



CURRICULUM REVISITED:

**An Update
of
Curriculum Design**

Elisabeth A. Pennington, Editor

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National League for Nursing • New York

Pub. No. 15-2165

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ISBN 0-88737-338-0

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Manufactured in the United States of America

Read 9/18/86 11.96

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PREFACE

Curriculum design is a legitimate concern for nurse educators. Nursing content has successfully moved away from medical data toward a base of nursing theory, process, and research. The extent and depth of knowledge in nursing as well as in the related disciplines of biological science, behavioral science, and health science is growing. There is also an increasing concern among educators, particularly at the undergraduate level, about liberal education as a base for professional studies. With all of these concerns the design of a curriculum becomes critical. It is through curriculum design that a faculty determines what content will be taught, how it will be taught, and why it will be taught. Design also suggests appropriate teaching strategies and evaluation methods.

The essential element of curriculum design is the organizing framework. The framework takes its direction from the philosophy of the faculty. The faculty expresses its beliefs about nursing, the client or recipient of nursing care, society, and health in the philosophy. Expressions about nursing education are also appropriate.

From these belief statements the faculty has the responsibility of identifying the concepts it feels best illustrate the way nursing should be taught. It is the interaction of major concepts and subconcepts in a logical and consistent pattern or design that guides the faculty members in teaching, and thus, students in their learning. From this design flows the development of terminal objectives, level objectives, course objectives, and then design of individual courses.

In the early phases of nursing education much of the content of curricula focused on the nursing role of assisting the physician. In the late 1960s there was a move in the profession toward developing nursing theories, increasing nursing research, and an acknowledgement of the more independent role of nursing. These moves stimulated new nursing content and a new approach toward the teaching of nursing. During the 1970s there was much activity in terms of curriculum development. An attempt toward conceptualization was made in the demand for a "con-

ceptual framework" based in nursing theory. Many articles were written about theoretical frameworks, conceptual frameworks, vertical and horizontal threads, curriculum strands, behavioral objectives and level objectives. These ideas have become accepted and integrated into the common knowledge of curriculum design. Virtually every text on curriculum design includes these ideas.

In the intervening years faculty members have worked with these "basics" and have developed many new curricula, revised old curricula, and have evaluated their existing curricula in order to keep content relevant. Research in the area of curriculum and teaching has moved on toward appropriate teaching strategies, student evaluation, and competency identification. We felt that perhaps it was time again to look at the basics of curriculum design. A conference was held in March, 1986 in Saint Louis, Missouri under the Faculty Development Series for the National League for Nursing to do just that. This publication presents some of the papers from that conference. The overriding purpose of the conference and these papers was to bring the nurse educator up-to-date with the latest ideas about the basics of curriculum design. In re-examining these basics in the context of the changes that have occurred in nursing over the past fifteen years the speakers suggest a new context and some new language in utilizing these basic concepts.

It is hoped that these papers stimulate your thoughts regarding the basics of curriculum design. They are not research papers, but rather the thoughts of experts in the field. They present new ideas, some of which may be controversial, all of which are interesting.

Each of the four papers presented in this publication offer a unique, and yet suprisingly consistent view of the world of curriculum design. Dr. Delores Gaut discusses the relationship of a strong faculty philosophy and its effect on the development of a curriculum that has a unique focus. She also indicates the effect a strong and unique philosophy can have on the structure of a school. She points out that when a strong philosophy is operationalized it affects every function of the institution.

Dr. J. Mae Pepper's paper on the organizing framework clearly illustrates the importance of the framework in organizing content in a meaningful and useful way. In her paper Dr. Pepper reviews some of the major conceptual models in nursing and suggests how faculty might utilize these models in curriculum design.

Dr. Patricia Starck offers some new insights into curricular design. She suggests that in designing curricula faculty members need to look beyond their beliefs and content considerations. They need to consider the realities of the educational enterprise. In this era of reduced funding for nursing education and restricted federal and state funding for all areas of higher education, faculty members need to consider designs that are cost-effective as well as of high quality.

In the paper that I authored I looked at the phenomenon of the inte-

grated curriculum. Intergrated curricula were introduced as an approach, I believe, in assisting nursing faculty in moving away from a medical model based curriculum design toward a more nursing based curriculum model. In this paper I have reviewed the progress made by programs in developing integrated models. A new definition of integration is also offered. I believe that integration, as a curriculum issue is no longer pertinent. What is pertinent is that curricula continue to focus on appropriate nursing models that are conceptual, meaningful, and realistic.

Nursing as a profession has never looked brighter. New students will be attracted to the profession as they perceive the study of nursing as interesting, intellectually stimulating, pertinent to practice, theoretically sound, and grounded in nursing theory and research. In order to achieve this, faculty need to design curricula that fulfill these needs. Curriculum design should be a thought provoking, exciting, creative, and yet realistic endeavor for faculty. Curricula that are conceptual in nature accomplish this.

Elisabeth A. Pennington, EdD, RN

1 The Philosophy and its Effect on Curriculum Development

Delores A. Gaut, PhD, RN

CURRICULUM DEFINED

The meanings that one gives to curriculum will to a large measure determine the domain and the processes of curriculum and curricular development. The meaning of curriculum is always in relation to the nature and purpose of education in society. For example, in the seventeenth century, personal and religious development was the primary goal of education, and to that end, the curriculum was a course of study, or a written course. Curriculum revision meant revising the course outline, if there was one.

In the early 1800s, secularization of education was the goal, and the curriculum was a systematic arrangement of courses designed for specific purposes. During the latter half of the 1800s, through the early 1930s, the goal was egalitarianism, and the curriculum became any systematic arrangement of materials of instruction extending over a considerable period of time and planned for a clearly differentiated group of students. Curriculum consisted of subject matter taught to students. Changing the curriculum meant revising the content, adding new subject matter. From the late 1930s to the present day, the major purpose of higher education has been service to society through research and development.

The curriculum focused attention not only on the subject matter, but also on how best to facilitate the growth of students (human development). This implies that certain changes in the behavior of the learners will occur, and the school selects those changes which are appropriate for teachers and students. The quality of the experience becomes paramount, and the total environment becomes a part of the experience. Curriculum in the broadest sense is the planned engagement of the learner.

PHILOSOPHY DEFINED

But where does a philosophy fit into all of this, you might ask, and especially a philosophy for a nursing curriculum? Freda Scales (1985) commented that the philosophic basis of a curriculum is the creation and property of the faculty, even though it is seen as the school's philosophy. A philosophy is a way of viewing the world of nursing and nursing education, and addresses both the nature of the discipline and the nature of teaching and learning. True to the nature of philosophy as a discipline, a curriculum philosophy reflects three modes of thinking: (1) abstract reasoning in relation to the whole, (2) the nature of morals and choices about values and ideals, and (3) the clarification of the relationships between concepts and theories, especially in values, ethics, and aesthetics.

The purpose of a philosophical statement is to direct the entire curriculum process to affect every learning experience in which there is an interaction between the students and the world of knowledge. Torres (1982) placed the philosophy within the first stage of curriculum development — the directive stage (so named because the outcomes of this process give guidance and authority to the entire curriculum).

Bevis, however, discussed the philosophy as a component of the conceptual framework, detailed enough to act as a checklist for curriculum implementation. According to Bevis (1978), the statement of values of the faculty and school must be (1) congruent with the philosophy of the sponsoring agency, (2) apparent in the rest of the conceptual framework, (3) representative of the consensus of the faculty, and (4) conclusive enough to provide a value system for the structure of the concepts and theories as well as the system of teaching and learning of the curriculum.

Tyler (1969) suggested that the educational and social philosophy to which the school is committed can serve as a screen for selecting educational objectives. For a statement of philosophy to serve most helpfully as a set of standards or as a screen for objectives, it needs to be stated clearly, be consistent with the mission of the parent institution, and address certain questions that provide a basic framework of reference from which a theoretical framework, educational objectives, program design, and evaluation can be derived.

A curriculum philosophy then might be defined as a set of beliefs and value statements about the practice and the teaching of nursing, developed by the faculty, which provides direction for implementation of the curriculum (National League for Nursing, 1981).

There are certain tasks involved in formulating a statement of philosophy. Rather than listing those tasks I would like to present "a case study" that I have entitled, "The University of Colorado School of Nursing's Leap of Faith Into the Future."

Planning for a major curriculum change, the faculty began to address

essential questions that led to stating beliefs about (1) the nature of society and the place of professional nursing education, and nursing education within the society, (2) the major health needs and resources to meet those needs within the society in which the instructional program is to be evaluated, (3) the nature of nursing and other functions involved in providing nursing services, and (4) the type of individual (professional and personal) it is hoped will be graduated from the program.

TRENDS IN PROFESSIONAL EDUCATION

It is apparent from the number of reports published on the quality of education in the United States since 1982 that both educators and the lay public have become concerned with the relationship between liberal education and professional education. There is a growing trend to demand that preprofessional students bring a richer background in arts and humanities to professional studies.

The panel on general education of the physician (Association of American Medical Colleges, 1984) concluded that a broad and thorough baccalaureate education is an essential component of the general professional education of physicians. The panel proceeded to state that appreciation for the many dimensions of human experience, including values and attitudes essential for a caring profession, requires informed reflection upon literature, philosophy, and the arts.

Nursing educators also have argued that the baccalaureate degree no longer is adequate to frame liberal arts, scientific, technological, and professional education in light of the expanding knowledge base of biomedical science, biotechnology, social-behavioral sciences, and human values and ethics. All of these factors are compounded by the rapidly changing, complex demands of nursing practice and the health care system. It is evident that nurses need more liberal education and knowledge of history, philosophy (philosophy of science, ethics), and humanities if they are to function effectively in the modern world (Sakalys & Watson, 1985).

Other studies of higher education and professional education have reported unanimous concern regarding (1) the excessively vocational and narrow nature of professional education, (2) the curricular and teaching methods, and (3) the erosion of liberal education. Moreover, all reports acknowledged the need for balancing generalized and specialized education and for additional education for professional preparation (Adler, 1982; Bennett, 1984; and Bok, 1984). The National Institute of Education Report (1984), for example, specifically stated that "students are not likely to accumulate in four years both the generalized and special knowledge necessary for first-rate performance as professionals."

