This is to certify that the

dissertation entitled

A STUDY OF ORGANIZATIONAL PATTERNS AND FACULTY RESOURCE REQUIREMENTS FOR CLINICAL NURSING INSTRUCTION IN BACCALAUREATE NURSING PROGRAMS

presented by

Elmer W. Moisio

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Educational Administration

Major professor

Date 12/4/81

A STUDY OF ORGANIZATIONAL PATTERNS AND FACULTY RESOURCE REQUIREMENTS FOR CLINICAL NURSING INSTRUCTION IN BACCALAUREATE NURSING PROGRAMS

By

Elmer W. Moisio

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Administration and Curriculum

1986

ABSTRACT

A STUDY OF ORGANIZATIONAL PATTERNS AND FACULTY RESOURCE REQUIREMENTS FOR CLINICAL NURSING INSTRUCTION IN BACCALAUREATE NURSING PROGRAMS

By

Elmer W. Moisio

The purpose of this study was to identify the organizational patterns that baccalaureate nursing programs use for clinical nursing education and the effect they have on the faculty resource requirements for that education. The writer specifically posed five questions: What are the organizational patterns of clinical nursing instruction? What are the variations and combinations of organizational patterns? What effect do the organizational patterns have on faculty resource requirements? What was the academic preparation of the faculty? and Was there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements, based on selected demographic variables?

Using a descriptive research design, 195 NLN-accredited baccalaureate nursing programs were randomly selected for survey by mailed questionnaire. Responses from the deans, chairpersons, directors, or heads of 120 baccalaureate programs provided data on 694 clinical nursing courses for inclusion in this study.

Statistical analysis provided information for each of the research questions. It was found that an overwhelming majority of clinical nursing courses were taught using the organizational pattern of Supervised Clinical. Simulated Laboratory, Preceptor/Role Model, Independent Study, and Practicum/Internship were found to be used on a more limited basis. When organizational patterns were combined, the most frequent combination involved a heavy use of Supervised Clinical with lighter use of Simulated Laboratory. Student/faculty ratio, number of hours in clinic per week, full-time faculty, and academic preparation of faculty were used to determine the faculty resource requirements for each organizational pattern. Each organizational pattern generated significantly different resource requirements. An analysis of the demographic factors of college/university size, program size, type of curriculum, and presence of a graduate program demonstrated that they had little to no effect on the organizational patterns and faculty resource requirements.

To Dad

Whose value and respect for education

inspired me to pursue this degree.

ACKNOWLEDGMENTS

I would like to express my appreciation and gratitude to Dr. Eldon Nonnamaker, my chairperson, for his guidance and encouragement, and to the members of my committee, Dr. Richard Gardner, Dr. Kay White, Dr. Louis Hekhuis, and the late Dr. Richard Featherstone.

I also want to thank the deans, chairpersons, and directors of the baccalaureate nursing programs who so willingly gave their time and effort. Without their participation, this study would not have been achieved.

I am particularly grateful to my wife, Marie, who as my mother used to say "stuck with me through the thick and the thin of it"! Thank you to Sara and Erik, who, though at times confused by a father who has become a "doctor-nurse," were always generous with their love.

Thanks to my peers and friends for their time and encouragement as they reviewed, critiqued, and supported my efforts. I especially appreciated Dr. Sara Doubledee and Lulu Ervast, who "paved the way" to Michigan State, and Phoebe Crouch, Dr. Betty Hill, Mae Markstrom, Dr. Marian Olson, Dr. Mary Ellen Powers, and Margaret Rettig for their technical and professional advice. I am most thankful to Dr. Sheila Burns for her statistical and editorial guidance.

Very special appreciation and thanks to my Mother and Dad, who had the wisdom and vision to encourage my educational endeavors. Their support and guidance live on in my accomplishments.

Thank you to the members of my family for their years of love and support. A special thanks to my mother-in-law, Vicky, who helped make my absences from home much more tolerable.

Last but not least, I am most grateful to two very important individuals, Sue Churchville and Sue Cooley. Without your skill, putting these words on paper would have been an ominous task.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION TO THE PROBLEM AND THE STUDY

In the past two decades, baccalaureate nursing programs have experienced considerable growth. This growth has been related to the high demand of students for nursing programs and the large supply of money available from government and other sources to support the development of such programs. Generally, it has been believed that nursing programs, though expensive, were reasonably safe from budget reduction. This has not proved to be true. With the continued waves of cuts in federal and state funding for nursing education and the decline in undergraduate enrollments (Morton, 1983), nursing administrators and faculty have had to begin to deal with the issues of budget and costs in a much more cautious and responsible fashion. Farrell and Eckert (1979) stated that educators need to develop new approaches which serve to reduce the cost yet maintain the quality of nursing education.

The issue of cost control in professional schools, such as nursing, is complicated by the educational process through which the student must go. This process involves the development of a theoretical knowledge base and the clinical application of that knowledge in various health care settings. In most curricula the clinical practice

accounts for at least 50% of the students' learning experiences (Meleca, Schimpfhauser, Witteman, & Sachs, 1981; Porter & Feller, 1979). In discussing this issue, Dienemann (1983) stated that nursing curricula have more clinical experience than any other baccalaureate first professional degree program. In addition, she indicated that nursing clinical experience, unlike other professional programs, is usually directly supervised by university faculty at the clinical site. This clinically intensive educational process limits the number of students who can be taught and consequently must be blamed for the high costs of nursing programs.

Various nurse educators have discussed alternative organizational structures for clinical nursing education. It is not clear, however, how widely used they are or what effect these have had on the faculty resource requirements committed for clinical instruction and, in turn, the cost of instruction. This study is an attempt to analyze various organizational patterns for clinical nursing instruction and their effect on the faculty resource requirements for that instruction.

Statement of the Problem

Understanding the effect that various organizational patterns for clinical nursing education have on the cost of the nursing program is a major concern of the faculty of baccalaureate nursing programs. The cost results from the personnel necessary for clinical nursing instruction and is a significant budget issue that must be addressed. The purpose of this research is to determine the most commonly used

organizational patterns and what effect they have on faculty resource requirements for that instruction. The primary concern and question that emerges is what organizational patterns are being used in baccalaureate nursing programs and how each pattern affects the faculty resource requirements for clinical instruction. Once the faculty resource requirements have been identified for each organizational pattern, it will then be possible, by using the data already available on nursing faculty salaries, to begin to compute the dollar costs of clinical nursing instruction.

The following questions are examined in this investigation:

1. What are the organizational patterns of clinical nursing instruction in baccalaureate nursing programs?

2. What are the variations and combinations of organizational patterns found in baccalaureate nursing programs?

3. What effect do the organizational patterns have on faculty resource requirements in baccalaureate nursing programs?

4. What are the resource requirements in terms of academic preparation of faculty used to staff clinical instruction in baccalaureate nursing programs?

5. Is there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements in baccalaureate nursing programs, based on selected demographic data?

Significance of the Study

The expense of baccalaureate nursing programs to colleges and universities has become a significant issue. The demand for cost-effective nursing instruction is and will continue to be a major concern to administrators and faculty. Therefore, if nursing is to continue to survive and grow in the academic setting, it must be assured that the most cost-effective and educationally sound alternatives for instruction are used.

The information gained in this study will expand the knowledge about the existing organizational patterns for clinical instruction. This study will also provide some indication of the faculty work load generated by the various patterns of clinical nursing instruction. Since the faculty resource requirements generated by clinical instruction are a major cost factor in the budgets of schools of nursing, it is intended that this study will add to the data base on which nursing faculty and administrators can make decisions concerning clinical nursing instruction.

Research Methodology

This section consists of a brief discussion of the research methodology used in conducting this study. The design of the study, the subjects, and the methods for data collection are presented.

Design of the Study

In a discussion of the various types of research design, Isaac and Michael (1977) stated that the purpose of descriptive research is

to "describe systematically the facts and characteristics of a given population or area of interest, factually and accurately" (p. 18). They further indicated that research authorities do not agree on what constitutes "descriptive research" and therefore tend to consider all forms of research descriptive, except historical and experimental. This broad definition is used to cover survey studies.

In discussing the purpose of survey studies, Isaac and Michael cited the work of Van Dalen and Meyer (1966), who described survey studies as doing the following:

1. Collect detailed factual information that describes existing phenomena.
2. Identify problems or justify current conditions and practices.
3. Make comparisons and evaluations.
4. Determine what others are doing with similar problems or situations and benefit from their experiences in making future plans and decisions. (p. 18)

Descriptive research, therefore, can do more than simply describe the status of the subject under study. Through interpretation, synthesis, and analysis it becomes possible to describe important issues and interrelationships. This study is a descriptive-design study.

Subjects

The population for this study comprises randomly selected baccalaureate nursing programs that are accredited by the National League for Nursing. The source of the selected programs was the National League for Nursing publication entitled Baccalaureate Education in Nursing: Key to a Professional Career in Nursing 1983-84--Information about NLN-Accredited Baccalaureate Programs in Nursing.

The NLN-accredited programs were selected because they represent successful completion of a review process which requires the meeting of commonly accepted nursing academic standards. Therefore, no judgment was made on the part of this researcher regarding academic standards and principles.

The NLN publication lists approximately 399 accredited programs. Sample size was determined by using a table for determining sample size described in an article by Krejcie and Morgan (1970) entitled "Determining Sample Size for Research Activities." Based on their analysis, a suitable sample size for a population of 399 is 195. Therefore, 195 programs were selected at random from the list.

The specific individuals to whom the study was focused included individuals who were serving as dean, chairperson, director, or head of the baccalaureate nursing program.

