

The Birth of a Curriculum: Utilization of the Betty Neuman Health Care Systems Model in an Integrated Baccalaureate Program

SISTER LORELDA KILCHENSTEIN, RN, MSN, Assistant Professor, Maternity Nursing; **IRENE M. YAKULIS, RN, PhD**, Assistant Professor and Director, Junior Year Undergraduate Program, University of Pittsburgh School of Nursing, Pittsburgh, Pennsylvania.

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The authors have had the recent experience of participating in a total curriculum revision. In this article we would like to share our curriculum revision process and the results of our efforts—the current integrated nursing curriculum at the University of Pittsburgh School of Nursing.

The current undergraduate curriculum at the University of Pittsburgh began as a tiny developing embryo. A Curriculum Revision Task Force, with representatives from each clinical area and with an appointed Curriculum Director, was formed to lead the faculty in the work of revision. As many other nursing programs had already discovered, the rationale for change was all too apparent: lack of a permeating conceptual framework; repetition of content; emphasis on acute care; a lengthy, expensive program; and inflexible schedules with limited regard for the student who was “different.”

To nurture our curriculum embryo the faculty investigated social, political, economic and health trends, invited curriculum consultants, conducted total faculty workshops, and labored in small work groups. The critical path technique was utilized to identify the steps in the revision process: philosophy, purpose, program objectives, conceptual framework, level objectives, course behaviors, and evaluation. Finally, a conceptual framework emerged from the joint efforts of the Curriculum Revision Task Force and the total faculty.

If you, the reader, have utilized total faculty input for curriculum development, you will know that we chose a long, rocky road. However, you will understand the feeling of being able to share with all faculty, a curriculum attained through mutual struggle.

The conceptual framework of our curriculum was derived from the major concepts valued by the faculty and also from adopted components of the “Betty Neuman Health-Care Systems Model: A Total Approach to Patient Problems” (Riehl and Roy, 1974, pp. 99-110). In the Neuman Model, man is looked upon as an open system in contact with his environment.

Man as an open system strives to maintain varying degrees of harmony and balance between the internal and external environment. Normal lines of defense protect the individual, and represent his state of wellness and his usual level of adaptation. These normal lines of defense include physiological, psychological, sociocultural, and developmental variables.

Health is viewed as being on a continuum with movement between a state of optimum well-being and degrees of deviation. The health of man is dependent upon both the system as a whole and the ability of the system to interact with stressors. Depending upon man's reactions to stressors, primary, secondary and tertiary prevention may be needed, so that he may either return to or maintain optimum well-being.

Nursing focuses on man as an individual, family, or society. The goal of nursing is to assist man to attain a maximal level of health through the use of purposeful interventions aimed toward strengthening adaptive mechanisms or decreasing stress factors. In achieving this goal, nursing utilized the nursing process as the mode of practice for primary, secondary, and tertiary prevention.

After the faculty had agreed upon the conceptual framework, we knew that the developing embryo must continue to be nourished. We arrived at a consensus regarding theoretical formulations that would strengthen the curriculum. The major theoretical formulations included: systems theory, stress reaction theory, change theory, and role theory. These theoretical formulations influenced the selection of content and served to cement our concepts together.

In addition to the theoretical formulations, vertical and horizontal strands were developed. The strands are viewed as pervasive organizing themes throughout the

curriculum. They are derived from the philosophy of the school, the program objectives and the conceptual framework. The *vertical* strands identify the concepts of progression that occur as the student moves upward from one level to the next. They include: Man as an Individual, Family and Society; Health Continuum, Levels of Prevention, Health Education, Research, and Leadership. The *horizontal* strands are used throughout the learning experience. They include: Knowledge, Nursing Process, and the Professional Nursing Role. We view the Professional Nursing Role as that of care giver, with selected behaviors related to Research, Health Education and Leadership. Figure 1 demonstrates the progression and permeation of the strands in our curriculum.