THE UNIVERSITY OF COLORADO SCHOOL OF NURSING: A PHILOSOPHIC POSITION

The University of Colorado School of Nursing has based its major philosophic orientation and future curricular changes on the following recommendations made by the various study groups:

1. Restoration of the centrality of the liberal arts in professional education.
2. Emphasis on intellectual skills such as analysis, problem-solving, and critical thinking.
3. Emphasis on mastery of basic principles rather than specific facts.
4. Emphasis on fundamental attitudes and values.
5. Increased emphasis on lifelong learning.
6. Decreased specialization at the undergraduate level.
7. Increased emphasis on broad and rigorous baccalaureate education prior to professional education.

Nursing is a profession in transition. For the last two decades, the profession has been engaged in a profound revision of its philosophy, ethics, theories, and science. A refocusing of nursing's historical orientation is occurring, partly as a result of the American Nurses' Association Social Policy Statement published in 1980. This policy statement defined nursing as "the diagnosis and treatment of human responses to actual or potential health problems." This definition permits nursing to create a new view of its subject matter, its science, and its method that is meaningful and true to the tradition of caring.

Given nursing education's current status and the needs of the future, nurse leaders and major schools of nursing have the responsibility to take a philosophical position regarding professional education and thereby fashion appropriate curricula for the year 2000. Accordingly, the school of nursing faculty at the University of Colorado Health Sciences Center has revised its mission statement and taken the position that the preferred future direction be the offering of the ND (nurse doctorate) degree as the first professional level offering in nursing. Such a shift is consistent with the historical role and mission of the university and the academic health sciences center where programs are already predominantly at postbaccalaureate or graduate levels. "The revised mission statement is reflective of state, regional and national needs and trend data that identify a continuing, and growing need for advanced nurse clinicians, administrators, and scholars to meet the rapidly changing complex health and

illness care needs of society" (University of Colorado Health Sciences Center School of Nursing, 1985).

The faculty's rationale can be summarized as follows:

The faculty believe that nursing is a rapidly growing human science which focuses on the human care aspects of health care delivery at both the individual and system levels across the life span. Such a belief acknowledges that the separate paths of sciences and humanities are converging in light of resurgent interest in the human caring dimensions of health and illness and increasing recognition that complex problems in health and illness are inherently multidimensional in nature. Further, the faculty believe that the primary university nursing program in the state should prepare health professionals with knowledge deriving from an integration of knowledge from many disciplines. (Sakaly & Watson, 1985)

OPERATIONALIZING THE PHILOSOPHIC POSITION

In keeping with its philosophic position, the school of nursing faculty engaged in an extensive academic planning process. The first step was revision of its mission statement, calling for the restructuring of the first professional degree from a BS degree in nursing to an ND (nursing doctorate) degree. This degree is a first-level postbaccalaureate, clinical practice doctorate, analogous to postbaccalaureate degrees offered by other professional disciplines such as law (JD), pharmacy (PharmD), medicine (MD), and dentistry (DDS). You might ask, how do you know the decision to move to the ND program is wise? It is an act of faith, but not blind faith. In 1978, and again in 1985, Rozella M. Schlotfeldt made a strong case for the ND program and called on major public universities to respond to the rigorous, scientific, and humanistic programs required for the future of professional nursing. Dr. Schotfeldt's challenge to nursing included this directive:

Nursing should become and be recognized as an autonomous health profession; nursing has a distinctive social mission which provides a unique and essential service that has a profound impact on the well-being of individuals, groups, and societies. . . . We anticipate that in the near future, universities contributions to the preparation of scholarly, professional health practitioners will be exclusively at the doctoral level.

The second step in this curriculum process was the revision of the organizational structure. The school of nursing faculty is organized as a matrix structure around the human care nursing system framework. The matrix organization allows for decentralized, free information flow which emphasizes both horizontal and vertical communication. The faculty is grouped into four discrete but interacting divisions, each with a division

head who acts as the overall academic professional leader for the faculty unit.

All four faculty divisions are organized to carry out all three missions of the school and the university (i.e., teaching, research, community service). Three associate deans are charged to work with each division and division head to provide assistance, support, and leadership for the faculty in carrying out the three missions.

Each division has responsibility and involvement with all three academic programs (i.e., undergraduate, master's and PhD), as well as non-degree programs. The program directors work with the division heads and associate deans to provide assistance, support, leadership, and overall supervision and coordination for the respective program and its curriculum.

The total working structure is designed to further the curricula, theory, research, and practice of human caring in nursing. Hence, the two major matrices are divided into a horizontal *unit of analysis* matrix (i.e., individual/family nursing and aggregate-organization nursing systems) and a vertical *life span* matrix (i.e., parent-child nursing and adult-gerontological nursing systems), all under the broad framework of human care nursing systems. The information flow and communication is within and between matrices on both the horizontal and vertical levels.

The *horizontal* matrix of the health sciences center nursing system framework consists of curricular, research, and practice directions designed to include philosophy, ethics, arts, and humanities as extant theory and knowledge related to understanding human behavior in health and illness at individual-family system levels. The other focus on the horizontal matrix extends the unit of analysis to the human aggregate and organizational system level. It consists of curricular, research, and practice directions designed to include behavioral and social sciences as they relate to delivery of human care with a community of persons and administration of nursing and health care in the broader health care system. These two horizontal divisions intersect with the vertical (life span) divisions and encompass major programs of study in the baccalaureate, master's, and PhD programs.

The *vertical* life span structure in the human care nursing system matrix is organized into two discrete but overlapping divisions entitled Parent-Child Nursing and Adult/Gerontological nursing systems. These two vertical divisions intersect with the horizontal divisions, and encompass major programs of study in the baccalaureate and master's programs.

Doctoral students matriculate into one of the two horizontal divisions, but can focus their human care nursing theory and research studies by unit of analysis to a designated population across the life span. Doctoral students may take course work and focus their research study with target populations associated with the life span divisions. The horizontal divisions house the Community Health and Nursing administration programs

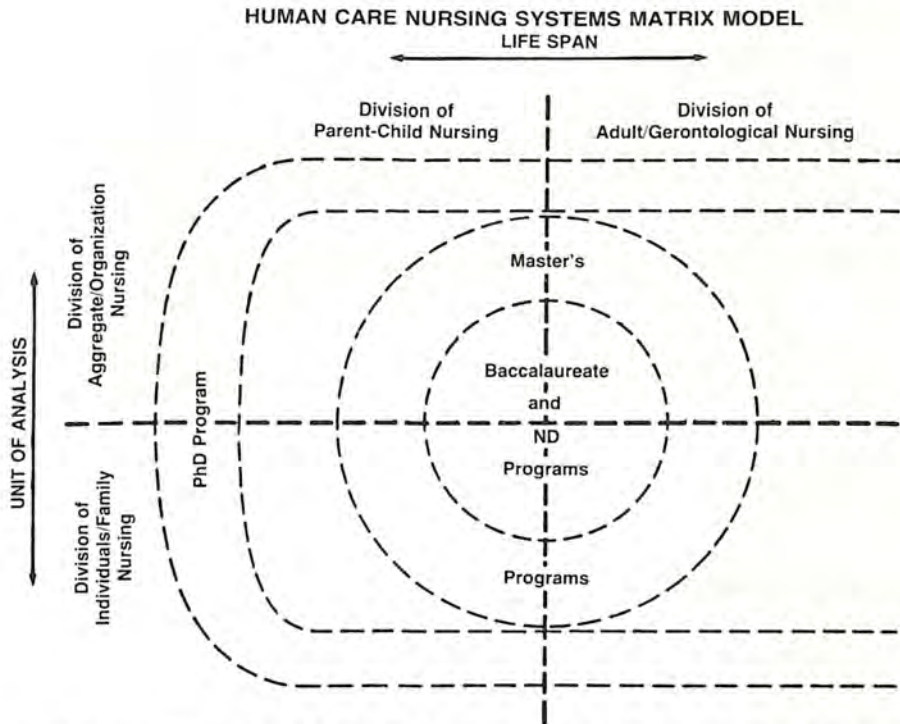


Figure 1. University of Colorado School of Nursing organizational model for divisions and academic programs.

and the Psychiatric Mental-Health Nursing sequence (under revision) at the master's level, and are responsible for curricular content and clinical programs at the undergraduate level related to community health and psychiatric mental health nursing.

Likewise, selected community service initiatives may be primarily associated with one division, but interact with others, each division head will coordinate the different program components across divisions and under the overall leadership of the appropriate associate deans. Having completed these major steps, the University of Colorado Health Sciences Center School of Nursing faculty is embarking upon an orderly process of societal support and input for program development.

One such project is the establishment of a Center for Human Caring. The goals of the center include the following:

1. Become a regional and national site where scholars from numerous disciplines conduct and disseminate research contributing to coherent human care theory. Efforts are directed toward exploring the epistemic nature of caring and aesthetic, humanistic, and scientific practice modalities.

2. Develop and support human care research applications.
3. Develop national, regional, local, public, and professional forums that increase public consciousness about issues related to care.
4. Support health care providers and health care recipients in their quest for selfhood and personal life fulfillment potentially derived from events and conditions of illness and health-healing.
5. Incorporate a human caring philosophy into the University of Colorado School of Nursing and Health Sciences Center curricula, administration and health care delivery and to develop educational research programs and practice settings based on human care values and health-healing principles and practices.

The primary objective of the Center for Human Caring will be the systematic inquiry into the theoretical and clinical concepts associated with human caring, health and illness.

CONCLUSION

For the past two years the University of Colorado School of Nursing has been a leading advocate of integrating humanities content into professional education. The school has sponsored, for example, a period artists' exhibit ("The Healing Series"), a humanities speaker series, a literature and nursing course, a conference regarding humanities perspectives on human suffering, a music, art, and movement speaker series, and a number of philosophy courses. These activities were supported by a variety of sources, including integral school of nursing funds, university academic enrichment funds, and university grants.