Method for Data Collection

Data were collected through the use of a mailed questionnaire. The intention of the questionnaire was to gather data concerning the use of the five organizational patterns for clinical instruction found in the review of the literature. They are: supervised clinical, preceptor/role model, simulated learning laboratory, independent study, and practicum/internship. Faculty resource data included looking at such factors as student/faculty ratios, number of hours of clinical instruction per week, class size, number of faculty, and level of faculty preparation. Demographic data included college or

university size, program size, type of curriculum, and the presence of a graduate program.

The specific methodology for the development and implementation of the survey questionnaire was that described by Dillman (1978) in the book Mail and Telephone Surveys: The Total Design Method. Dillman described a specific methodology that consists of two parts:

1. Identify each aspect of the survey process that may affect the quality or quantity of response and to shape each of them in such a way that the best possible responses are obtained.
2. Organize the survey efforts so that the design intentions are carried out in complete detail. (p. 12)

The methodology described by Dillman includes many strategies for development of a questionnaire that rewards the respondent, reduces the costs to the respondent, and establishes trust in the researcher. He clearly described how to develop questions in a manner that facilitates response and leads to a high return rate. His research indicated that using this method will result in a 70% and above return rate. In addition, he gave specific instructions for the size, shape, and format of the questionnaire. Further, he described the sequence for mailing the questionnaire, as well as guidelines for follow-up mailings to nonrespondents.

Confidentiality and anonymity of the respondent were carefully guarded. Questionnaires were coded by number strictly for identification of response for follow-up purposes. Individual school data are not identified in the study.

Assumptions

This study was based on the following assumptions:

1. Deans, chairpersons, directors, or heads of baccalaureate nursing programs understood the organizational patterns and faculty resource requirements of their baccalaureate nursing programs well enough to provide accurate data.

2. Deans, chairpersons, directors, or heads of baccalaureate nursing programs were interested in improving the data base on which faculty and administrators can make decisions concerning clinical nursing instruction.

3. The survey tool yielded an accurate description of each baccalaureate nursing program's organizational patterns and faculty resource requirements.

4. Despite their unique characteristics, baccalaureate nursing programs have common courses, organizational patterns, and faculty resource requirements that can be studied.

5. Despite its complexity and difficulty, study of this area will produce data that can lead to a better understanding of the administrative problems related to clinical instruction in baccalaureate nursing programs.

Delimitations

This study was limited to:

1. Baccalaureate nursing programs that have been accredited by the National League for Nursing (NLN, 1983).

2. Deans, directors, chairpersons, or department heads of baccalaureate nursing programs as respondents, to delineate a single accessible respondent capable of responding for the total program.

3. The use of the mail survey method because it is recognized as being an effective method for obtaining data from a large sample (Dillman, 1978).

Definition of Terms

The following conceptual definitions were used:

Organizational pattern--The structure used to teach student nurses clinical or practice skills.

Supervised clinical--Faculty members accompany a group of students into a health care agency and provide direct supervision of them while they care for patients.

Simulated laboratory--Structured learning experiences in caring for patients that simulate real-life situations. A faculty member or laboratory assistant provides supervision of the students.

Preceptor/role model--Faculty members identify practicing nurses who work with students on a one-to-one basis. Faculty member does not directly supervise the student, but periodically checks with the student and preceptor to evaluate learning experience. Faculty member may or may not be present in the clinical agency. Such learning may not be confined to patient care but also may incorporate direct observation of key nursing personnel.

Independent study--Student is responsible for planning the specific objectives and activities of the experience and for

fulfilling the learning needs. Faculty member serves as an advisor to the student, is not present during the experience, and does not provide direct supervision.

Practicum/internship--Concentrated and extended blocks of time in the clinical setting caring for patients and functioning autonomously in a staff nurse role. Faculty may or may not be present in the clinical agency. Practicing nurses may or may not be used as resource people.

Faculty resource requirements--Factors that demonstrate the work load, qualifications, or numbers of faculty used to teach student nurses in clinical or practice settings.

Summary

This is a descriptive study of a random sample of 195 baccalaureate nursing programs in which deans, chairpersons, directors, or heads of departments were asked to supply data about the organizational patterns used to instruct student nurses in clinical or practice settings, as well as the faculty resource requirements for that instruction. Data were gathered between October 1984 and January 1985 to answer the following questions:

1. What are the organizational patterns of clinical nursing instruction in baccalaureate nursing programs?

2. What are the variations and combinations of organizational patterns found in baccalaureate nursing programs?

3. What effect do the organizational patterns have on faculty resource requirements in baccalaureate nursing programs?

4. What are the resource requirements in terms of academic preparation of faculty used to staff clinical instruction in baccalaureate nursing programs?

5. Is there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements in baccalaureate nursing programs, based on selected demographic data?

CHAPTER II

REVIEW OF LITERATURE

Evolution of Nursing Education

The movement of nursing education into the college and university setting is a very recent phenomenon. The establishment of collegiate nursing education has essentially occurred in the last 30 or so years. Until about 1950 there were few baccalaureate degree nursing programs in American colleges and universities. Most nurses were "trained" in three-year hospital-based programs that tended to use the apprenticeship approach to education (Sams, 1976).

An analysis of the system of nurse training in the United States from 1873 to 1948 found that educational standards "did not even conform to those set for high schools" (Jacox, 1976, p. 35), and nursing schools were found to provide hospital service instead of education. Christy (1980) stated that most hospital-based nursing programs were there, not to educate nurses, but instead existed for the primary purpose of providing care to hospitalized sick.

Jacox (1976) stated that the education of nurses was about 95% service to the hospital and less than 5% instruction in theory. Essentially, nursing schools existed for the services students provided to the hospital to save it labor cost and provide a supply of nurses. The hospital used the nursing program to meet its needs

rather than the needs of the students (Curran & Metcalf, 1983). Porter and Feller (1979) stated that in hospital-based schools of nursing, clinical experiences were dictated by hospital needs. Students, through an apprentice-type program, were trained to fill staff nurse positions within the hospital conducting the program. Generally, it can be said that throughout nursing's history the clinical-education component was not based on any logical or sound educational practice but instead was used to provide a large supply of cheap laborers to the hospital.

Effect on Cost of Nursing Education

The early data regarding costs of nursing education and budgeting methodologies were much influenced by the state of the profession. First, the budgeting process of the school was mixed in with the total hospital budget, which confuses the cost data. As a result, it is not always clear what costs were truly generated by nursing education. Second, part of the cost of education was covered by the services the students provided to the hospital. How carefully, fairly, and appropriately this was shown as income for the program remains a question. Third, frequently the clinical instructor was also a practicing nurse who was supervising students as well as providing care to patients or functioning as the administrative head of a nursing unit. Direct accounting of the cost of this instruction was not clearly separated from nursing service. Fourth, since the primary mission of the early schools was service and not education, the applicability of those data to today's educational system is, at

best, highly questionable. Not only was teaching given a low priority, there also was practically no support for activities such as research, publication, and consultation.

The confusion regarding the costs of nursing education in the hospital-based program continues to present many problems (Brown, 1982). As late as 1972 it was discovered that questionable cost-analysis methods were resulting in decisions to close hospital-based programs (Bryson, 1982). Even the hospitals themselves were unable to accurately assess budgeting methods and costs data. In addition, the analysis of faculty workload done by hospital-based programs reflects an entirely different mentality than that found in modern colleges and universities. Faculty workload is analyzed, not in terms of teaching, research, or service activities, but in terms of a 40-hour work week and whether faculty are putting in enough hours to fill it (Bryson, 1982).

It seems appropriate to conclude that the nature and characteristics of nursing's educational history do not provide a great source of reliable data upon which to base today's budgeting practices. As a result, nurse leaders must work to establish new budgeting systems and practices that are applicable to the mainstream of education. Developing budgeting methods that effectively express the needs of modern nursing education and assure nursing a secure place in colleges and universities is a major task of the current generation of nurse educators.

Current Climate in Nursing Education and Its Effect on Clinical Education

The first university-based school of nursing was established at the University of Minnesota in 1908 (Anderson, 1981). However, it was not until the 1960s and 1970s that most nursing education programs had moved from the hospital to the college and university setting (Curran & Metcalf, 1983). Lysought (1979) reported that in 1966, 65% of all graduating nurses were from hospital-based diploma programs, but by 1978, 73% of all graduating nurses were coming from two- and four-year college-based programs. The college- and university-based programs provide much less experience in the day-to-day hands-on patient care practices. Since the majority of practicing nurses are graduates of the hospital-based diploma programs, this movement has caused considerable conflict between nursing service and nursing education regarding what is an appropriate type and amount of clinical education for nursing students.

Wagner (1980) reported that the pendulum has swung from expecting that students will spend almost 40 hours per week in clinical practice and using students to replace paid staff to a situation in which we have removed the student nurse from the realities of the employment setting. Blanchard (1983) reported that this problem has resulted in nursing service having to assume a large amount of the responsibility for teaching new graduates how to practice. He reported on a study which indicated that new graduates felt they did not have adequate clinical exposure in school. Blanchard (1983), Werner (1980), Johnson (1980), and numerous other

authors have described possible solutions to this dilemma. They recommended increasing cooperative efforts between hospitals and schools of nursing which will result in improved clinical experiences and instruction for students. Many have suggested increasing the number of clinical experiences, greater sharing of resources and increased planning between nursing service and nursing education, and developing a more cooperative relationship between education and service.

The movement away from the hospital-dominated educational system and toward the collegiate system has released nursing students from many of the abuses of the apprentice-type system. It has changed the focus of school of nursing from "training" to "educating" nurses. It has resulted in the recognition of nursing as a member of the "community of scholars." The price for this movement has been isolation of nursing faculty and students from the day-to-day realities of nursing practice (Curran & Metcalf, 1983).

