, and how upsetting they found it when the instructors talked to them about their communicaion skill in the interview. Failure in this was generalized to a feeling of failure in other areas.

"I failed my communication videotape. I remember leaving the room thinking I really hadn't done anything wrong and felt quite good about it. When my tape was returned with a "re-do" on it I felt totally incapable and inadequate. For a time I didn't even want to tell my friends at least till I thought it out. I began to think that all the things that had gone wrong (like breaking up with a long-time boyfriend) were probably my fault because I couldn't communicate

properly. I began to realize I wasn't alone and when I found others who "couldn't communicate" also, I felt better."

Episodes indicate a continuing high need for external approval and a strong dependence on the views of others as students develop images of themselves as people and as nurses.

THIRD TERM

During the summer term the students began clinical experience in hospital, in maternity, as well as continuing community experience. There were many fewer reported incidents in the personal-social area and the largest numbers of both satisfactions and stresses arose in the clinical area. The other major area of stress continued to be assignments and exams.

Satisfactions in clinical experience arose primarily in situations in which students were able to see themselves in a helping role. This was especially true when the patient expressed gratitude for the care.

"When the mother I was working with said that she liked having me there because I was reassuring. This made me feel like I was doing something worthwhile."

In many cases the satisfaction was purely in doing something new and feeling competent about it. And, more simply, it arose from a new and exciting experience such as seeing the birth of a baby. There were many more episodes expressing satisfaction about the hospital experience as compared to the community experience (55/17).

There were relatively fewer stresses in the hospital experience, and those that were described related to the strangeness and difficulty of adjusting, or to such things as not seeing a delivery during case room experience. The community experience was stressful for some in making initial contacts with clients, and explaining their role. A few were rejected by clients.

Overall, the feeling is of satisfaction with hospital experience. This occurred in situations in which expectations were clear, students felt they had the needed skills, and in which they got positive feedback from instructors and patients.

SECOND YEAR
FIRST TERM

In the first term of the second year the largest number of satisfactions related to clinical practice and feedback from patients. These occurred when students felt they were learning, when their care made a difference to their patients and when patients expressed gratitude to them.

"I had a 78-year old man with acute pulmonary edema. After working through the nursing process I was able to identify some problems and actually intervene. My teaching was in terms of the heart and its function as well as the drugs he was on. This was a rewarding experience to me as I was able to explain to him the situation and he showed his understanding of the explanation to me and his appreciation of the things I had taught him and time I had spent with him."

Stresses arose in clinical practice when the student felt she did not have the needed skills or knowledge.

"In P.A.R. I couldn't find a blood pressure and the doctor was very sarcastic. I felt very embarrassed and was quite clumsy so he got a little more sarcastic. In the end I found it correctly and he commended me for persevering and not "faking it" but while it was going on I felt pretty anxious."

The major source of stress was the heavy workload, along with fears of failing. "I received a poor evaluation. I was very upset about failing nursing."

"Having a nursing process, nutrition mid-term, anthropology essay, and seminar to prepare for, all in the same week."

" . . . the workload is just unbelievably stressful."

A relatively small number of incidents continue to be in the personal-social area: recreation, meeting new friends and renewing old friendships.

The predominant feeling was of increasing satisfaction with clinical nursing, and stress related to the pressures of course work.

SECOND TERM

In this term, again, the largest number of incidents (both satisfaction and stress) were in the clinical area. There was also an increase in episodes in the personal-social area. These were largely related to other activities which the students did during weekends and holidays.

"spending a weekend just relaxing, talking with and walking on the beach with a very close, newly discovered friend."

"the most satisfying experience was spending Christmas back east with my boyfriend. It was so great to be 2,000-miles away from school and home pressures. It was very relaxing and carefree."

A number of the personal-social incidents, as in the first term, related to boy friends, friends, family. It is difficult to say why there was an increase in numbers of such episodes in this term, after relatively low numbers since first term of first year.

41

In the clinical area there were almost the same number of reported satisfactions and stresses. Satisfactions continue to come from situations in which students felt they had done well, and/or where patients expressed gratitude.

"When I was on the ward one night I did a dressing, two difficult injections, watched I.V. bottle, etc. I felt very pleased with how I handled the situations encountered, felt my instructor was happy with what I did and felt the patient liked me. I left with a happy satisfied feeling."