In these activities, the school has established collaborative relationships with local and national figures, including professors of philosophy, literature, and religious studies as well as other health professionals committed to bringing the humanities into professional education. The school's faculty currently includes five nurses with doctoral level preparation in philosophy, one philosophy professor, and a professor of interdisciplinary humanities studies.

The school of nursing faculty have revised the PhD in nursing curriculum to integrate humanitarian perspectives and humanities content. The new PhD curriculum will be implemented in summer, 1986 and will include courses co-taught by nursing and philosophy faculty. This is a significant and innovative departure from existing practice in nursing curricula; humanities and liberal arts will be a central focus for studying human health-illness experiences and caring. This curricular reform at the doctoral level is expected to strengthen the liberal arts components of both the master's and baccalaureate nursing programs. The result will

be a national model of nursing education which is dedicated to developing knowledgeable, humane, and caring health professionals, through the combined study of liberal and professional education.

...the basic requirement for professional education is a liberal education, an education that has nothing — and everything — to do with a professional education. The liberal arts are the arts of communication and the arts of using the mind. They are indispensable to further learning, and they should help the student to pursue a lifelong self-education that is liberal and liberating. (Lutz & Schlottfeldt, 1985)

In closing, I leave you with an invitation to engage in philosophizing. While philosophy is a love of wisdom, it also is an activity. It is less important to know the subject of philosophy, than it is to actively engage in philosophical inquiry.

There are three dimensions of philosophic thinking that will assist you in developing a philosophy.

1. *Comprehensiveness of outlook.* Strive to see life steadily and see it as a whole.
2. *Penetration.* Dig to the roots of questions or problems to discover fundamental difficulties. Get beyond the usual slogans, the cliches, the stereotypes.
3. *Flexibility in thinking.* Creativity in thinking calls for a nonjudgmental position and believing all things are possible. It is being flexible enough to not ask, "What is it?" But rather, "What could it be?"

Take time to think about how you think, and join in a philosophical orientation as we address the essential questions that will move the profession and discipline of nursing into the twenty-first century.

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2 THE ESSENTIAL INGREDIENT IN CURRICULUM DESIGN: THE ORGANIZING FRAMEWORK

J. Mae Pepper, PhD, RN

INTRODUCTION

The organizing framework is the "essential" element of curriculum development; however, I believe the organizing framework is not relevant at all if it has not been preceded by:

1. A serious consideration and articulation of a belief system — *the philosophy* — in which we address the questions of: what is logical (our belief about knowledge)? what is being (the meaning of ourselves and those persons we serve)? what is the nature of the world in which we and those we serve live? what is life? living? and finally, what is right?, particularly significant today because of scarce resources (Leddy & Pepper, 1985, pp.21–29). Fawcett (White, 1983, p. 30) has emphasized that frameworks are not philosophies, rather frameworks are derived from philosophies. As reported by Fawcett (1983), McKay tells us that frameworks "represent the translation of values into the identification and description of relevant concepts" (White, 1983, p. 30).
2. A clear statement of what we intend to offer in response to the needs of the public we serve (both our client/patient public and our student public). Commonly referred to as *our purpose(s)*.
3. A beginning specification of what behaviors are expected of the student at the end of a professional nursing program.

THE ORGANIZATIONAL FRAMEWORK — A MASTER PLAN

I like to think of the organizational framework of the curriculum as the model that is structured from the major characteristics that provide the curriculum personality. As I have heard my academic leader, the provost, say, clearly the soul of the curriculum is people — people who have a clear sense of purpose, a shared vision. Excellent educational systems demonstrate the capacity for both teachers and students to share a common vision that enables teachers and students to learn, to react, and to act. The content and process of that teaching/learning experience has to be turned into a reality. To turn a curriculum into reality, we as teachers must have a master plan. I want to emphasize early that the master plan must include the essential elements of content and process. *Both the content of nursing and the process of teaching/learning have conceptual bases.*

Accreditation Criteria

You will note that we are calling this master plan an "organizing framework." Some have referred to it in the past as a conceptual framework. As a matter of fact, the National League for Nursing (NLN) has been given credit for creating widespread interest in conceptual frameworks. Formerly, a criterion for accreditation was that the curriculum be based on a conceptual framework. The term "conceptual" was apparently limiting and confusing for us in its earlier associations with accreditation. You now know that the language of the criteria does not include conceptual framework, rather the NLN criteria use language that mandates an *organizational framework*. Those criteria are:

1. No. 21 "The curriculum is logically organized and internally consistent"; what is stated in the belief/value system (philosophy) matches congruently with the purpose and terminal objectives of the program. It also means that the structure, sequence, and content of the courses must reflect the content elements identified from the philosophy and are united in such a way as to give sequence to the learning activities (Torres & Stanton, 1982, p.40).

2. No. 23 "The curriculum content focuses on the discipline of nursing. . . ." To me this means that our organizing frameworks need to reflect either singularly or eclectically nursing models that have been proposed and evaluated over the last 25 years. In the process of developing a nursing model, one certainly may use other concepts that are relevant to the nursing concepts as guides. Such concepts might be "stress," "needs," "systems," "communication," "development," and so forth. These are concepts that our discipline shares with other disciplines. I appreciate the difficulty that organizing around a nursing model causes for

many of us. We were taught by educators who learned about nursing before nursing developed its own models — while we were still dependent on medicine, borrowing from its knowledge base and practicing as physicians' assistants. However, I like to think of this rapid and ever developing theoretical framework for nursing as an opportunity. I believe as Rene Dubos has stated, "In human affairs, the logical future, determined by past and present conditions, is less important than the willed future, *which is largely brought about by deliberate choices*" (Keller, 1983, p.72). We have the opportunity to answer as the Cheshire Cat did in "Alice in Wonderland." When Alice asked, "Would you please tell me which way I ought to go from here?", the Cheshire Cat answered, "That depends on where you want to get to." Further, I remind you what Will Rogers once said, "Even if you're on the right track, you'll get run over if you just sit there" (Keller, 1983, p. 27). ✓

However, I believe we're doing rather well in nursing education. I believe that you are serious about developing a curriculum with integrity and that you understand that the model (organizing framework), if it is agreed on by all, helps us teach together as a team. I believe you understand that teachers who operate out of a model offering clear guideposts are able to effectively aid student learning through utilizing a broad repertoire of teaching strategies (deTornyay, 1971). Let me share some comments of some of our colleagues in secondary education from an article entitled "Haphazard Curriculum Development" (Zenger & Zenger, 1985). Zenger and Zenger serve as consultants in curriculum development. They comment in the article about how frequently they hear that curriculum committees don't know what to do. They reported, and I quote, "The most shocking comment, the one which will never be forgotten, was by a school superintendent. He and his four principles came to the campus for a conference and his first words were, 'We don't know what we are doing, and we don't know how to find out.' The superintendent did not mean that teachers in this system did not know what they were teaching; but instead, that teachers had no idea what was being taught anywhere in the curriculum except in their own classes. We find this to be the rule and not the exception in most of the school systems. . . ." (Zenger and Zenger, 1985, p. 43). How are we doing in our curricula? I think it's obvious that an organizing framework agreed on and developed by all can help us.

ELEMENTS OF CURRICULUM DESIGN AFFECTING THE CONCEPTUAL FRAMEWORK

What are the elements of curriculum design that must be addressed to produce a logical and workable organizational framework? Torres and Stanton (1982) outline the following five elements.

1. Practice Model

We need to study and select the nursing models that we can own wholeheartedly. Perhaps one of the most fun things a faculty can do is to study what's out there. It can make us feel good about our own professional development.

2. Philosophical Propositions as Guidelines

We must systematically go through our belief statements and identify the essential *content* and *process* necessary to act on those beliefs. I suggest that a faculty member or the entire faculty compares the lists — goes through and highlights key words (concepts) for each. If this step is done we should be able to evolve a tidy list of central concepts or theories that need to be discussed throughout the curriculum. After the "list" is determined, we then have to ask ourselves two questions: (1) is this content or process that is underpinned by a concept or theory significant throughout the educational experience of the nurse? (2) Does it represent a phenomenon in which the content must and can be taught thoroughly first and then applied in various contexts throughout (that has been commonly referred to as a horizontal strand) or does it represent a phenomenon that is best taught in sequential steps in which the context of its application might change also (that has been commonly called a vertical strand)? Now we like to call these concepts "pervasive" and "progressive," respectively. We also call them what they are — concepts, not "strands." We should be able to see in our philosophies some beliefs about the four key concepts that are common to all nursing models (these elements provide concepts and subconcepts that help us organize our curricula):

Man — Human Being — Person. In the context of a nursing model, person means client/patient and nurse — both of whom might have organizing elements (e.g., the nurse as a learner).

Environment — Society. Environment is the term that some people feel is more comprehensive.

Nursing. Which generally includes purpose, functions (or roles), and process.