The question must be asked: What can nursing education do to improve the clinical-practice component of its educational system and yet maintain high academic standards and professional autonomy? Is there a simple answer? For many in nursing practice, the solution is simply increasing the number of hours the student spends in the clinical setting. Although this solution sounds simple, the administrator of any nursing education program will immediately raise many critical issues that need to be addressed. A few might be:

1. When nursing already is one of the most expensive programs on a campus, how will I get additional faculty positions for increased clinical instruction?

2. What educational logic would support such a move?

3. Can we rely on some other method to provide clinical instruction?

4. Which method of clinical instruction is most cost effective?

Cost-Effective Clinical Education

Although several authors have expressed concern and have suggested strategies for strengthening and improving budgetary management in schools of nursing (Brown, Lasher, & Embrey, 1979; Crosby, 1985; Farrell & Eckart, 1979; Knopf, 1982; Langstrom, 1981), little has been written related to the cost of clinical nursing education. Ozimek and Yura (1977), in a publication entitled Considerations for the Effective Utilization of Nursing Faculty in Baccalaureate and Higher Degree Programs, began to address this issue by stating, "In times of economic retrenchment such as these, as pressures to cut costs in higher education mount, the effective utilization of nursing faculty becomes increasingly higher in priority" (p. 1). They stressed that the need for cost-effective use of faculty has never been greater. They also stated that the literature on nursing faculty workload is very limited.

Lazinski (1979), in an article entitled "The Effects of Clinical Teaching on the Budgets of Schools of Nursing," discussed a number

of factors that affect the faculty workload in clinical instruction. She demonstrated how the student-faculty ratio in clinical instruction affects the budget and how small increases in them convert to real dollar savings. Lazinski also raised a number of issues related to clinical-instruction methods that nursing faculty need to analyze. She stated that although many of these would not result in a real dollar savings, they would result in reducing faculty workload in clinical instruction, thus allowing them more time to pursue scholarly activities. In addition, she stated that probably "nursing, more than any other school or college within a university setting, spends more hours in teaching a comparable number of credits than other faculty" (p. 22). She called for nursing faculty to look at the rationale for the way in which they instruct clinically and to evaluate how they can meet their instructional objectives in a much more cost-effective manner.

Dienemann (1983) also discussed the issue of reducing nursing faculty workload without increasing costs. She suggested that there is a need for nursing programs to study and compare the way in which they organize their clinical-instruction component. She stated,

> One possible source for reducing faculty workload is the examination or comparison of how professional schools provide didactic instruction and assist students in acquiring psychomotor skills, clinical judgment, and socialization into their future work roles while at the same time controlling faculty workload. (p. 111)

She further stated that through a review of university catalogs and some interviews it was determined that this is being done in some

programs by "(a) diversification of income, (b) the structure and modalities of teaching, and (c) mixture of types of faculty positions" (p. 111).

The ideas regarding altering the structure and modalities of teaching and developing a different mixture of the types of faculty positions suggest that we look more to computer-assisted instruction, large discussion groups, more part-time adjunct faculty, and a significant increase in the use of teaching assistants. Dienemann (1983), in studying ten types of schools and departments at 88 universities, discovered that nursing programs had the fewest teaching assistants. In reviewing her work, it becomes obvious that schools of nursing can implement many alternatives that will result in cost savings and still meet the instructional objectives.

In summary, it can be concluded that the desire for cost-effective patterns for clinical nursing education is well documented. However, there appears to be a general lack of adequate data on the cost of nursing education. Lucille Knopf (1982), a research associate for the National League for Nursing, best described this problem when she reported that

> Hardly a week goes by that the NLN Division of Research does not receive a call from someone asking for a figure that represents the cost of educating a nursing student. . . . The caller is stunned and frustrated when told that there are no reliable data on the cost of nursing education at the national level. (p. 29)

Organizational Patterns for Clinical Instruction

Pugh (1983) reported that the majority of studies related to clinical education of nurses have focused on the perceptions of the

students in an attempt to identify teaching behaviors of the faculty. She further indicated surprise over the lack of reported studies on clinical teaching, given that it is such an important part of professional education. In reviewing the literature, this researcher found that most studies on clinical nursing education related in one way or another to teaching strategies or methodologies to enhance the clinical educational experience. This included looking at various student activities or assignments and faculty behaviors that inhibited or facilitated the students' learning experiences (Brown, 1981; Cotanch, 1981; Dachelet et al., 1981; Infante, 1975; Keen & Dear, 1983; Meleca et al., 1981; Olson, 1983; O'Shea & Parsons, 1979; Taylor & Cleveland, 1984). The review of the literature failed to provide any studies that identified common organizational patterns for clinical nursing education, much less reports on the typical faculty resources committed to clinical instruction. The literature did, however, give some indication of what individual programs are attempting to do. It appears that up to this point few questions have been raised regarding common organizational patterns for clinical education and their costs.

The common organizational patterns for clinical nursing education reported in the literature are discussed in the following paragraphs.

Supervised Clinical

The supervised clinical is an organization pattern in which the instructor takes a group of students into a health care agency and

provides direct supervision of them while they care for patients. The extent to which this organizational pattern is used was not reported in the literature. Based on this researcher's personal experience and suggestions from the literature, it is assumed that this pattern is by far the most common. Meleca et al. (1981) surveyed 672 nursing faculty from 119 institutions. In asking them what type of teaching best typified their clinical teaching, 72% indicated clinical supervision. Although is is not clear if this means direct supervision of students in patient care, it may be safe to assume that, for the most part, it does.

A 1964 publication of the U.S. Department of Health, Education, and Welfare entitled "Nursing Education Facilities: Programming Considerations and Architectural Guide" appeared to be addressing concern about the use of the supervised clinical. It stated:

> The nature of nursing practice and education is such that the faculty-student ratio is much lower than in curricula where the safety and well-being of people are not considerations.
>
> The location of the patient care areas, the need to utilize community resources to obtain student experiences, and the need for close supervision of the student in patient care experiences are some of the factors which influence the faculty-student ratio. (pp. 31-32)

Dienemann (1983) discussed the effect of the supervised clinical on the nursing faculty workload. She stated,

> Nursing field experience, unlike in many programs, is frequently supervised by university teachers at the clinical site with a teacher-student ratio of approximately 1 to 10. As a result, members of the nursing faculty have higher student contact hours than those of other professional schools or the arts and sciences. (p. 111)

Lazinski (1979) discussed the implication of the supervised clinical on the budget. She demonstrated that considerable savings can result when faculty-student ratios in the clinical area can be increased from 1:8 to 1:9 or 1:10. These increases, Lazinski implied, will not negatively influence effective teaching. In addition, she made a number of recommendations for reducing numerous time-consuming activities surrounding supervised clinical instruction.

Other authors have reported a range of faculty-student ratios in supervised clinical. They ranged from 1:3 (Keen & Dear, 1983) to 1:10 (Olson, 1983).

Preceptor/Role Model

The preceptor/role model organizational pattern requires that the undergraduate faculty member identify practicing nurses who are willing to work with students on a one-to-one basis. The faculty member does not directly supervise the student, but periodically checks with the student and preceptor to evaluate how the experience is going. The instructor is responsible for developing the objectives of the experience and assuring that the student is able to meet them through the preceptor.

The recent literature has indicated that there is considerable interest in using this organizational structure in clinical instruction for undergraduate nursing students (Chicherella & Lutz, 1981; Clark, 1981; Maraldo, 1977; Turnbull, 1983; Walters, 1981). Turnbull (1983) defined preceptor as a "service-based nurse with clinical expertise and interest in student education who is willing to

sponsor or work with student nurses when an instructor may or may not be present in a given patient care setting" (p. 11). How this structure is implemented varies with different nursing programs. In some cases the preceptor is given faculty status ranging from adjunct professor to teaching assistant. It does appear that the preceptor usually receives no additional compensation. The academic credentials required of the preceptor also vary. It appears that some programs desire practicing nurses with a master's degree, while others simply desire a competent practicing nurse regardless of academic preparation.

Simulated Learning Laboratory

The literature has reported several experiences in which clinical instruction has occurred through the use of the simulated learning laboratory (Dahl, 1984; McDowell, Nardini, Negley, & White, 1984; Taylor & Cleveland, 1984; Whitis, 1985). The simulated learning laboratory may range in its meaning from one nursing program to another. All, however, appear to create structured learning experiences that simulate real-life situations, giving students opportunities to learn new clinical skills. This allows the student the opportunity to practice and reduces the liability factor present in the health care setting.

Taylor and Cleveland (1984) recognized the learning laboratory as an effective means of helping faculty cope with high numbers of students in the clinical area. They demonstrated how the learning

laboratory could be used on a rotational basis with the patient care areas, thus reducing the number of students the faculty member would have to supervise within the patient care setting.

McDowell et al. (1984) reported success in using simulated patients. They found that healthy individuals could be trained to enact the role of patients. They did indicate, however, that the project demanded considerable faculty time and resulted in additional costs because the individuals used to play the role of simulated patients were paid for the time spent in training and actual simulated situations.

Dienemann (1983) discussed the use of on-campus laboratory simulation, computer simulations, and on-campus health clinics as alternatives to off-campus clinical facilities. She suggested that these are cost-effective both in terms of faculty and student time. She stressed that computer-assisted clinical instruction is a new alternative that is being found to be a successful alternative to clinical instruction.

Whitis (1985) indicated that economic benefits can be realized when using simulation in teaching clinical nursing. Using simulation allows for larger teaching groups, giving a larger student-teacher ratio. In addition, she felt that the students and instructor are not subjected to the interfering stimuli found in the patient care setting. She stated, "The amount of time spent teaching a particular concept or concepts can be reduced because extraneous stimuli are reduced when using simulation" (p. 161).