On the other hand, stresses arose when students felt they did not have the needed skills, when they were overwhelmed by work, when they got unfavourable evaluation of their work. There were also mentioned, for the first time, the stress of encounters with death and dying.

"The first day I nursed in an adult ward, medicine, I had a C.V.A. 80-year old woman. I didn't know how to treat her or move her and felt extremely nervous and stupid. The day was horrible and I managed to do almost everything wrong."

"Experience in hospital with the death of a child and parental reactions — most stress came in the week following when I took home the experience and thought about it."

Overall, second term responses were similar to first term, except for the increase in personal-social episodes described.

THIRD TERM

In this final term the highest number of stresses and satisfactions were in the clinical area (nearly three-quarters of all reported episodes). The greatest number were related to experience in psychiatry (a new experience this term) and to doing nursing procedures. A few related to the decision to write R.N. exams, as students assessed their competence in terms of their expectations of themselves as graduates.

"I gave an injection (I.M.) to a lady and she told me it was well done and she didn't feel a thing. She regularly receives injections and she says some of them are very painful. It made me feel good because I could do it competently without being nervous or unsure."

"Team leading was satisfying because for once we were given some added responsibility. This responsibility for more than one patient seemed more in line with where we were in our training."

"I found my first week or so in Psychiatric rotation to be very stressful. The whole image is different and I was at a loss as to what was my role . . . . I found it difficult to just talk to patients without

having some task to perform and use an excuse for my being there."

"I felt very anxious about leaving the course and starting to work as a nurse, I have little self-confidence knowing that there are so many things I haven't done yet. Also I was very interested in working in obstetrics which hardly seems possible at this point as I have never had any real experience in this area."

As can be seen, students are now measuring themselves against some yardstick of their own, of what a nurse is like and should know. One could debate the accuracy of their image of nursing but for them it is real and valid.

SUMMARY

years of a new curriculum. These incidents have been categorized as Personal, Social, Academic and Clinical and patterns of responses over the two years are described. Some highlights are:

1. At the beginning of the programme, major concerns and satisfactions derive from two sources: family and friends, and evaluation and grades in courses. It is a time for sorting themselves out as persons, and for measuring themselves against the demands of the programme.

2. Over the six terms there is a shift from stress on academic assignments and evaluation, to a predominance of episodes about clinical practice. Episodes (both stresses and satisfactions) in the academic area decrease steadily over the six terms. Satisfactions in the clinical area stay consistently high from the third term on. Stressful episodes in the clinical area climb continually over this time period, but remain consistently fewer than satisfactions.

This is an ongoing study and data are being collected from these students during third and fourth year along with the Registered Nurse students who entered the programme in third year. The information provides feedback to teachers about how students perceive learning experiences and also raises questions which might be studied as part of the evaluation of the total programme.

Reference

Fox, David J. and Loraine K. Diamond et al., *Satisfying and Stressful Situations in Basic Programmes in Nursing Education.* New York: Teacher's College, Columbia University, 1964.

SCHOOL OF NURSING
McGILL UNIVERSITY

BACHELOR OF SCIENCE IN NURSING
A three year program to prepare for leadership roles in nursing.

- General and professional courses with nursing experience in McGill teaching hospitals and selected community agencies
- Entrance — collegial diploma (D.E.C. Sciences) or the equivalent OR collegial diploma (D.E.C. Nursing) or equivalent along with work record; chemistry, mathematics; and a licence to practice nursing. (Detailed admission requirements available from the Admissions Office of McGill University).

MASTER OF NURSING
Teachers of Nursing in the rapidly expanding college system for Nursing Education.

- One calendar year for nurses graduated from basic baccalaureate programs (4-5 year integrated program).

MASTER OF SCIENCE (APPLIED)
Options:
(1) Specialist in Nursing in all clinical fields (Nurse Clinician), including the expanded function of Nursing in Family Health and Community Health Centres.
(2) Research in Nursing and Health, including evaluation of health care and delivery systems

- Two academic years for nurses with a B.N. or B.Sc.N.
- Persons holding a degree comparable to the B.Sc. or B.A. degrees at McGill may be admitted following successful completion of a Qualifying Year in Nursing.

For further particulars, write to
Director, School of Nursing
McGill University
3506 University Street
Montreal, P.Q. H3A 2A7