Health. I'd like to comment about this concept since health is our business. I believe we should look carefully at what we say we believe about health. Difficult to define precisely, health has been defined as a "value judgement, a subjective state, a relative concept, a spectrum, a cycle, a process, and an abstraction that cannot be measured objectively" (Leddy & Pepper reporting Seigel, pp. 282–283). Permit me to review the four models of health presented by Smith (1981, p.47), who says that these four models "can be viewed as forming a scale — a progressive expansion of the idea of health." As described in previous writing (Leddy & Pepper, 1985), the four models include:

- *The clinical model (the narrowest view).* People are seen as physiological systems with interrelated functions. Health is identified as the absence of signs or symptoms of disease or disability as identified by medical science. Thus, health might be defined as "a state of not being sick" (Ardell, 1979, p. 18) or "a relatively passive state of freedom from illness. . . a condition of relative homeostasis" (Dunn, 1977, p. 9). Much of our present health care delivery system is set up to deal with disease and illness after they occur, based upon this model of health — the "clinical" model. In this model, health is viewed as being on the opposite end of the continuum from disease and dysfunction. Sometimes, this creates a dilemma for our master plan.
- *The role-performance model.* Adds social and psychological standards to the concept of health. According to this model, health is "the ability of individuals to fulfill their roles in society with the maximum (e.g., best, highest) expected performance" (Leddy & Pepper, p. 155). Not performing expected roles in society is acceptable only if the society has legitimized that behavior by identifying the person as "sick." In the role-performance model of health, "the opposite end of the continuum from health is sickness" (Leddy & Pepper, p. 155).
- *The adaptive model.* Incorporating both the clinical and role-performance models, the adaptive model adds the concepts of growth and change to its description of health. "Health is perceived as a condition in which the individual can engage in effective interaction with the physical and social environment" (Leddy & Pepper, p. 155). Growth occurs as an outcome of the interaction between internal and external environments. In the adaptive model of health, the opposite end of the continuum from health is illness.
- *The eudaimonistic model.* According to Smith, the most comprehensive model of health. "In this model, health is a condition of actualization or realization of the potential of the individual" (Leddy & Pepper, p. 155). Dubos (1978, p.74), in support of this view of health, states that "Health transcends biological fitness. It is primarily a measure of each person's ability to do what he wants to do and become what he wants to become." In this model, health is equated with high level wellness and occurs at the opposite end of the continuum from disabling illness (Smith, 1981).

I'll try to come back to these four elements of all models later as we discuss some other potential organizers that must be addressed in curriculum development.

3. Pre- and Corequisite Knowledge Required

We must design patterns for both liberal/support courses and the professional courses.

4. Designated Sequence of Learning

We must use a theoretical rationale for placement of learning experiences.

5. Resources to Support Learning

We must have a plan to provide necessary practice, laboratory, material, and other educational resources.

If one looks at all of the above mentioned elements of an organizing framework, it becomes clear that "organizers" are tools that allow us to comprehend something in its totality (Fawcett, in White, 1983) and serve as guides for designing and implementing programs.

OTHER ORGANIZING STRATEGIES

Let me now add that the *content in terms of concepts* is not the only possible organizing determinant for a curriculum. Bevis (1982) suggests that other organizing strategies might be used. Some she suggests are:

1. *Teaching strategy to be used.* Moving from lecture to process to simulation and finally to validation by clinical application; or moving from expectation of responsibility of learner to acting from dependence to independence to interdependence.
2. *Sequence of content.* One might consider notions like: simple to complex; growth and development as an organizing chronology; crisis eras; practice implications (such as primary, secondary, tertiary care goals); specialty areas in the delivery system (traditional medical model); systems; stages or types of stress, to name a few.
3. *Process of nursing or nursing functions or roles.* Considering such things as communication, decision making, change, manipulation or motor skills, and so forth.
4. *Target systems problems.* Such as self systems, group systems, family systems, health care delivery systems, communication systems, and so forth.

Although there are many possible organizers for a curriculum, it seems to me that we must be very conservative about the number of ways we try to organize. I think we have to agree on one of the major elements of all nursing conceptual models as being the primary organizer, then try

to sequence the other organizers logically within that primary frame. For example, in the baccalaureate curriculum for which I share responsibility, the major organizer is the client system — the human being(s) we serve. The sequential approach to the client is organized by size and complexity of the system, moving from the individual human system, to the family and small group system, and finally to the community system. Thus, the content and experience associated with the client system is developed progressively.* On the other hand, this curriculum uses the concept of professional role development as a pervasive* organizer. The nurse is prepared to act as an agent of change, an advocate, and a contributor to the profession with all the client systems. The knowledge about role is applied throughout the curriculum.

ORGANIZERS SUGGESTED FROM POSSIBLE NURSING MODELS

Let's look at some possible nursing models — interpersonal, behavioral systems, self-care, adaptation, health care systems, unitary man – life process—and try to look briefly at what might be used as primary organizers in each model. The major concepts of each model are identified and major terms are defined. Then one or two of many possible major organizers are suggested for each of the models. Certainly the models and the suggested major organizers presented here represent a selective process, not an exhaustive one.

*The terms "progressive" and "pervasive" used in the context of curriculum organization replace the more familiar terms of vertical and horizontal concepts. Vertical and horizontal concepts are terms that are frequently misunderstood, and thus used inappropriately by many faculty. The terms progressive (for vertical) and pervasive (for horizontal) have been suggested by Dr. Elisabeth Pennington, educational consultant, NLN. These terms are more descriptive and more adequately reflect how the concepts are utilized in curriculum design.

MARTHA ROGERS'S SCIENCE OF UNITARY MAN

Table 1. Major concepts as defined in the Rogerian model.

PERSON	Unified and patterned energy field
HEALTH	Increasing complexity and innovative-ness of patterning
ENVIRONMENT	Energy field continuously interacting with the energy field that is the person
NURSING	Repatterning of person and environment to achieve maximum health potential of the person

(From Leddy & Pepper. (1985) *Conceptual Bases of Professional Nursing*. Philadelphia: J.B. Lippincott, p. 147.)

Terms essential to understanding the model:

Space-time continuum. A four-dimensional combination of both elements.

Capacities of man. Abstraction, imagery, language, and thought, sensation, and emotion.

Major organizers might be the capacities of man in relation to patterns of health or nursing actions to repattern person (client) and environment. In Rogers's model and all of the following models, the other major concepts would then be presented in relation to the major organizer. The selected major organizer may be developed pervasively or progressively in the curriculum.

HILDEGARD PEPLAU INTERPERSONAL RELATIONS MODEL

Table 2. Major concepts as defined in the Peplau model.

PERSON	Self system striving toward equilibrium — in physiologic, psychologic, and social fluidity
HEALTH	Meeting physiologic and personality needs so that capabilities can be met in a way
ILLNESS	Symptoms occurring when anxiety binds the energy
ENVIRONMENT	Significant others with whom the person interacts
NURSING	Therapeutic interpersonal process carried out throughout the relationship between the person and the nurse

(From Leddy & Pepper. (1985). *Conceptual Bases of Professional Nursing*, Philadelphia: J.B. Lippincott, p. 138.)

Terms essential to understanding the model:

Tension. State resulting from needs that leads to behavior to meet the needs and reduce discomfort.

Therapeutic Relationship. Interpersonal communication between a client and a nurse to solve the health problems of the client.

Major organizers in this model might be the therapeutic interpersonal process or the needs of the self system or health and illness in relation to the needs and anxiety of the client.

BETTY NEUMAN HEALTH-CARE SYSTEMS MODEL**Table 3.** Major concepts as defined in the Neuman model.

PERSON	Open system seeking balance and harmony; a composite of physiologic, psychological, sociocultural, and developmental variables viewed as a whole
HEALTH	Dynamic equilibrium of the normal line of defense
ILLNESS	State due to reaction of stressors with lines of resistance
ENVIRONMENT	Internal and external stressors and resistance factors
NURSING	Reduction of stressors through primary, secondary, or tertiary prevention

(From Leddy & Pepper. (1985) *Conceptual Bases of Professional Nursing*. Philadelphia: J.B. Lippincott, p. 145.)

Terms essential to understanding the model:

Lines of defense. Ways in which an individual deals with stressors in order to maintain equilibrium of the system.

Lines of resistance. Protection from stressors.

Major organizers might be stressors or nursing actions: primary, secondary, and tertiary preventions.

SISTER CALLISTA ROY'S ADAPTATION MODEL

Table 4. Major concepts as defined in Roy's model.

PERSON	Bio-psycho-social being forming a unified system that seeks equilibrium
HEALTH	Adaptation resulting from successful coping with stressors
ILLNESS	Ineffective coping on a continuum from death toward adaptation
ENVIRONMENT	External conditions and influences that affect the development of the person
NURSING	Manipulation of stimuli to foster successful coping

(From Leddy & Pepper. (1985) *Conceptual Bases of Professional Nursing*. Philadelphia: J.B. Lippincott, p. 144.)

Terms essential to understanding the model:

Stressors. Stimuli from the environment that require the person to adapt.

Adaptive modes. Ways that the person adapts (e.g., through physiologic needs, self-concept, role function, or interdependent relations).

Classes of stimuli. Focal (immediately confronting the person), contextual (all other stimuli present), and residual (nonspecific stimuli such as beliefs or attitudes).

Coping. Ways of responding to stressors.

Major organizers might be the adaptive modes of the client or stressors in relation to nursing actions to foster coping.

DOROTHEA OREM SELF-CARE NURSING MODEL

Table 5. Major concepts as defined in Orem's model.

PERSON	A unity — inseparable physical, psychological, interpersonal, and social aspects
HEALTH	State of constancy of internal and external conditions that permit self-care needs to be met
ILLNESS	Deviation from normal structure or function resulting in self-care deficits
ENVIRONMENT	Factors external to the person
NURSING	Actions to overcome or prevent the development of self-care limitations or provide therapeutic self-care for an individual who is unable to do so

(From Leddy & Pepper. (1985) *Conceptual Bases of Professional Nursing*. Philadelphia: J.B. Lippincott, p. 142.)

Terms essential to understanding the model:

Self-care. Activities that a person performs for himself (when able) that contribute to health.

Self-care deficit. Lack of ability of the person to perform all the activities needed for healthy functioning.

Self-care requisites. Needs that are universal or associated with development of deviation from health.

Self-care demands. Therapeutic actions to meet needs.

Major organizers might be self-care requisites of the person or nursing actions in overcoming or preventing self-care deficits or providing therapeutic self-care.

DOROTHY JOHNSON BEHAVIORAL SYSTEM MODEL FOR NURSING

Table 6. Major concepts as defined in the Johnson model.

PERSON	A behavioral system attempting to maintain balance; interrelated subsystems form a behavioral system.
HEALTH	System equilibrium
ILLNESS	Lack of balance between the subsystems
ENVIRONMENT	Input from sources outside the person
NURSING	An external regulatory force to restore system stability

(From Leddy & Pepper. (1985) *Conceptual Bases Of Professional Nursing*. Philadelphia: J.B. Lippincott, p. 140.)