Independent Study

The use of independent study as a way in which students can learn clinical nursing skills has been discussed in the literature. Dear and Bartol (1984) conducted a study of the use of independent study in 40 baccalaureate nursing programs in the South. Of the 219 faculty members responding, "95% reported that their schools provided opportunities for independent study in nursing courses; of these 75% involved clinical nursing practice" (p. 243). Their findings also demonstrated that confusion existed about what independent study is and how it should be structured.

Sommerfeld and Hughes (1980), Taylor and Cleveland (1984), Kilcullen (1985), and Bartol (1984) discussed the use of independent learning of clinical skills. Taylor and Cleveland (1984) expected students to be self-directive in learning clinical skills before actually practicing them on clients. However, they stated that many students were not prepared to assume this role and as a result came to the patient care areas unprepared.

Sommerfeld and Hughes (1980) discussed how they implemented independent learning in the clinical setting. Independent study under their model required that the faculty member determine which health care agencies were to be used, whom the student would work with, and what the broad learning objectives were. The student assumed responsibility for planning the specific activities of the experience and being responsible for fulfilling his/her own learning needs.

The article mentioned that this approach was very successful, yet created a heavier workload for faculty. The effect on faculty workload appeared to have resulted from having to work with students on an individual basis rather than in groups. Although faculty did not provide direct clinical supervision, they met with students in weekly seminar groups and individually in order to provide them with a support system. The specific number of student contact hours was not indicated.

Practicum or Internship

The use of a practicum or an internship as an effective structure through which to provide instruction in clinical nursing has been reported in the literature (Hartin, 1983; Keen & Dear, 1983; Martin & Pashowitz, 1975; Porter & Feller, 1979). It was not possible to discover, however, how frequently it was used or what effect it had on costs. Practicum in clinical nursing seems to represent two or more consecutive eight-hour days in the clinical setting caring for patients and functioning in a role similar to a staff nurse. This organizational structure is unique because it allows the student the opportunity to remain in the clinical area for a full eight-hour day, and for more than one day a week.

Keen and Dear (1983), in discussing the practicum-type experience, indicated that the student/faculty ratio ranged from 1:3 to 1:6. They also stated that this arrangement produced additional

anxiety for the instructor. They did indicate, however, that the faculty were present on the unit for shorter periods of time as the course progressed.

The internship structure in clinical education does not appear as a component of undergraduate education. It does, however, appear to be a common clinical nursing education pattern used by hospitals to prepare graduates for their role as staff nurses. This usually consists of two or three months of clinical experience in which the graduate nurses work with experienced registered nurses. The literature related to cost of such a program reflected costs to the hospital for orientation of new graduate nurses and was not applicable or useful to undergraduate programs (Kasprisin & Young, 1985; Wagner, 1980).

Faculty Resource Requirements for Clinical Nursing Instruction

The issue of faculty workload in nursing programs has been addressed in the literature (Andreoli, 1979; Andreoli & Musser, 1984; Coudret, 1981; Crawford, Laing, Linwood, Kyle, & DeBlock, 1983; Faucet, 1979; Holliman, 1977; Saylor, Kaylar, Genthe, & Otis, 1979). Each article attempted to address the issues of faculty workload and faculty productivity as it relates to the overall faculty resource requirements for teaching, research, and service. There was a general recognition of the complexity and difficulty encountered when measuring faculty resource requirements. Little discussion was

given to the needs generated by the clinical instruction of student nurses.

Saylor et al. (1979) indicated that the clinical setting generates a range of student/faculty ratios. They stated,

> The specific nature of the experiences demands a low student-faculty ratio; for example, experience in Intensive Care Units might require a one to one student-faculty ratio whereas an area of less intense care or other considerations as outlined in the faculty workload guidelines might permit a ten to one ratio. (p. 904)

This certainly emphasizes the complexity in measuring faculty resource requirements in clinical settings. However, it appears that there has been a general lack of discussion beyond that point.

Coudret (1981) stated that there has been a delayed emphasis on the workload determination when one compares nursing to other departments. Yet, given the demands placed on faculty for doing research, as well as maintaining their clinical skills, there is a critical need to better understand the nursing faculty's workload. In a study of 166 associate-degree programs and 100 baccalaureate programs, Coudret found that in baccalaureate programs that reported faculty workload policies, "credit hour was most commonly used to determine workload" (p. 39). However, she found that clinical instruction was usually equated in a different manner. A clinical hour of instruction was usually equated to one-half hour of classroom instruction, a model that appears to have come from the "two to one" ratio used in the biological and physical science labs. Generally, this method of determining clinical workload for nursing faculty was

felt not to reflect their true workload, and that the contact hour might better reflect the clinical teaching responsibilities.

In addition, Coudret found that collective bargaining had "less effect on faculty workload than was anticipated" (p. 41). The clinical teaching load of nursing faculty or other unique nursing workload problems were not reflected in the workload policies developed through collective bargaining.

Andreoli (1979), in a discussion of faculty productivity, described ways of measuring faculty workload components. She stated, "Measurable variables have been identified, tried and tested to provide a suitable method for productivity evaluation" (p. 48). The measurable variables identified were (a) credit hours, (b) contact hours, (c) student-teacher ratios, (d) average number of hours worked per unit of time, and (e) percentage allocation of times for a particular activity. She clearly emphasized that there are limitations in using these variables. She concluded her discussion by stating,

> Clearly, much time, thought, energy and research have been devoted to developing accurate methods to measure faculty workload. Unfortunately, progress has been slow, and academic administrators continue to work toward improving the measuring system. . . . (p. 49)

Other Health Disciplines

A search for literature in other health disciplines failed to produce significant materials that would shed light on their experiences with various organizational patterns and the resulting resource requirements for clinical instruction. Jason (1962) reported that there was an absence of research in medical education related to the

teacher and teaching practices. Although his study, entitled "A Study of Medical Teaching Practices," began an examination of teacher behavior, little mention was made of the predominant organizational patterns of medical education or their effect on faculty.

Stritter, Hain, and Grimes (1975) provided a definition of clinical teaching in medicine that appears to encompass similar characteristics of nursing clinical instruction. They defined clinical teaching as "that which occurs in an individual or small-group setting, generally at the bedside but also in ward rounds and small seminars" (p. 876). However, they went on to contrast a "traditional university hospital" and its full-time faculty with clinical instruction that occurs outside this setting in satellite campuses or community hospitals removed from the university using mostly volunteer and part-time clinical teachers. In this community-based instruction there appears to be a heavy reliance on the preceptor model of instruction. This description appears to allude to a much less tightly supervised clinical experience than that found in nursing.

Bazuin and Yonke (1978) gave brief descriptions of medical clinical education, which provide some indication of the way it is organized. They indicated that medical students are taught by "practicing on students and by receiving guidance from senior faculty members" (p. 377). They described an experience in which "the undergraduate student serves as the primary provider for the health care of approximately 75 families" (p. 377). In this experience the student is identified as the individual who has first contact with the

patient, while the faculty member "assists" the student in assuring that the patient is properly cared for. No discussion was found concerning the effect of this instructive process on faculty resources, such as student/faculty ratio, time, or other workload factors.

Mayberry (1973), in a study of clinical teaching in dental schools, presented what appears to be comparable to a supervised clinical in a dental educational setting. Although the focus of his study was on student evaluation, he stated that "Each instructor has 12 or 13 students under his direct supervision in a 12- to 14-unit module during an entire semester" (p. 9). Although one could suspect that this structure leads to faculty resource demands comparable to those of nursing, it was not possible to find such discussion in the literature.

Kloth and Morrison (1983), in a study entitled "Supervised Versus Independent Study Laboratories," presented a comparison of two organizational patterns of instruction used in a classroom laboratory for physical therapy students. They were unable to find a difference in students' test scores on performance when comparing supervised instruction with independent. Finding that the amount of instructor supervision did not significantly influence student performance led them to suggest that a greater reliance on independent study be considered. In addition, this would benefit the instructor because it would lead to a more effective use of the educators.

In summary, a review of the literature of other health disciplines failed to provide a clear description of what the experience of other professions has been. However, it does appear that there are similar organizational patterns, problems, and concerns that can be examined and addressed in an effort to better understand the problems associated with the administration of the clinical educational component of a health discipline.

CHAPTER III

DESIGN OF THE STUDY

This chapter consists of a discussion of the research methodology used in conducting this study. It gives a description of the subjects, the instrument used, the survey method, and the methods for data analysis.

Subjects

The sample for this study was limited to 195 randomly selected baccalaureate nursing programs taken from the 399 programs listed in the National League for Nursing (NLN) publication entitled Baccalaureate Education in Nursing: Key to a Professional Career in Nursing 1983-84--Information about NLN-Accredited Baccalaureate Programs in Nursing. The NLN-accredited programs were selected because they represent successful completion of a review process that requires the meeting of commonly accepted nursing academic standards. This selection relieved the researcher of making judgments regarding the academic standards and principles of the study sample. Since each program had achieved accredited status, it was felt that clinical instruction was being provided in a manner that met the accepted academic standards and principles of the profession. Therefore, all

programs, having gone through this process, demonstrated a comparable level of academic quality.

Sample size was determined by using a table for determining sample size described in an article by Krejcie and Morgan (1970) entitled "Determining Sample Size for Research Activities." Their sample size table was developed through application of a formula for determining sample size published by the research division of the National Education Association. Based on this analysis, it was determined that a suitable sample size for a population of 399 would be 195. This number was required to be 95% confident that the sample values would not deviate by more than .05 from the population values. Therefore, 195 randomly selected NLN-accredited baccalaureate nursing programs from across the United States were selected for inclusion in this study.

The specific persons to whom the study was focused included those individuals identified in the NLN publication as the administrators of the baccalaureate nursing program. By administrative title, this included 98 (50%) deans or associate deans, 73 (37%) chairpersons, 19 (10%) directors, and 5 (3%) heads or coordinators. Since the data being sought dealt with the administrative issues concerning organization and staffing of clinical instruction, it was felt that these would be the most appropriate individuals to respond or to determine an appropriate respondent.