The identification of stressors is a key component of the Betty Neuman Model. Because of the wide range of potential stressors in the universe, faculty recognized the need to identify broad constructs which could be used to categorize the stressors. The faculty identified five constructs as essential for man to maintain a state of equilibrium with his environment. These constructs form the base for the identification of stressors in clients throughout the curriculum. They also serve to organize the curriculum content and to assist the student in the analysis of data. These constructs are defined in Figure 2.

The curriculum is designed to cover four academic years of full-time study. Courses in the School of Nursing are taken concurrently with courses in the College of Arts and Sciences throughout the four years.

Many of the courses were selected to reflect our concern for the dimensions of man. Psychology, Biological Nature of Man, Cultural and Ethnic Influences on Man, and Human Development are included in the Freshman year. These courses provide a knowledge base that will enable the student to understand the psychological, physiological, socio-cultural and developmental variables which are central to our view of man.

In the selection of courses, consideration was also given to the curriculum strands. An introductory Research course was

included in the Sophomore year to provide support for the vertical strand of Research. The strands of leadership and health education are introduced in the Freshman year and built upon in subsequent years. However, the Senior year nursing courses — Health Issues, Health Team Collaboration and Professional Nursing Role — provide in-depth knowledge and practice for these strands.

The Freshman year establishes the foundation for the study of nursing. Knowledge of the nursing process is presented. During this year students are introduced to Man, Health, and Nursing as these concepts are described in our conceptual framework.

The focus of the Sophomore year is primary prevention. The clinical courses during this year emphasize the use of the nursing process with healthy individuals to identify possible risk factors associated with stressors and to maintain and strengthen the individuals' lines of defense. Clinical experiences are offered in a variety of settings and all students have experience with children, pregnant women, adults, and the elderly.