Terms essential to understanding the model:

Behavioral system. The person, composed of interaction among and between seven subsystems.

List of subsystems. Affiliative, dependency, ingestive, eliminative, sexual, aggressive, achievement.

Major organizers might be behavioral subsystems or nursing forces to restore system stability.

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3 REALITY IN THE CURRICULUM

Patricia L. Starck, DSN, RN

Economic realities are forcing us to take a new look at how curriculum generates revenues. In general, revenues come from several sources, including tuition and fees; state appropriations, which may be based on credit hour production or some other productivity measure; gifts and endowments; and contracts and grants. There are two precautions to keep in mind.

1. Curriculum decisions must not be based solely on funding outcomes; that is, funding formulas should not determine curriculum decisions. Although costs cannot be ignored, money should not determine values in professional education.
2. The liberal arts and science base of nursing is essential for professional education and must be preserved in spite of limited income-producing capacity.

The components of a curriculum are determined by faculty philosophy and the objectives of the program. However, the reality is that faculty members must understand the institution's funding mechanism and how curriculum affects operational income for the program. Faculty members should understand how the state's economy supports education, or in the case of an institution that is not state supported, the factors that influence the increase or decrease in income.

This level of sophistication by faculty members is needed if nursing is to flourish, not merely survive, in higher education. It is my contention that educators need to re-examine certain current curricular practices which may be counterproductive to the school's financial viability.

At the present time, the National League for Nursing is scrutinizing its nursing school accreditation criteria for possible revision. This may be

an opportune time to restructure expectations for excellence to account for the fiscal realities of today.

There are at least three factors responsible for the current dilemma of financing nursing education. First, nursing is a rather new member of the higher education community, therefore, nursing faculty have a certain amount of naivete about finances. Other priorities, such as validating nursing's worth to scholars of other disciplines, have been all consuming. Insecurity or outright paranoia have created the need to substantiate nursing's contributions to academe. This posture has led nursing educators to negotiate for a fair share of the budget, but with the underlying patriarchal view that "they" controlled the money and should allocate it as needed. Rationale for nursing programs stemmed from the community's need for nurses; the need for revenues for the college or university was not the basis of justification.

Second, there has been a drastic change in nursing funding at the federal level within a relatively short period of time: monies from capitation taxes are gone; federal aid for students is quickly drying up; and money has been reduced for training projects and research. The Gramm-Rudmann-Hollins budget deficit reduction bill further threatens governmental support for nursing education. Nursing programs have experienced declines in baccalaureate enrollment with a pronounced shift toward part-time study.

Third, college and university administrators, who were supportive of nursing when external funds were available for the "expensive program," are rapidly changing their position. The nursing program which was a financial asset has suddenly become a questionable liability. Administrative reviews are resulting in recommendations on some campuses to abolish the nursing program. If "pass-through" monies in Medicare legislation lose support, diploma programs may be faced with a similar change in support level from hospital administrators. Thus, for the first time in many years, nursing schools are closing and doing so in spite of sentimental outcries from the public or loyal alumni.

CURRICULAR PRACTICES AND REVENUES

Certain curricular practices may be incompatible with trends in the 1980s and 1990s that influence revenues. There are at least five practices that need to be re-examined:

1. Proportion of nursing courses in the curriculum.
2. Student mix in basic classes.
3. Placement of major.
4. Structure of content.

5. Method of team teaching.

Proportion of Nursing Courses in the Curriculum

Traditionally, a baccalaureate curriculum has consisted of approximately one-half to one-third nursing courses with the remainder allocated to general education and the sciences as depicted in Figure 1. Thus, the majority of courses in the nursing curriculum are non-nursing and, therefore, do not generate revenues for the program. In effect, nursing schools have been trying to run a very expensive program on only one-third to one-half of the income brought in by their students.

It is certainly important for nursing students to have courses outside the discipline of nursing, including the sciences and liberal arts. In some institutions, it is possible to receive funding credit through reimbursement arrangements; other departments credit nursing for courses nursing students take. Nursing faculty could also generate revenues for courses open to all college majors, such as nutrition, health promotion, wellness, and so forth.

Student Mix in Basic Classes

For many years, faculty members and administrators have insisted that nursing students be a part of the general mix of college students in the classroom. This achievement was thought to guarantee that nursing stu-

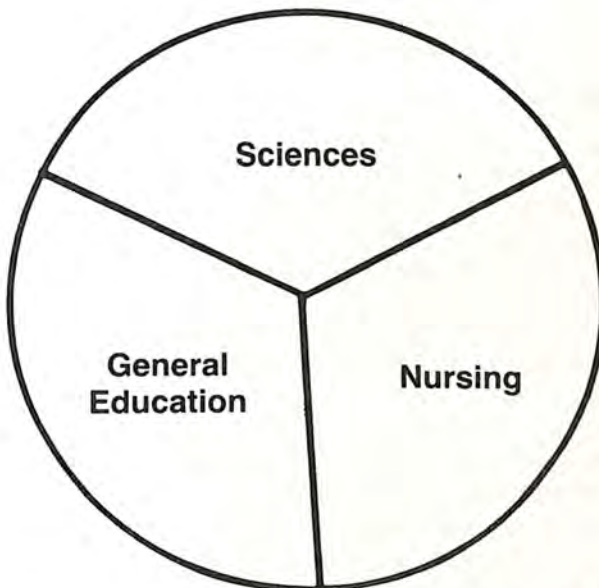


Figure 1. Categories of typical BSN curriculum.

dents did not receive a watered-down version of a college course. Our expressed fear was that nurses would be treated as second class students who could not succeed in the real world of academia. That criterion was more important than grouping nursing students with like interests and backgrounds for more efficient teaching and learning strategies.

Nursing has also gone through a phase which advocated that only nurses teach nurses about clinical care. No physician was allowed to enter the classroom for it would be an insult to the nursing faculty, implying that none of them were qualified to teach that subject. Fortunately, today these positions are changing as collaboration among professionals is promoted. As clinically proficient nurses teach medical students, the students themselves are asking why the medical and nursing students do not have classes together.

In a general academic institution, a typical biology class may be composed of nursing students, physical education majors, and any number of other majors, since it may be considered a core course. It is thus impossible to bring in aspects relevant to clinical practice for all students.

In the models presented in Table 1, a contrast is made between courses for a general student group and a nursing student group. In model A, all income is credited to the biology department for both tuition and state appropriations according to credit hour production. Model B includes the same core content but applies it to clinical nursing. Courses are taught by the same biology professors as in model A, only in model B, they are paid directly from the nursing budget through subcontracts. The nursing school generates and retains all revenues. Thus, the net increase in revenues for the school of nursing from three courses would be \$32,925, using a formula from one of the southern states.

Placement of the Major

NLN criteria specify that the majority of the nursing courses should be at the upper-division level. This practice results in poor return on investments for the nursing school. The freshman class of nursing majors is usually quite large compared to that same class in the senior year. The general academic departments reap the benefit of the high volume of freshman year nursing students, while the nursing school must be satisfied with revenues from the diminished junior and senior year classes. Furthermore, professors in other courses are in a position to entice bright nursing students into other fields. Is there any major other than nursing which specifically discourages students from taking courses in their major until their junior year? The process of professional socialization is more effective if structured over time; yet educators persist in waiting to start nursing courses until the first two formative years of college have been completed. One counterargument is that the junior year entry level is more convenient for transfer students, especially those from junior colleges. This logistical concern may be addressed by placing nursing elec-

Table 1. Contrasting models of nursing curricula.

MODEL A			MODEL B		
BIO 248	ANATOMY & PHYSIOLOGY I	5 HRS	NSG 247	CLINICAL ANATOMY & PHYSIOLOGY I	5 HRS
BIO 249	ANATOMY & PHYSIOLOGY II	5 HRS	NSG 248	CLINICAL ANATOMY & PHYSIOLOGY II	5 HRS
BIO 372	MICROBIOLOGY	5 HRS	NSG 372	MICROBIOLOGY FOR THE HEALTH SCIENCES	5 HRS
INCOME GENERATED BY MODEL B					
1. TUITION				\$ 9,000	
2. STATE APPROPRIATION*				29,925	
					<hr/>
					\$38,925
LESS					
ONE FTE SALARY/QUARTER FOR					
				NSG 372**	
					<hr/>
					-6,000
ALL INCOME CREDITED TO BIOLOGY DEPARTMENT.		NET INCOME TO NURSING PER TERM			<hr/>
					\$32,925

* BASED ON 450 CREDIT HOURS (15 HRS. \times 30 STUDENTS) PRODUCED AND DERIVED FROM A FORMULA OF APPROXIMATELY \$66.50 PER CREDIT HOUR.

** TAUGHT ON A CONTRACTUAL BASIS BY BIOLOGY PROFESSORS WITH JOINT APPOINTMENTS TO NURSING.

tives throughout the program span. They may be taken early in the program for generic students and later in the program for transfer students.

If the faculty believes that junior year entry concentrates the experiences rather than spreads them over a longer period, the criterion should be changed to read, "The curriculum should provide for concentrated experiences in the application of knowledge in the clinical setting."

Structure of Content

Nursing is unlike other disciplines which have more or less standard courses, such as English 101. Each nursing program structures course content based on a unique framework. Not only does this approach create problems for students who wish to transfer, but it also confuses registrars and other academic officials. The integrated or semi-integrated curriculum also poses problems for many learners who would prefer to

have content presented simplistically and concretely so that integration can take place as a cognitive process in their own minds. Faculty's attempts to catalyze this process often leads to problems. For example, consider the following course description:

Integration of knowledge which focuses on the role of the nurse in supporting and promoting physiological and psychological adaptation of adults to interferences with physical and mental health. Application of the nursing process primarily in secondary settings.