Instrument for Data Collection

A two-part mailed questionnaire requesting five specific categories of data was used as the data-collection instrument (Appendix B). The questionnaire was constructed by the researcher and was based on a review of the literature and input from a group of seven experienced nursing program administrators. Construction of the questionnaire, including booklet format and printing procedures, followed many of the principles and design methods identified by Dillman (1978) in the book Mail and Telephone Surveys: The Total Design Method.

The first section of the two-part mailed questionnaire was designed to provide specific data on each required clinical nursing course, or the clinical portion of each required nursing course, in classes where the clinical component was not a separate course. This was accomplished by dividing Section 1 of the questionnaire into four distinct categories of data. The four categories were course data, organizational data, faculty workload data, and faculty preparation. The first category, course data, asked for a course title, the year the course was taken, and the number of credit hours allotted for clinical instruction.

Organizational data, the second category, required that the respondent provide an estimate of the percentage of time each organizational pattern was used for clinical instruction in the course. The organizational patterns of supervised clinical, simulated laboratory, preceptor/role model, independent study, and practicum/

internship were defined in the directions section of the questionnaire to clarify the meaning of each pattern. For example, a subject could respond by indicating that for a particular clinical nursing course 75% of the time was spent using a supervised clinical organizational pattern, and 25% was spent using a simulated laboratory organizational pattern.

The third category of data provided information concerning the faculty workload generated by the clinical nursing course. It asked for the number of students, faculty/student ratio, number of clock hours per clinical section per week, number of clinical sections for current term or semester, and the total number of faculty (expressed in full-time equivalent) needed to teach the clinical nursing course.

The fourth category of Section 1 asked for faculty preparation, i.e., academic preparation such as master's or doctorate, or status such as graduate assistant, laboratory assistant, or practicing nurse.

Section 2 of the questionnaire provided a fifth category, general and demographic data about the respondent's nursing program. In addition, an area was provided for comments by the respondents.

In addition to careful questionnaire construction, an attempt was made to obtain as much validity and clarity as possible. A group of seven experienced nursing program administrators were asked to review and evaluate the instrument. This review process was done to establish content validity. According to Polit and Hungler (1985),

> The content validity of an instrument is necessarily based on judgment. There are no objective methods of assuring the adequate

> content coverage of an instrument. Experts in the content area may be called upon to analyze the items to see if they adequately represent the hypothetical content universe in the correct proportions. (p. 247)

A determination of the clarity of the items and the instructions for using the questionnaire was also made by the reviewing group. Each of the experienced nursing program administrators reacted to, and subsequently verified, the clarity of the items and the instructions for the questionnaire. This included the cover letters and post card sent with each mailing (Appendix A). Changes and adjustments in the instrument were made, based on this process.

Protection of Human Rights

The original proposal for the implementation of this dissertation was submitted to the guidance committee in May 1984. Approval was granted on May 31, 1984 (Appendix C). Following this, the proposal was submitted to the University Committee on Research Involving Human Subjects. On July 3, 1984, approval was granted for conducting the study (Appendix C).

The following procedure was implemented to ensure the confidentiality and protection of the respondent. The questionnaire was given an identification number for mailing purposes. This was done so that the name of the respondent could be checked off the mailing list once the questionnaire was returned. The respondent's name or institution was never placed on the questionnaire. All individual responses remained anonymous, and only pooled or summarized data are reported in this dissertation.

Procedure for Collecting Data

The survey methodology used in this study was based on many of the principles recommended by Dillman (1978) in his book Mail and Telephone Surveys: The Total Design Method. Dillman recommended a seven-week, four-stage survey design with an initial mailing and three follow-up mailings. The following procedure was implemented:

1. Initial mailing of questionnaire with cover letter (Appendix A).

2. Post card reminder two weeks after initial mailing (Appendix A).

3. Follow-up mailing four weeks after initial mailing with a different cover letter and a replacement questionnaire (Appendix A).

4. Follow-up mailing seven weeks after initial mailing with a different cover letter and a replacement questionnaire (Appendix A).

Woolley (1984), in a study entitled "Questioning the Mailed Questionnaire as a Valid Instrument for Research in Nursing Education," asked deans and directors of baccalaureate and higher degree programs to rank a number of variables in order of their influence on the decision to complete a questionnaire. The variables were ranked as follows:

The subject matter (salience factor) received the highest rates. The more important and significant the topic was, the more likely the questionnaire would be returned. Second in importance was the length of time it took to complete the questionnaire. The shorter the instrument, the better were its chances for return. The type of

question rated third in importance; multiple choice and rankings were preferred. The fourth important variable was identity/status of sender. Doctoral candidates were noted among those as having the best chance of getting an immediate return. The nature of the cover letter was rated fifth. A letter that contained a personal and correct address and did not overstate the importance of the issue was most likely to be returned. Time of the year and format of the questionnaire were rated as not important. However, neatness and quality of the questionnaire were noted to have an influence on return.

Recognition of the significance of this topic seems to have been supported by the return rate. In total, 151 questionnaires were returned. Of that number, 120 had data that were included in this study. (See Table 1.)

Table 1.--Return rate of the initial and follow-up mailings to selected baccalaureate nursing programs (number and percentage of usable questionnaire) (Sample size N = 195)

Mailing	Number	Percent
Initial mailing of questionnaire, October 15	40	33.33
Post card reminder, October 29	46	38.33
Follow-up mailing with replacement questionnaire, November 13	16	13.33
Follow-up mailing with replacement questionnaire, December 4	18	15.00
Total	120	100.00

The time required to complete the questionnaire contributed to the return of some unanswered questionnaires. The researcher was careful not to make any statements regarding the amount of time it would take to provide the requested data. It was recognized that considerable time and effort were required, and respondents were thanked for it. Obviously, this complex topic was no small undertaking, a formidable task for both the respondent and the researcher.

The nature of the data requested did not lend itself to easy questions or answers. The questions were developed with considerable thought and input from others. An attempt was made to assure that they were as clear and easy to answer as possible.

The identity and status of the researcher were clearly identified on both the questionnaire and all other attached cover letters and correspondence. One respondent wrote to the researcher, requesting a letter of verification from the dissertation advisor before completing and returning the questionnaire.

The cover letter, post card, and all other correspondence were personalized with proper names and titles of the subjects. These were taken from the NLN publication and for the most part remained current. In addition to the questionnaire and cover letter, a stamped self-addressed return envelope was included. The researcher's place of employment was used for the return address on all correspondence.

Caution was taken to avoid mailing questionnaires on dates that might result in their arriving during a holiday period. October

1985 was selected as the month to begin the study to ensure that arrival would occur well after the beginning of the academic year. The format of the questionnaire was done with the assistance of a graphics professional to assure that the cover, color, and layout of the questionnaire would appear attractive and appealing. In addition, the instrument was professionally printed.

Returned Questionnaires

In total, 151 (77%) out of 195 questionnaires were returned. Of the 151 questionnaires, 120 (62%) were found to have usable data. Table 1 identifies the order of return of usable questionnaires. Of the questionnaires returned, 31 (15%) were unanswered or lacked adequate data. Most individuals indicated a reason for their lack of response. The following is the number of incomplete questionnaires returned and the reason:

1. Nine returned the unanswered questionnaire, stating it was too long and would take too much time.

2. Eight returned the questionnaire with no comment or stated that they chose not to participate.

3. Seven returned unanswered questionnaires stating that they received too many requests for data and therefore could no longer respond to them.

4. Two were in the middle of curriculum changes, which would result in an unclear description of their program; therefore, they chose not to respond.

5. Two had incomplete data to the extent that they could not be included in the study.

6. One no longer had an undergraduate program.

7. One was in the process of an accreditation visit and could not respond.

8. One chose not to participate because the information requested was not available in one central location.

In summary, 195 questionnaires were sent to NLN-accredited baccalaureate nursing programs randomly selected from across the United States. One hundred fifty-one (77%) were returned. One hundred twenty (62%) contained usable data and were included in this study.

Methods for Data Analysis

Because this study was descriptive in nature, the data were organized to present the findings for each of the following research questions:

1. What are the organizational patterns of clinical nursing instruction in baccalaureate nursing programs?

2. What are the variations and combinations of organizational patterns found in baccalaureate nursing programs?

3. What effect do the organizational patterns have on faculty resource requirements in baccalaureate nursing programs?

4. What are the resource requirements in terms of academic preparation of faculty used to staff clinical instruction in baccalaureate nursing programs?

5. Is there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements in baccalaureate nursing programs, based on selected demographic data?

The data analysis for each question was done using several of the descriptive and statistical testing programs available from the Statistical Package for the Social Sciences (SPSS). In addition, a statistical consultant assisted in the analysis of data. Generally, the following rationale was used when selecting a specific approach for data analysis:

1. When data were extremely complex or hard to test, simple descriptive statistics were used.

2. When the means for two groups of data were compared, a t-test was used.

3. In situations in which the means of more than two groups were being compared, one-way analysis of variance (ANOVA) and the Fisher least significant differences (LSD) test were employed.

4. When an analysis of the relationship between variables was desirable, the Pearson correlation coefficient or the point-biserial correlation coefficient was used. All testing was done at the .05 significance level.

In Question 1, the independent variable consisted of the five organizational patterns. Each pattern was analyzed to determine the frequency of use and the percentage of time each was used. These variables were also analyzed by year taken and specific course category. Simple descriptive statistics were used.

In Question 2, the independent variable was identified as the dominant organizational pattern. The dominant pattern was described as a pattern used 50% or more of the time. The data were then analyzed to determine what other patterns were used in combination with that dominant pattern. This analysis included frequency of use, as well as percentage of time used. Again, simple descriptive statistics were used.