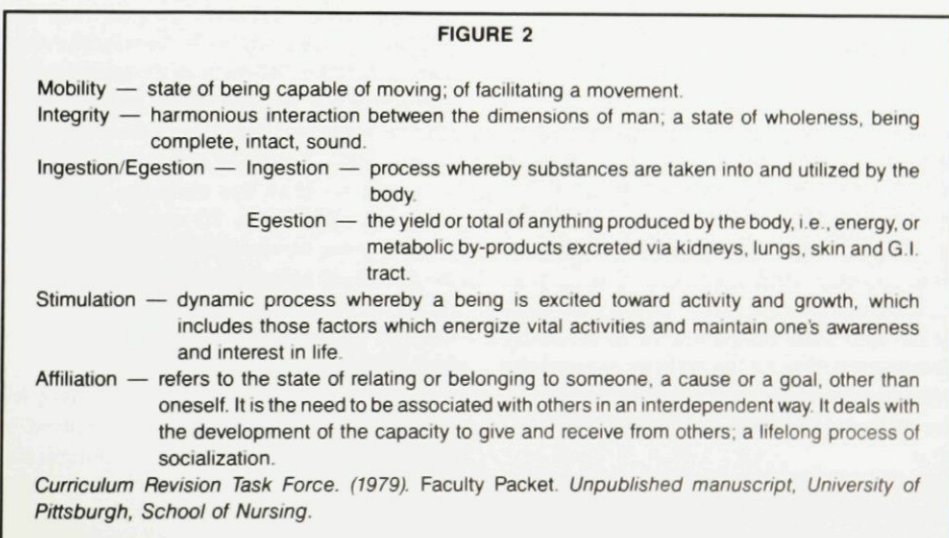
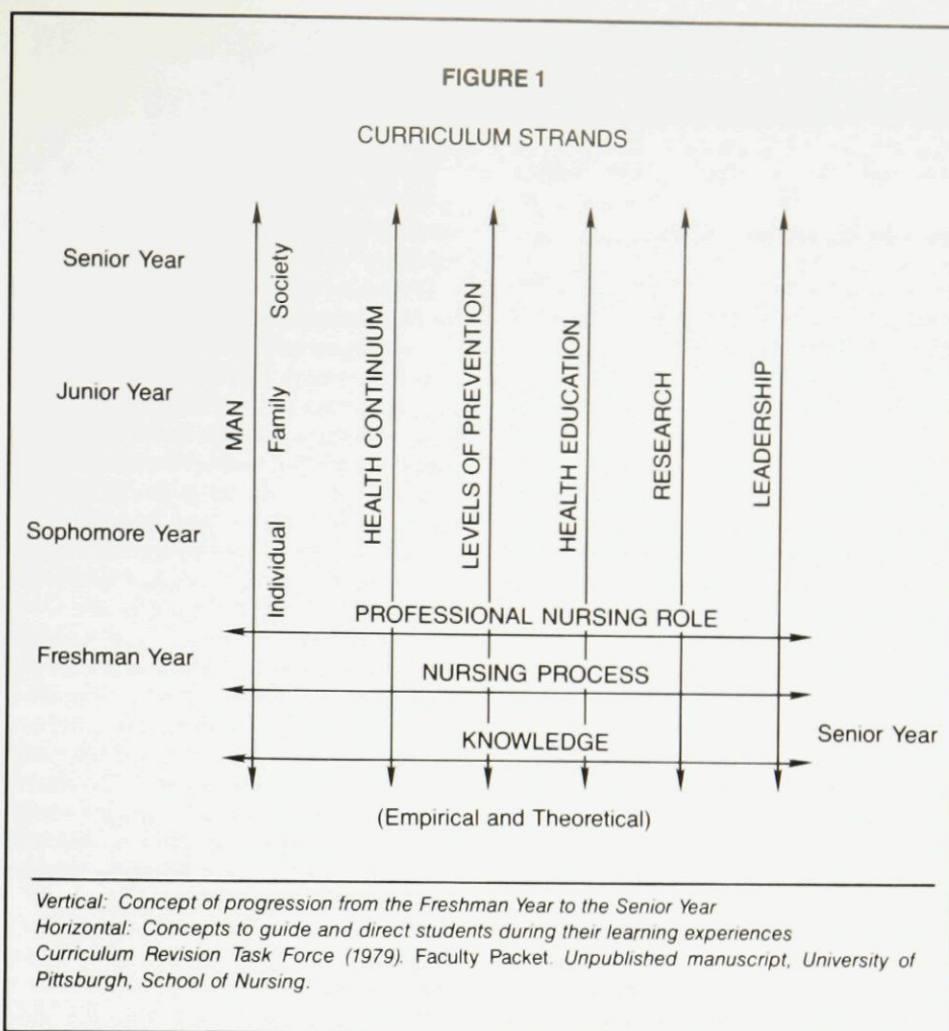
The Junior year courses focus upon secondary and tertiary prevention with the individual and family who are experiencing the stress of illness. The students apply the nursing process to minimize the effects of stressors which have penetrated man's lines of defense and to facilitate his restabilization. The clinical experiences are designed so that all students will have contact with children, maternity clients, adults, the elderly and the mentally ill.

During the Senior year, students' experiences are planned to facilitate synthesis of knowledge and the application of the nursing process with clients in all levels of prevention and in a variety of settings. The emphasis is on individual, family, and group systems experiencing stressors which may result or have resulted in major health problems. Students are also expected to increase their competence in carrying out the behaviors inherent in the professional nursing role.

The ultimate purpose of our baccalaureate program is to prepare a professional practitioner of nursing, who, through the use of the nursing process can assist individuals, families and groups in a variety of settings to achieve and maintain optimal health. We believe our program also provides a foundation for continuing intellectual and personal development.

Summary

The authors have described the birth of an integrated baccalaureate curriculum at



the University of Pittsburgh School of Nursing. The curriculum design reflects our philosophy and our conceptual framework and includes components of the Betty Neuman Health Care Systems Model. The major theoretical formulations, the vertical and horizontal strands and the

constructs for categorization of stressors are also described.

Reference

Riehl, J.P., Roy, C. (1974). *Conceptual models for nursing practice*. New York: Appleton-Century-Crofts.

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