Faculty members have designed the course to assist students to grasp the interrelatedness of mental health problems in patients undergoing treatment for medical-surgical conditions. In actual practice, two instructors divide the student group, taking one group to a psychiatric facility for one-half the academic term, then rotating that group to the medical-surgical facility the second half of the term and vice versa. Each instructor is thus exposed to both groups of students. Each instructor grades two sets of required papers each term for all students. Thus, not only must students make accommodations to the integrated approach to content, the faculty member does twice as much work without getting credit. If the integrated course were structured into two primary units and one seminar, such as *Nursing Care in Acute Physiological Problems*; *Nursing Care in Chronic Mental Illness*; and *Nursing Seminar in Physical and Mental Interaction during Illness*; the result would be clarity for the student and increased faculty productivity reports.

Furthermore, there may be legal problems with an integrated curriculum. For example, students who fail a course may declare that they have passed the psychology section and therefore only need to repeat part of the course.

Method of Team Teaching

The underlying assumption in using team teaching must be that students get a more comprehensive course than they would with a single instructor. Why are nursing faculty reluctant to teach a course by themselves? Is it that nurses do not trust each other without a permanent peer reviewer? Is it that each faculty member's expertise is so narrow that he or she cannot teach a course in its entirety? No other discipline chooses to use this method. Imagine taking English 101 with four instructors, writing a term paper for each of them, and listening to a succession of lectures by each professor. The arithmetic in calculating credit hour production and faculty workload in team teaching is unnecessarily complicated and confusing to university officials. Why not have the same outcome criteria for each section with an individual faculty member teaching a certain number of students? This approach would increase faculty accountability.

INNOVATION IN THE CURRICULUM

With a new approach to curriculum which takes into account the funding mechanism and how courses generate revenues, a school can increase its budget significantly. In a system where credit hour production generates funding for courses within a discipline, it becomes important to number, name, and describe courses that are unique to nursing. Furthermore, courses that are prerequisite to nursing such as *Anatomy and Physiology* could be taught as nursing courses such as *Clinical Anatomy and Physiology* by the same biology professor. In the first case, all the revenues go to the biology department; in the latter case, the revenues go to the nursing department which pays the biology professor for teaching the course.

Other examples of courses that could be restructured to enhance nursing's fiscal soundness are *Reading and Comprehending Scientific Literature*; *Physiological Chemistry*; and *Composition of Professional Papers*.

The information presented in Table 2 describes an innovative baccalaureate curriculum. There are 34 hours of liberal arts and the humanities, including five hours of free electives. All of the other 160 course hours are in nursing. Sample courses have been provided. Financial projections contrasting a traditional and an innovative model of this curriculum are made in Table 3, using a formula system from one of the southern states.

Academic institutions supported by another state are funded on the basis of credit hour production according to a predetermined formula. The formula rates for faculty salaries are established by a rigorous process which includes a formula advisory committee. Each discipline has a separate rate for the base period of the academic year. These rates are presented in Table 4. Nursing is a part of the health services category.

In Table 4, at the baccalaureate nursing level, the formula for the health services category is higher than the formula in other discipline categories. Furthermore, there is a considerable increase for nursing at the master's level and an even more striking increase at the doctoral level. Therefore, it is very important to teach content at the appropriate level.

Departmental Operating Expense is another formula in the state system cited here. Data in Table 5 illustrate the differences among health services and other programs as well as the differences among the three levels of nursing education. The state educational coordinating agency categorizes each course within a program and codes the subject matter for funding purposes. Imagine the surprise of learning that the most highly paid nursing professor teaches the course that generates the lowest revenue in the curriculum! That was exactly the case for the master's level course, *Advanced Statistics*. The description read:

This course provides the opportunity for the student to study and apply inferential statistics as well as to apply these statistical methods using computerized statistical procedures.

Table 2. Innovative BSN degree curriculum.**INNOVATIVE BSN CURRICULUM BY CREDIT HOURS**

NON-NURSING COURSES

Liberal Arts & Humanities	29
Free Elective	5
	<hr/>
	34

NURSING COURSES

Nursing Arts	11
Nursing Science	80
Clinical Nursing	63
Physical Education	3
Free Elective	3
	<hr/>
	160
	34

TOTAL	194
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● Majority of revenues go to support nursing discipline.

SAMPLE COURSES BY DISCIPLINE

Liberal Arts & Humanities

Mus 101 Music Appreciation

Nursing Arts

Nsg 301 Intro to Prof Nsg

NURSING SCIENCE

*Nsg 101 Reading & Comprehending Scientific Lit

*Nsg 111 Algebraic & Arithmetic Calculations

*Nsg 141 Physiological Chem I

Clinical Nursing

Nsg 303 Health Promotion

Nsg 308 Nsg for Psychosocial Disturbances

Nsg 405 Health Issues

Physical Education

Nsg 107 Physical Fitness for Self Care

* Course numbers for innovative nursing courses correspond to course numbers from other disciplines in the traditional curriculum (e.g., Nsg 101 replaces Eng 101). Such courses are taught on a contractual basis by other disciplines.

Table 3. Financial projections of nursing curricula.**FINANCIAL PROJECTION CONTRASTING TRADITIONAL AND INNOVATIVE CURRICULA**

Enrollment	
Freshmen	100
Sophomores	80
Juniors	70
Seniors	65

TRADITIONAL CURRICULUM	INNOVATIVE CURRICULUM
83 hrs. Nursing	160 hrs. Nursing
111 hrs. Gen. Ed./Sci	34 hrs. Gen. Ed./Sci

FORMULA

Semester Credit Hours Produced (.667 of quarter hours) \times Weighting Factor (2.74) \times Base Fund (\$36.38) + Allocation for Academic Support (9.2%) + Allocation for Library Support (\$9.48 per weighted credit hour) - Tuition and Fees \times (100% - proration) = Allocation to the School of Nursing

REVENUES GENERATED

FORMULA	TRADITIONAL	INNOVATIVE
Base	393,685	857,861
Academic Support	36,219	78,923
Library Support	37,433	81,569
Subtotal	467,337	1,018,353
Less Tuition/Fee	- 83,514	- 181,980
	383,823	836,373
	$\times .90$	$\times .90$
	345,441	752,736

The course was categorized as a mathematics liberal arts course. Departmental operating expenses were at a funded level of \$15.52 per semester credit hour, compared with the health services rate of \$65.44 and faculty salaries were at a funded level of \$108.08 compared to the health sciences rate of \$193.42.

A simple refinement in the description of the course to adequately describe what was really being taught remedied the situation. The title was upgraded to *Advanced Statistics in Nursing*. The revised course description was:

This course provides students with the opportunity to study and apply selected inferential and descriptive statistical procedures specific to nursing practice. Selected nursing data sets are used for learning computer skills.

Table 4. Formula for faculty salaries per semester credit hour.

Recommended Formula for Faculty Salaries Public Senior Colleges and Universities 1985-87 Biennium					
Fiscal Year 1987 Rates Per Base Period Semester Credit Hour					
Program	Undergraduate		Masters	Special Profes- sional	Doctoral
	Four-Year Institutions	Upper- Level Institutions			
Liberal Arts ...	\$ 37.40	\$65.08	\$108.08	\$	\$368.24
Science	40.02	76.79	179.89		530.25
Fine Arts	72.38	99.15	166.58		533.91
Teacher Education ..	37.45	39.69	92.20		315.68
Teacher Education- Practice Teaching.....	83.20	83.20			
Agriculture	51.98		150.09		466.43
Engineering ...	72.19	86.62	191.45		530.25
Home Economics...	52.89		128.54		347.87
Law.....				98.50	
Social Service	57.30	65.90	197.20		368.24
Library Science	39.29	39.29	117.16		368.24
Veterinary Medicine.....				191.03	641.45
Vocational Training	36.85	36.85			
Physical Training	35.45				
Health Services	113.66	113.66	193.42		587.04
Pharmacy	92.73		197.47		533.91
Business Administra- tion.....	43.61	49.27	121.44		505.77
Optometry.....				155.68	530.25
Technology ...	64.63	83.39	188.93		

Table 5. Formula for department operating expenses per semester credit hour.

Coordinating Board, Texas College and University System
 Recommended Formula for Departmental Operating Expense
 Public Senior Colleges and Universities 1985-87 Biennium

Program	Fiscal Year 1987 Rates Per Base Period Semester Credit Hour			
	Under- graduate	Masters	Special Professional	Doctoral
Liberal Arts	\$ 4.08	\$15.52	\$	\$ 73.05
Science	17.57	58.43		236.64
Fine Arts	17.57	58.43		236.64
Teacher Education (Includes Practice Teaching).....	7.32	14.61		58.43
Agriculture	13.21	58.43		236.64
Engineering	26.28	58.43		236.64
Home Economics	10.24	29.23		58.43
Law			15.52	
Social Service	7.32	21.89		58.43
Library Science.....	8.80	14.61		73.05
Veterinary Medicine			99.67	248.49
Vocational Training.....	11.67			
Physical Training	7.32			
Health Services.....	16.36	65.44		264.88
Pharmacy	36.67	58.43		236.64
Business Administration	7.32	29.23		58.43
Optometry.....			73.65	236.64
Technology	13.86	58.43		
Military Science.....	7.32			

NOTES: 1. If the formula produced amount is less than \$743,500, the amount requested shall be 22% of Faculty Salaries or the formula produced amount, whichever is greater. The maximum amount that may be requested using the percentage of Faculty Salaries is \$743,500.

2. If the appropriated rates per semester credit hour are different than the recommended rates shown above, the \$743,500 in Note 1 should be adjusted proportionately.

3. No institution shall receive less in fiscal year 1987 than was appropriated in fiscal year 1985.

In summary, faculty members who are in the process of developing and evaluating curriculum have the burden of protecting the income of the nursing program so that it enjoys the benefits of solvency. It is time for the nursing faculty to come of age and assume financial accountability for the revenues generated. This practice is impossible without a comprehensive understanding of how the funding mechanisms work in each institution. Regardless of the methods and processes, nursing faculties must accept responsibility for their programs' financial viability within the parent institution. Accordingly, it may be time for the Council to reconsider the criterion number 7 for baccalaureate and higher degree programs concerning allocation of resources. One proposed revision could read, "The nursing unit demonstrates fiscal viability within the institution's revenue generating system and demonstrates fiscal accountability in allocating its resources."