Mean student/faculty ratio and mean number of hours in clinic per week were the two major dependent variables used for analysis in Question 3. These variables were analyzed to determine the effect each organizational pattern and course had on them. Simple descriptive statistics were used for a portion of the analysis. When comparisons were made between student/faculty ratios or hours in clinic and each organizational pattern, they were statistically tested with a one-way ANOVA and the Fisher LSD.

Question 4 involved an analysis of faculty academic preparation for each course category, as well as each organizational pattern. Using simple descriptive statistics, the number of doctorate-, master's-, and bachelor's-prepared faculty; graduate assistants; laboratory assistants; and practicing nurses was identified for each course and organizational pattern.

Finally, Question 5 involved analyzing the effect that four demographic variables had on the percentage of use of each organizational pattern and the faculty resource requirements of student/faculty ratio and number of hours in clinic. For the analysis of the

relationship between the demographic variables of college/university size or program size and the selected dependent variables, Pearson's correlation coefficient was used. For type of curriculum and graduate program, a t-test was used to determine if a significant difference existed. To determine the degree of correlation that existed between these independent variables and the selected dependent variables, a point biserial correlation coefficient was used.

CHAPTER IV

ANALYSIS OF DATA

This chapter presents a detailed description of the analysis of data. It begins with the results of the survey return and a description of how the data were handled for analysis purposes. This is followed by the analysis of specific data to determine:

1. What are the organizational patterns of clinical nursing instruction in baccalaureate nursing programs?

2. What are the variations and combinations of organizational patterns found in baccalaureate nursing programs?

3. What effect do the organizational patterns have on faculty resource requirements in baccalaureate nursing programs?

4. What are the resource requirements in terms of academic preparation of faculty used to staff clinical instruction in baccalaureate nursing programs?

5. Is there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements in baccalaureate nursing programs, based on selected demographic data?

Survey Return and Data Handling

One hundred twenty or 62% of 195 mailed questionnaires were identified as providing data for inclusion in this analysis. Part one

of the questionnaire provided data on 694 required clinical nursing courses. Part two provided a range of demographic and related data about 120 baccalaureate nursing programs responding to the questionnaire.

Based on the course title identified by the respondent, each course was classified into one of eight categories. (See Table 2.) This classification was determined by matching a course title with the appropriate category. It was possible to classify 361 of the 694 courses (52%) in this manner. For 333 courses (48%), it was not possible to determine, based on the course title, a specific category. Courses with titles such as Nursing Process II, III, or IV or Nursing the Child and Adult were placed into a ninth category labeled Other. (See Table 2.)

To qualify for one of the eight categories, the title had to reflect a term that clearly identified it as one fitting the identified classification. Any doubtful or confusing titles caused the courses to be classified into the ninth category of Other. It was usually easy to identify, by course title, the intention of the course. The first category, Introduction to Nursing, Nursing I, or Fundamentals of Nursing, was the easiest to identify. The most difficult courses to identify were those related to pediatrics or child nursing. They often appeared to be a mixture of child-adult or some other mixed clinical course.

Courses in the ninth category (Other) reflected a mixed title, i.e., child-adult, well child/well adult, or reflected a title unique

to the program structure or some major concept from its curriculum model, such as stress adaptation, wellness, stages of growth and development, or an element of the nursing process.

In summary, this process provided the researcher with 361 required clinical courses that fell into one of the eight categories identified in Table 2 and 333 courses in category nine (Other).

Table 2.—Number of required clinical nursing courses, by title.

Course Title	All Cases (N = 694)		Generic and RNs Combined		BSN Completion	
	No.	%	No.	%	No.	%
Intro./Fundamentals/ Nursing I	92	13.3	85	13.4	7	11.7
Adult/Acute/ Medical-Surgical	49	7.1	45	7.1	4	6.7
Maternal-Child/ Expanding Family	35	5.0	33	5.2	2	3.3
Pediatrics/Child	19	2.7	19	3.0	0	0
Psychiatric/Mental Health	34	4.9	32	5.0	2	3.3
Community Health	55	7.9	45	7.1	10	16.7
Management/Leadership	37	5.3	32	5.0	5	8.3
Senior Practicum/ Advanced Medical-Surgical	40	5.8	36	5.7	4	6.7
Other	333	48.0	307	48.8	26	43.3
Total	694	100.0	634	100.0	60	100.0

Of the 120 baccalaureate nursing programs that responded, 18 (15%) reported that they were strictly Bachelor of Science in Nursing (BSN) completion programs. This means that they only admit students who are currently licensed registered nurses and who have returned to school to complete the baccalaureate degree. (It is possible to become eligible to write the registered nurse licensure examination upon graduating from a two-year associate degree program, a three-year diploma program, or a four-year baccalaureate degree program.) These 18 programs reported data on 60 (8.64%) of the 694 required clinical nursing courses (Table 2). Ninety-five (79.2%) programs reported that they accepted both generic (beginning) students and registered nurses returning for a degree into the same program. Five programs (4.2%) reported that they did not accept registered nurses. Two (1.7%) gave no response to the question. These 102 programs reported on 634 courses and were placed together under the data heading of Generic and RNs Combined.

The effect that the BSN completion programs had on the data appears minimal. However, for a clearer indication of their effect, the data are reported separately where it seemed appropriate. It is worthwhile to report the results because it will be of interest and value to nursing program administrators.

In summary, the data for analysis are from 120 baccalaureate nursing programs from across the United States. The respondents from these programs provided data on 694 required clinical nursing courses. Of the 120 programs, 18 were BSN completion programs that only

admitted students who had already completed a basic nursing program and held a license as a registered nurse.

The distribution for the 694 courses by year taken reflects that the vast majority (87%) were taught in the junior or senior year. (See Table 3.) Less than 1% were intended for freshman students.

Table 3.--Distribution of required clinical nursing courses by year year taken.

Year Taken	All Cases (N = 694)		Generic and RNs Combined		BSN Completion	
	No.	%	No.	%	No.	%
Freshman	6	.9	6	.9	0	0
Sophomore	85	12.2	85	13.4	0	0
Junior	289	42.9	269	42.4	29	48.3
Senior	305	43.9	274	43.2	31	51.7

In the BSN completion programs, none of the required clinical courses were taught as freshman or sophomore courses. This occurs because all students entering these courses are transfer students who have completed the lower-division courses in a basic nursing program elsewhere. Of the 694 courses, 561 (81%) were reported to be taught in a semester system and 120 (17%) in a quarters system. There was no response for 13 courses.

Table 4 gives the distribution of credit hours for the required clinical courses. The mean number of credits given to a required clinical course for all cases was 4.25, with a standard deviation of 2.20. Seventy-six percent of the required clinical nursing courses

ranged from two to six credit hours. This figure was similar for all programs, including those that were BSN completion courses.

Table 4.--Distribution of credit hours for required clinical nursing courses.

Credit Hours	All Cases (N = 694)		Generic and RNs Combined		BSN Completion	
	No.	%	No.	%	No.	%
1	33	4.8	28	4.4	5	8.3
2	119	17.1	107	16.9	12	20.0
3	111	16.0	102	16.1	9	15.0
4	110	15.9	95	15.0	15	25.0
5	103	14.8	98	15.5	5	8.3
6	86	12.4	77	12.1	9	15.0
7	15	2.2	15	2.4	0	0
8	17	2.4	15	2.4	2	3.3
9	19	2.7	19	3.0	0	0
10	7	1.0	7	1.1	0	0
11	1	.1	1	.2	0	0
12	9	1.3	9	1.4	0	0
No response	64	9.2	61	9.2	3	5.0
Total	694	100.0	634	100.0	60	100.0
	Mean = 4.25		Mean = 4.30		Mean = 3.70	
	SD = 2.20		SD = 2.24		SD = 1.74	

Data Related to Research Questions

Research Question 1

What are the organizational patterns of clinical nursing instruction in baccalaureate nursing programs?

All 694 required clinical nursing courses were reported as using one or more of the five organizational patterns of supervised clinical, simulated laboratory, preceptor/role model, independent

study, and practicum/internship. Table 5 identifies the reported use of each organizational pattern. Note that two measures of use are being described. The first states the percentage of courses that used the organizational pattern at all. This is referred to as the "% of N." The second indicates, when used, what percentage of class instruction fell under that particular organizational pattern. This second measure is labeled "% of Use Mean." Of the 694 courses, 575 (82.85%) were reported using supervised clinical as an organizational pattern. This exceeded all other organizational patterns. In addition to being most frequently used, the mean percentage of use (81.59%) for supervised clinical exceeded all others. Therefore, supervised clinical was the most frequently used organizational pattern, and when it was used it was, on an average, used more than 80% of the time.

Simulated laboratory was reported to be used in 266 courses or 38.32% of the total 694 courses, making it the second most frequently used. However, when looking at the mean percentage of time used, it was found to account for only 34.04% of the time in the course.

Preceptor/role model was the organizational pattern used in 119 (17.14%) of the reported courses. When it was used, the mean percentage of use was 42.40%.

Independent study was reported to be used in 103 or 14.84% of the courses. Its mean percentage of time used (26.37%) shows it to be the lowest of the five organizational patterns. Although it was used

Table 5.--Reported use of each organizational pattern for required clinical nursing courses.

Organizational Pattern	All Cases (N = 694)				Generic and RNs Combined (N = 634)				BSN Completion Only (N = 60)			
	N	% of N	% of Use Mean	SD[a]	N	% of N	% of Use Mean	SD[a]	N	% of N	% of Use Mean	SD[a]
Supervised clinical	575	82.85	81.59	22.25	540	85.17	82.13	21.73	35	58.33	73.31	28.20
Simulated laboratory	266	38.32	34.04	31.38	252	39.74	33.36	31.11	14	23.33	46.21	34.78
Preceptor/ role model	119	17.14	42.40	33.62	99	15.61	38.45	33.20	20	33.33	61.95	29.19
Independent study	103	14.84	26.37	26.77	87	13.72	24.23	26.21	16	26.66	38.06	27.62
Practicum/ internship	39	5.61	42.20	28.01	33	5.20	38.81	27.47	6	1.00	60.83	25.38

[a]The reported standard deviations may be misleading because of the variability in the distributions. See Table 8 for a frequency distribution.

in 103 courses, it was on an average used to teach about one-fourth of the clinical experience in those courses.

Practicum/internship was reported as being the least frequently used organizational pattern. Thirty-nine or 5.61% of the clinical courses reported its use. The mean percentage time of use for courses using it was 42.2%.

When the BSN completion programs were omitted from the data, slight shifts in the percentages were seen. In these generic programs, 85.17% of the 634 courses used the clinical supervision pattern to teach the clinical courses. This indicated a slightly greater use of this pattern when the BSN completion programs were factored out.

Upon examination of the BSN completion programs, it was noticed that there was less frequent use of supervised clinical and simulated learning laboratory and a shift toward greater use of the organizational patterns of preceptor/role model and independent study. Practicum/internship had a very low usage (1.0%) for this group.

Table 6 shows the frequency of each organizational pattern by the year the course is normally taken. Since few required clinical nursing courses (six) were offered in the freshman year, little can be said about that. Supervised clinical and simulated learning laboratory were the primary organizational patterns of the sophomore year. Simulated laboratory appeared most frequently in the junior year. The greatest use of preceptor/role model and practicum/internship appeared at the senior year. Supervised clinical, however, continued as the

predominant organizational pattern in both the junior and senior years.

Table 6.--Frequency of organizational pattern, by year course is taken.

Year Taken	Supervised Clinical		Simulated Laboratory		Preceptor/ Role Model		Independent Study		Practicum/ Internship	
	N	%	N	%	N	%	N	%	N	%
Freshman N = 6	2	.3	3	1.1	1	.8	0	0	0	0
Sophomore N = 85	71	12.3	60	22.6	9	7.6	9	8.7	1	2.6
Junior N = 298	255	44.3	136	51.1	26	21.8	40	38.8	11	28.2
Senior N = 305	247	43.0	67	25.5	83	69.7	54	52.4	27	69.2
Total	575	100.0	266	100.0	119	100.0	103	100.0	39	100.0

Table 7 shows the number of courses in which a particular organizational pattern was reported as being used as a sole organizational pattern. Of the 575 reported as using supervised clinical, 40% or 230 cases reported it was used 100% of the time. The other organizational patterns were found to be used far less often as the sole pattern. These findings were also consistent with the data from programs that accepted both generic and RNs into a combined program and the BSN completion.

Table 7.--Number of courses reporting 100% use of each organizational pattern.

Organizational Pattern	All Cases			Generic and RNs Combined			BSN Completion Only		
	N Using 100%	% of Total Reported Use	Total Cases	N Using 100%	% of Total Reported Use	Total Cases	N Using 100%	% of Total Reported Use	Total Cases
Supervised clinical	230	40.0	575	215	39.8	540	15	42.8	35
Simulated laboratory	35	13.1	266	32	12.6	252	3	21.4	14
Preceptor/ role model	17	14.2	119	14	14.1	99	3	15.0	20
Independent study	8	7.8	103	7	8.0	87	1	6.2	16
Practicum/ internship	4	10.3	39	3	9.0	33	1	16.2	6

The grouped frequency distribution for the percentage of use of each organizational pattern (Table 8) gives a clear indication of the range of the percentage of time a particular pattern was used. About 66.7% of the courses using supervised clinical used it from 61-80% or 81-100% of the time when looking at all cases. However, when looking at only BSN completion cases, the usage dropped to 38.34% of the courses.

For those cases using simulated laboratory, it was reported that 28.6% of the courses used it 40% of the time or less, whereas only 6.8% of the courses used it from 61-80% or 81-100% of the time. These data give an indication of the combinations of organizational patterns used, which is discussed later.

Preceptor/role model, independent study, and practicum/internship generally reflected the same frequency pattern as simulated laboratory. Their use was greatest in the 1-20% range. Their use in the 61-80% and 81-100% ranges was generally low. The preceptor/role model pattern, however, did appear slightly more frequently in the 81-100% range.

Upon examination of the BSN completion programs, slightly less reliance on supervised clinical was seen. Twenty-six percent of the courses reported they used supervised clinical 81-100% of the time, compared to 47.7% of the courses for all cases and 49.7% for courses that included both generic and RNs. Preceptor/role model appeared to be more used in the BSN completion courses than was true for the generic and RNs combined. It was used 13.3% of the time in the

Table 8.--Grouped frequencies of percentage use of organizational patterns.

% of Reported Use	Supervised Clinical						Simulated Laboratory						Preceptor/Role Model						Independent Study						Practicum/Internship					
	All Cases		Generic and RNs Combined		BSN Compl.		All Cases		Generic and RNs Combined		BSN Compl.		All Cases		Generic and RNs Combined		BSN Compl.		All Cases		Generic and RNs Combined		BSN Compl.		All Cases		Generic and RNs Combined		BSN Compl.	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0%	119	17.1	94	14.8	25	41.7	428	61.7	382	60.3	46	76.6	575	82.9	535	84.4	40	66.7	591	85.2	547	86.3	44	73.3	655	94.4	601	94.8	54	90.0
1-21%	12	1.7	12	1.9	0	0	139	20.0	137	21.6	2	3.3	50	7.2	47	7.4	3	5.0	72	10.4	63	9.9	9	15.0	13	1.9	13	2.1	0	0
21-40%	31	4.5	25	3.9	6	10.0	60	8.6	52	8.2	8	13.3	19	2.7	16	2.5	3	5.0	12	1.7	11	1.7	1	1.7	7	1.0	6	.9	1	1.7
41-60%	69	9.9	63	9.9	6	10.0	20	2.9	20	3.2	0	0	18	2.6	16	2.6	2	3.3	7	1.0	5	.8	2	3.3	12	1.7	9	1.4	3	5.0
61-80%	132	19.0	125	19.7	7	11.7	8	1.2	4	1.3	0	0	11	1.6	3	.5	8	13.3	3	.4	0	0	3	5.0	3	.4	2	.3	1	1.7
81-100%	331	47.7	315	49.7	16	26.7	39	5.6	35	5.5	4	6.7	21	3.0	17	2.7	4	6.7	9	1.3	8	1.3	1	1.7	4	.6	3	.5	1	1.7
Total	694	100.0	634	100.0	60	100.0	694	100.0	634	100.0	60	100.0	694	100.0	634	100.0	60	100.0	694	100.0	634	100.0	60	100.0	694	100.0	634	100.0	60	100.0

61-80% range and 6.7% of the time in the 81-100% range. In the generic and RNs group, it was found only .5% in the 61-80% range and 2.7% in the 81-100% range.

A grouped frequency of percentage of use of organizational patterns for each course is presented in Table 9. The grouped frequency distribution is presented for each of the nine categories of course titles. Of the courses related to Introduction/Fundamentals/ Nursing I, the mean percentage usage of supervised clinical was 62.56%. When compared to the 81.59% mean for all cases, it indicates that supervised clinical was used less in this course than in other courses.

Simulated laboratory was the most frequently used organizational pattern for the Introduction/Fundamentals/Nursing I course category. The mean use for this course was 59.98% compared to a mean of 34.04% for all cases. Little, if any, use of preceptor/role model, independent study, and practicum/internship was found in this course. It is apparent that supervised clinical and simulated laboratory were the organizational patterns used in this course.

Courses falling into the Adult/Acute/Medical-Surgical category reflected a high usage of supervised clinical. The mean percentage of use for this group was 86.10%. This was above the 81.59% for all cases. Simulated laboratory was the second most common pattern for this course. Its mean percentage of use was 20.33%, somewhat less than the 34.04% mean for all cases. Preceptor/role model, independent study, and practicum/internship were used little, if at all. The

Table 9.--Grouped frequency of percentage use of organizational patterns by course, all cases.

% of Use	Supervised Clinical	Simulated Laboratory	Preceptor/ Role Model	Independent Study	Practicum/ Internship
	Course: Introduction/Fundamentals/Nursing I				
0%	34	17	88	84	0
1-20%	4	8	2	6	0
21-40%	8	27	0	0	0
41-60%	14	8	0	0	0
61-80%	22	4	2	0	0
81-100%	10	28	0	2	0
# cases	92	92	92	92	92
# > 0	58	75	4	8	0
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	62.56%	59.98%	39.25%	33.62%	0
	Course: Adult/Acute/Medical-Surgical				
0%	1	28	44	46	0
1-20%	1	15	4	3	0
21-40%	2	5	1	0	0
41-60%	1	0	0	0	0
61-80%	13	1	0	0	0
81-100%	31	0	0	0	0
# cases	49	49	49	49	49
# > 0	48	21	5	3	0
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	86.10%	20.33%	11.00%	16.66%	0
	Course: Maternal-Child/Expanding Family				
0%	0	25	30	30	32
1-20%	0	8	5	5	2
21-40%	2	2	0	0	0
41-60%	3	0	0	0	1
61-80%	4	0	0	0	0
81-100%	26	0	0	0	0
# cases	35	35	35	35	35
# > 0	35	10	5	5	3
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	88.54%	13.90%	10.00%	10.40%	26.66%

Table 9.--Continued.