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4 The Integrated Curriculum: A 15-Year Perspective

Elisabeth A. Pennington EdD, RN

One of the most impelling developments in the nursing curriculum has been the move toward integration. This move began in the late 1960s and gained prominence in the early and mid 1970s. It was supported by the definition of generalist practice for entry-level nurses and the National League for Nursing Council of Baccalaureate and Higher Degree Programs accreditation criteria. It seems appropriate now, in the mid 1980s, to reflect on the unfolding and evolution of integrated curricula.

Curriculum integration means the combining or blending of items of content so that the parts (specialties) are connected in a meaningful way. The move toward integration in nursing curricula has its roots in the higher education reforms that began in the 1930s. For instance, in 1934 the Commission on the Social Sciences of the American Historical Association suggested that the organization of content into isolated and separate areas was counterproductive to learning and recommended integration of common content. Whitehead, Beard, Dewey, and others encouraged the development of curricula that were oriented away from the teaching of pieces of information (the subject or speciality approach) and toward the more interactive, integrated approach to teaching.

It is important to understand the stresses and pressures that led to the acceptance of curriculum integration by the nursing community, and to explore the forces that still support the concept.

Prior to an integrated model for nursing curricula nursing educators used the medical model. Nursing knowledge, per se, was dependent on medical knowledge and therefore utilized medical specialties as the base for teaching nursing. The content was disease oriented and divided into the "big five" areas: medical, surgical, obstetrical, pediatric, and psychiatric. Nursing curricula focused on pathophysiology, identification of signs and symptoms, support for diagnostic studies, and support for

medical or surgical treatment. Public health nursing, when taught, focused on epidemiology and home care activities.

When the concept of integration was promoted in the early 1970s Torres (1974) defined it as "blending the nursing content in such a way that its parts (specialties) are no longer distinguishable." This definition is slightly different from the one previously stated. Torres assumed that melding the medical specialties would lead to an emphasis on nursing. There was no consensus on what the nursing content could or should be. There was, however, consensus that *change was indicated*.

One force that led to integration was the often-noted "explosion" in knowledge, particularly in health care. Faculty members in each of the traditional specialties found that there was an increase in the amount of content to be taught, and an increase in the level of expertise necessary in the specialty practice. Each specialty became more sophisticated and subspecialized. It became increasingly difficult to present a baccalaureate student with both the traditional basics and the newer developments. This knowledge explosion led faculties to investigate methods of teaching inductive thinking processes as well as the deductive processes. Furthermore, it led faculties to explore a conceptual approach to the curriculum.

A second force was the expanded development of nursing theory. Rogers, Orem, Roy, and others put forward their theories and conceptualization about nursing. It became critical to test these models in practice situations and thus introduce them into the educational process.

The third, and probably the most compelling force toward integration, was the accreditation criterion requiring a conceptual framework for the curriculum plan (1974). A conceptual framework serves as the rationale for the curriculum. It is a statement of the faculty's ideas about nursing, education, and how nursing is to be taught. In order to meet this criterion faculties were forced to examine the meaning of nursing, its commonalities, and approaches to effectively transmit nursing knowledge.

Although it was not specifically stated as such, I believe the purpose of the integrated approach to curriculum was to (1) identify independent nursing knowledge (different from medical knowledge); (2) conceptualize nursing in order to test and expand the development of nursing theory; and (3) separate generalist knowledge and practice from specialist knowledge and practice.

In the intervening decade and a half a number of developments have lent credibility to the integrated approach. Integration is no longer a new or unusual idea. It has developed along with many associated ideas in nursing, and indeed it has fostered much of this development. A causal relationship is not being suggested; many of these developments fall into the "chicken or the egg" scenario. There are nine developments in nursing that are noteworthy and have advanced both nursing education and nursing practice.

ing that are noteworthy and have advanced both nursing education and nursing practice.

1. *Definition of baccalaureate graduates as generalists.* Although discussed for some time, the statement was agreed upon by the National League for Nursing, Council of Baccalaureate and Higher Degree Programs (1979, p.1) membership and appears in the 1979 characteristics.
2. *Acceptance of the nursing process.* Widespread acceptance of the nursing process as the approach to provision of care evolved during this period (Yura & Walsh, 1973). Acceptance culminated in the adoption of this concept by the National Council of State Boards of Nursing and appears as a construct in the revised NCLEX examination for RN licensure.
3. *Teaching of health assessment.* Health assessment, including physical assessment skills, was incorporated as a basic part of the nursing process. Health assessment is now taught in virtually every baccalaureate curriculum. This knowledge and skill has increased the independent nature of nursing practice.
4. *Increasing acknowledgement of health promotion* (as opposed to illness care) as a necessary focus for generalist nursing practice.
5. *An increase in nursing research.* The number of journals dedicated to nursing research increased in the 1970s. The number of individuals in nursing who hold the doctorate tripled during this decade, as did the number of doctoral degree programs in nursing. Much of the research was grounded in nursing theory or a combination of nursing and other disciplines.
6. *The development of nursing diagnosis.* Carpenito's (1985) and others' work in developing nursing diagnosis has led to a national study group dedicated to the illustration and refinement of nursing diagnosis. Their usage is promoted in many nursing service situations and is at least discussed, if not totally utilized, in many nursing curricula.
7. *Utilization of conceptual models to define nursing and nursing care needs.* Groups such as the Nursing Development Conference Group fostered concept development. Such concepts as self-care, adaptation, holism, and others have become commonplace.
8. *Reaffirmation of the need for liberal education as a base for*

professional nursing practice. Despite the stresses of limited credits and increasing nursing content, faculties have worked with their colleagues in other disciplines to include *core courses*, a range of science, social sciences, and humanities courses, in nursing curricula. Groups such as the Association of American Colleges (1985) ("Integrity in the College Curriculum") and the National Institute of Education Study Group on Excellence (1984) have carefully investigated the need for liberal learning and how that need can articulate with professional studies. The current project undertaken by the American Association of Colleges of Nursing (AACN)—"Essentials of College and University Education for Nursing" (in draft)—addresses this issue in terms of the nurse as an educated person.

9. *Increasing the amount of health care delivery in "out of hospital" settings, and increasing the level of care in hospitals.* While this has been a somewhat negative force on the clinical education of nursing students, the challenge of finding appropriate clinical experiences for beginning students has forced some faculties to further conceptualize their curricula.

We now have 15 years of experience with integrated models and are able to state some propositions about the integrated curriculum model:

- There is a discipline called nursing. It is an applied discipline and has elements of both science and art.
- The discipline of nursing, while utilizing knowledge from other disciplines, is separate and distinct from them. It is grounded in nursing theory.
- Nursing education focuses on the interdependent and independent practice modes.
- The practice of nursing is an interactive, therapeutic process.
- Generalizations about entry-level nursing practice can be identified.
- Generalizations about nursing are expressed in relation to the recipient of care and the process of providing care.
- Generalized nursing knowledge can be applied in any setting.
- The philosophical statements of a faculty serve to identify the concepts to be used in developing a curriculum to prepare generalist practitioners.

- Specialty nursing education, occurring at the graduate level, cannot be adequately taught with an integrated curriculum.
- The higher the level of conceptualization the easier the integration and consequently, the learning of basic nursing knowledge and its application in all settings.

From these propositions I have developed the following definition:

An *integrated curriculum* is one in which concepts are identified and explained through theory and research in order to facilitate generalized nursing knowledge and practice.

Implicit in this definition is that the medical subspecialties as we have known them are not addressed.

While we are beginning to understand the forces surrounding and supporting the integrated curriculum, we still have little direct information about them. A review of integrated curricula, utilizing a qualitative research framework has begun. The sample is drawn from NLN self-study reports on file for the Council of Baccalaureate and Higher Degree Programs. As with all qualitative research, this utilizes inductive theory and consists of first identifying and naming the phenomenae and, second, posing relationships. To date, a total of 30 baccalaureate curricula have been examined and the first attempt at naming the phenomenae is presented here. Delineation and identification of concepts, as well as exploration of relationships, will continue.

TYPES OF INTEGRATION

This review of curricula results in observing a variety in the patterns (what I will name stages) of integration and variety in how much of the curriculum was integrated. The types of integration have been classified into three stages because they seem to be progressive. All are compared to a traditional medical model curriculum. To illustrate the differences at each stage, a sample of course titles has been used (see Figure 1). In all these examples, titles were used to illustrate the obvious. In order to classify any given curriculum, the conceptual base and organizing framework will need to be fully examined. One should not make a judgment of the total curriculum based solely on course titles.

Stage One Integration

In Stage One Integration commonalities of nursing practice have begun to be identified, but the medical specialties are still quite evident (in some cases it appeared that *only* title changes had occurred, utilizing new terminology). We can infer that an attempt has been made to focus on nursing, not medical content. Generally the fundamentals course has

Table 1. Models of curriculum integration as illustrated by course titles.*

Medical Model	Stage One Integration	Stage Two Integration	Stage Three Integration
Nursing Arts	Fundamentals of Nursing	Introduction to Nursing Process	Care of the Client at Level One Adaptation (The healthy client)
Medical/Surgical Nursing	Care of Adults	Nursing Care of the Individual	Care of Client at Level Two Adaptation (Client at risk)
Obstetrical Nursing	Care of Women in Childbearing Years	Nursing Care of the Childbearing Family	Care of Client at Level Three Adaptation (Chronic health problem)
Pediatric Nursing	Care of Children	Nursing Care of Groups and Communities	Care of Client at Level Four Adaptation (Acute Illness)
Psychiatric Nursing	Mental Illness	(Concurrent courses)	Care of Client at Level Five Adaptation (Terminal Illness)
Public Health Nursing	Community Health Nursing	The Nurse as Caregiver	
Issues and Trends in Nursing	Nursing Research	The Nurse as Collaborator	
	Professional Issues in Nursing	The Nurse as Researcher	
		The Nurse as Leader	
		Professional Nursing Issues	In this curriculum a variety of models are used to illustrate sub- concepts in a maxtrix design.

* These sample course titles were used as illustrations of the obvious. In order to classify any given curriculum the conceptual base and organizing framework need to be fully examined. One should not make a judgment of the total curriculum based solely on course titles.

identified common concepts such as safety, oxygenation, nutrition, and so forth. These concepts might continue to be taught in each of the clinical courses, indicating the specialty-based knowledge in each area. There is typically considerable repetition in this curriculum. For instance, nutrition needs of the adult, child, and pregnant woman, might be discussed in separate and succeeding courses; and in each lecture the professor will review basic nutrition concepts so that each lecture is independent.

Stage Two Integration

Stage Two Integration is, by far, the most common model, and occurs at a higher level. Here, the content related to the concepts of health and nursing (as defined by the faculty) is more interactive. These concepts progress through the curriculum and might be integrated either into the same course or in concurrent courses. There is notably a greater emphasis on the variety of client populations (individual, family, groups, community) so the focus is more on the recipient of care. Generally in this model the number of vertical (progressive) concepts is limited, but the horizontal (pervasive) concepts are numerous and include nursing process, communication, accountability, ethics, economics, and so forth. Clinical experiences are broader and many settings might be used to teach the same concept.

Stage Three Integration

Stage Three Integration is a much less common model, but clearly indicates the full conceptualization of nursing content. Two of the schools classified this way were careful to verify that their graduates did well on NCLEX examinations. Employers favored the graduates because they had excellent clinical skills as well as the ability to think, solve problems, and deal with new situations. Once again, in this model numerous pervasive concepts were identified as well as considerable progressive concepts. The curriculum design more closely resembles a holistic approach to the discipline of nursing. In the illustrated example, the faculty identified stress and adaptation as the major concepts. Clinical models are used to illustrate subconcepts of client, age, setting, and so forth. It is a true matrix design with faculty teaching beyond their specialty area; they teach in many areas at the generalist level.

HOW MUCH INTEGRATION?

General Education

Generally there was little integration in the general education courses. In some colleges courses such as "Cultural Influences in America" or "Utilization of Computers in ----" were found. Course descriptions often alluded to integrated concepts but they were not always clear.

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Some of the recent studies in higher education, such as that done by the National Institute on Education referred to earlier, are actively promoting interdisciplinary or integrated courses. As increasing numbers of colleges are investigating core curricula we might see more integration at this level.

Support Courses

Virtually no integration was seen in the support course area. In the sciences one might see an occasional introductory course that integrates concepts from biology, chemistry, and physics. But this was far from common. Certainly anatomy, physiology, microbiology, and biophysics are distinct specialty areas that nursing draws from. One might consider a pathophysiology course to be integrated, and it serves as a good example of how learning can be enhanced when disciplines are combined. A normal physiology and then an unrelated course in pathology would result in a less effective learning experience.

The lack of integration in the psychological and social sciences is curious, given the interactive nature of these disciplines and the similarities found in basic survey courses. The literature suggests that some colleges are experimenting with some integration in this area, but no examples were found in the review conducted.

Nursing Courses

In nursing courses the most common model seen was an integrated sequence of courses that progressively developed some concepts, in combination with some discrete courses.

A few examples of what people refer to as "fully integrated," with no discrete courses, were found. However, in recent changes these schools report adding one or two discrete courses in the upper division. These fully integrated, one course per semester models are problematic; they generally result in 12-14-credit courses that play havoc with student grades.

A program can achieve Stage Three Integration with smaller, more frequent, concurrent courses. It is not integration that causes these large courses but the faculty's inability or reluctance to separate the curriculum while maintaining a conceptual approach. Integration does not require an "all or nothing" approach.

Frequently encountered discrete courses included health assessment, nursing research, communication techniques, and nursing issues courses. In developing a discrete course the faculty should examine the extent to which the content to be taught supports the conceptual base of a curriculum. For instance, nursing research might be viewed as essential learning that supports the utilization of the conceptual approach to nursing care. Thus it would qualify as a free-standing or discrete course. Elements of research could then be integrated in the subsequent, more advanced courses, since the majority of the discrete content had been presented. Other faculty members might view research as such an interactive element that the content would be integrated in a progressive sequence related to nursing roles. The point here is that whether or not any content area is treated in a discrete or integrated approach is a decision that should be based on the utilization of the content vis-a-vis the conceptual framework and the design of the curriculum.

CRITICISMS

A number of criticisms about integrated curricula have been offered. These criticisms have aided in the clarification of the concept of integration—some in supportive ways and others in distracting ways. A brief response to each criticism follows.

1. *In an integrated curriculum "things fall through the cracks."*

Response: In any curriculum "things" can fall through the cracks. It is the role of a curriculum committee to monitor the curriculum, to review models, to be sure students have not only opportunities to apply the knowledge, but opportunities to transfer the knowledge. This can be done through reading, clinical assignments, testing, seminar discussions, or postconference sessions.

The question is, what are the "things?" In a nursing integrated curriculum model the "thing" is frequently identified as particular medical specialty content. The question the faculty needs to ask is, "Is it essential to generalist nursing practice?" If the answer is yes, then its relation to the major concepts or subconcepts and where and how the faculty can provide the appropriate learning experience need to be determined.

In medical curricula models the "thing" that was lost was frequently the nursing intervention and evaluation of care.

2. *In an integrated curriculum you end up with large 10+ credit courses.*

Response: This has been partly addressed already. In order to create smaller credit number courses the design needs to allow for a number of concurrent courses. Each course would address

a different conceptual focus with its related subconcepts. For instance, instead of "Care of the Client with Chronic Care Needs" = 12 credits, perhaps the faculty has identified chronic care (long-term care) as the major concept with nursing diagnosis and communication and family as subconcepts. Thus, the semester III courses could be developed as:

"Care of the Individual with Long-Term Care Needs" = 6 credits (Nursing Diagnosis Course)

"Impaired Verbal and Audio Functioning in Clients with Long-Term Care Needs" = 3 credits (Communication Related)

"Care of the Family with a Member Requiring Long-Term Care" = 3 credits (Family Related).

There are many ways the courses could be designed, depending on the overall conceptual framework.

3. *Integration requires "team teaching."*

Response: There is nothing inherent in an integrated curriculum that requires team teaching. It is frequently utilized to bring faculty's expertise into a course. It should be kept in mind that at the baccalaureate level we are preparing a generalist and faculty might be utilized more interchangeably.

4. *Students don't perform as well on NCLEX exams.*

Response: There are simply no data to support this. We have seen that baccalaureate students, as an aggregate, have scored slightly lower than diploma and associate degree graduates on NCLEX exams. While many people speculate on why this might be so, no definitive findings have demonstrated even inferential reasons. We simply do not know why this occurs.

5. *Faculty are uncomfortable with integrated curricula.*

Response: Again, no data exist to support this statement. There are undoubtedly some faculty members who are uncomfortable because they are not experienced in approaching nursing from a conceptual perspective. These faculty members should engage in activities that will help them gain this perspective.

Another factor is probably the truism "we teach as we were taught", most of us have not come through a conceptual model process (only 10-15 years old) so it may still be strange and uncomfortable. I suspect what (at least) some of these faculty members are saying is that they feel uncomfortable teaching "out of their specialty"—teaching generalized content.

Many faculty do enjoy approaching nursing in a conceptual manner because it is intellectually stimulating and sound.

THE FUTURE OF THE INTEGRATED CURRICULUM

Recalling the previously stated definition—"an integrated curriculum is one in which concepts are identified and explained through theory and research in order to facilitate generalized nursing knowledge and practice"—some imperatives come to mind.

The strength of the integrated curriculum model lies in the ability to focus education on the recipient of nursing care (the client), and on nursing. The concepts that are therefore developed are the keystones of the curriculum. I believe this should not change, that it is essential to the future development of nursing.

It is imperative, however, that faculty members be prepared to teach (1) as conceptualists and (2) as generalists. This presents real problems for graduate education. Graduate education does prepare the specialist, as it should, but it narrows the expertise of the individual. When that person then teaches at the undergraduate level he or she must return to the discipline or generalist level. That requires, in the faculty person, the ability to see the relationships of all specialties, the ability to clearly differentiate the generalist behaviors and knowledges within a specialty, and the ability to teach beyond his or her specialty area. I believe, incidentally, this focus back on the generalist (discipline of nursing) is one step in the resocialization of faculty toward interdisciplinary activities (1981). Graduate programs focused on the teaching role must attend to this concern.

A further consideration is the continuation of the conceptual approach in nursing education for the graduate program. Let me be more explicit. In some schools the undergraduate curriculum is conceptual and client focused. The graduate program in the same school is organized by a disease orientation (e.g., medical-surgical nursing with subspecialties of oncology or diabetes; or psychiatric nursing). What has happened to the client focus? What has happened to the nursing concepts? Graduate education teaches concepts; it is time graduate faculties accept and organize curricula through these concepts.

There are also imperatives for the student in an integrated curriculum. As the college-age population changes, becomes older, includes more minorities, and demonstrates lower SAT scores, we need to evaluate the student's ability to think and learn conceptually and what teaching techniques or support services could aid this process; one example is the content-mapping strategies developed by Colling (1984) at SUNY Binghamton.

As knowledge continues to increase and pressures on all fronts for faculty to develop rational and cost-effective educational programs for nursing continue, we might see a move back to an increase in discrete courses. What we as nurse educators must preserve is the progress we

have made in developing the conceptual base of nursing education and practice.

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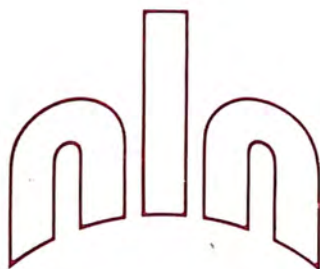
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Pub. No. 15-2165

3M-0886-014950

ISBN 0-88737-338-0