% of Use	Supervised Clinical	Simulated Laboratory	Preceptor/ Role Model	Independent Study	Practicum/ Internship
		Course: Pediatric/Child			
0%	1	15	18	17	17
1-20%	0	4	1	2	0
21-40%	0	0	0	0	1
41-60%	3	0	0	0	1
61-80%	3	0	0	0	0
81-100%	12	0	0	0	0
# cases	19	19	19	19	19
# > 0	18	4	1	2	2
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	86.66%	8.75%	20.00%	20.00%	40.00%
		Course: Psychiatric/Mental Health			
0%	2	28	28	31	30
1-20%	0	6	4	3	0
21-40%	1	0	1	0	1
41-60%	4	0	1	0	3
61-80%	5	0	0	0	0
81-100%	22	0	0	0	0
# cases	34	34	34	34	34
# > 0	32	6	6	3	4
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	87.34%	10.83%	21.66%	11.66%	47.50%
		Course: Community Health			
0%	6	43	38	40	50
1-20%	3	9	7	8	1
21-40%	3	1	5	4	2
41-60%	8	0	3	1	2
61-80%	12	4	2	0	0
81-100%	23	1	0	2	0
# of cases	55	55	55	55	55
# > 0	49	12	17	15	5
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	76.69%	22.25%	32.94%	32.66%	34.60%

Table 9.--Continued.

% of Use	Supervised Clinical	Simulated Laboratory	Preceptor/ Role Model	Independent Study	Practicum/ Internship
	Course: Management/Leadership				
0%	11	33	25	31	31
1-20%	3	4	0	5	0
21-40%	0	0	2	0	2
41-60%	4	0	3	1	2
61-80%	5	0	2	0	0
81-100%	14	0	5	0	2
# of cases	37	37	37	37	37
# > 0	26	4	12	6	6
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	76.61%	8.00%	70.00%	18.83%	61.66%
	Course: Senior Practicum/Advanced Medical-Surgical				
0%	13	33	22	33	36
1-20%	0	6	5	3	1
21-40%	1	0	3	0	1
41-60%	1	1	2	1	1
61-80%	6	0	1	2	0
81-100%	19	0	7	1	1
# cases	40	40	40	40	40
# > 0	27	7	18	7	4
Mean % all cases	81.59%	34.04%	42.40%	26.37%	42.20%
Mean % cases used this course	89.07%	16.00%	57.22%	47.14%	47.50%
	Course: Other				
0%	51	206	282	279	318
1-20%	1	79	22	37	9
21-40%	14	25	7	8	0
41-60%	32	11	9	4	2
61-80%	62	2	4	1	3
81-100%	173	10	9	4	1
# cases	333	333	333	333	333
# > 0	282	127	51	54	15
Mean % all cases	81.59%	34.04%	42.04%	26.37%	42.20%
Mean % cases used this course	83.50%	27.39%	43.21%	24.77%	37.53%

predominant organizational pattern for Adult/Acute/Medical-Surgical was supervised clinical, with some usage of simulated laboratory.

Courses falling into the Maternal-Child/Expanding Family category reflected a high usage of supervised clinical. All reported courses identified it as an organizational pattern. The mean percentage usage was 88.54%. This, compared to the mean of 81.59% for all cases, indicates that it was used more in this course than in all courses. Simulated laboratory was used in less than one-third of the courses in Maternal-Child/Expanding Family. In those cases the mean percentage of use was 13.9%, compared to a mean of 34.04% for all cases. Preceptor/role model, independent study, and practicum/internship were used on a very limited basis. When used, their percentage of use was very low, usually in the 1-20% range. Therefore, the predominant organizational pattern for the Maternal-Child/Expanding Family category was supervised clinical. Simulated laboratory was used on a limited basis. The use of the other three patterns was very limited.

The Pediatrics/Child nursing courses used supervised clinical as the primary organizational pattern. It was reported to be used in almost all courses. The mean percentage of use was 86.66%, somewhat greater than the 81.59% reported for all cases. Simulated laboratory, preceptor/role model, independent study, and practicum/internship were reportedly used in a few courses and on a very limited basis.

Supervised clinical was found to be the predominant organizational pattern for the Psychiatric/Mental Health course category. Ninety-four percent of the courses reported its use. The mean percentage of use was 87.34%, which was higher than the percentage reported for all cases. Only six courses were reported as using simulated laboratory and preceptor/role model. Their use was very limited. Only four cases reported use of the practicum/internship pattern.

For those courses identified as Community Health, supervised clinical was the predominant organizational pattern. However, the mean percentage of use was 76.69%, making it less than the 81.59% mean for all cases. In this course category, increased use of preceptor/role model and independent study was found. More than 30% of the reported courses used preceptor/role model. The mean percentage of use was 32.94%, which was less than the 42.40% reported for all cases. Over 27% of the courses were reported as using independent study. When independent study was used, the use was 32.66%, placing it above the mean percentage of 26.37 for all cases. Simulated laboratory was used in less than 22% of the courses. With a mean of 22.25%, it was less than 34.04%, the mean for all cases.

The Management/Leadership category also reported supervised clinical as the primary organizational pattern for instruction. About 70% of the reported courses indicated its use. Of those reporting its use, the mean percentage of use was 76.61%, which was less than the mean of 81.59% reported for all cases. Thirty-two percent of the

reported courses used preceptor/role model. When used, the mean percentage of use was 70%, considerably higher than the 42.4% mean for all cases. Simulated laboratory was used less for Management/Leadership than for any other course. Practicum/internship was used in six courses. Although it was used on a very limited basis, its mean percentage of use was 61.66% compared with a mean of 42.2% for all cases. Independent study had very limited use.

Courses that fell into the Senior Practicum/Advanced Medical-Surgical category also reported heavy use of the supervised clinical. The mean percentage of use for this pattern was 89.07% compared to the 81.59% mean for all cases. Preceptor/role model was the second highest in use, with 18 courses out of 40 (45%) reported as using it. The mean percentage of use for this pattern was 57.22% compared with a mean of 42.4% for all cases. Although not heavily used, the mean percentage of use for independent study and practicum/internship exceeded the mean for all cases. Independent study was 47.14% and practicum/internship was 47.5%, compared to all cases of independent study, which was 26.37%, and all cases of practicum/internship, which was 42.2%. Simulated laboratory was used on a very limited basis.

The last category, Other, represented all courses that could not be categorized by their title into one of the previous eight courses. The usage of organizational patterns for courses in this category, for the most part, followed that found in all cases. Two exceptions were noted. First, the mean use of simulated laboratory for this category was much lower than the mean for all cases. Second,

the mean use of practicum/internship was less than the mean for all cases.

In summary, the dominant organizational pattern for the instruction of required clinical nursing courses in baccalaureate nursing programs was supervised clinical. It was reported to be used in 82.85% of 694 courses. In only one category of course, Introduction/Fundamentals/Nursing I, was it not found to be the dominant organizational pattern.

Simulated laboratory was found to be the second most common organizational pattern for instructing required clinical nursing courses in baccalaureate nursing programs. It was reported to be used in 38.32% of the 694 nursing courses. In the Introduction/Fundamentals/Nursing I category, it was the most frequently used organizational pattern. However, its mean percentage of use was slightly less than supervised clinical.

Preceptor/role model was reported to be used in 17.14% of the 694 courses, placing it third in use among the organizational patterns. It was not found to be a dominant organizational pattern of any of the course categories identified. However, it was more prevalent in Community Health, Management/Leadership, and the Senior Practicum/Advanced Medical-Surgical courses.

Independent study ranked fourth in reported use. It was reported to be used in 14.84% of the 694 reported courses. It was not a dominant organizational pattern in any nursing course category. It appeared to be evenly distributed across categories.

Practicum/internship was the least used organizational pattern for instruction of required clinical courses in baccalaureate nursing programs. It was used in 5.61% of 694 reported courses. It was not found to be a dominant organizational pattern in an individual course category.

Research Question 2

> What are the variations and combinations of organizational patterns found in baccalaureate nursing programs?

This section analyzes the variations and combinations of organizational patterns found in the instruction of required clinical nursing courses in baccalaureate nursing programs. The intention was to discover what overall combinations of organizational patterns were found in the data and what combinations might be seen in individual course categories. To look at combinations, it was decided that the primary organizational pattern should be defined, and then the secondary patterns used in combination with that primary pattern could be described. An organizational pattern was defined as primary if it was used 50% or more of the time for instruction in a particular course.

Table 10 provides data on the combinations of organizational patterns that were reported as a function of the primary pattern. The table shows the combinations of organizational patterns used when an individual pattern was used 50% or more of the time. This gives a breakdown of the dominant organizational pattern and the extent to which the other patterns were used with it.

Table 10.--Combination of organizational patterns, all cases.

	Supervised Clinical 50% of Time or Greater	Simulated Laboratory	Preceptor/ Role Model	Independent Study	Practicum/ Internship
Cases Where Supervised Clinical Was Used 50% or More of the Time					
All cases					
N	531	195	60	68	18
Mean % used	86.07%	19.56%	18.41%	18.44%	29.61%
SD	16.22	13.37	14.89	17.27	18.27
Generic and RNs combined					
N	502	189	59	62	15
Mean % used	86.25%	19.38%	17.88%	17.58%	27.70%
SD	15.99	13.43	14.43	17.49	18.77
BSN completion					
N	29	6	1	6	3
Mean % used	83.03%	25.16%	50.00%	27.33%	41.66%
SD	19.83	10.51	0	12.77	10.40
Cases Where Simulated Laboratory Was Used 50% or More of the Time					
	Simulated Laboratory 50% of Time of Greater	Supervised Clinical	Preceptor/ Role Model	Independent Study	Practicum/ Internship
All cases					
N	67	29	1	5	0
Mean % used	82.11%	37.20%	10.00%	19.00%	0
SD	21.41	14.93	0	17.46	0
Generic and RNs combined					
N	63	29	0	5	0
Mean % used	81.14%	37.20%	0	19.00%	0
SD	21.69	14.93	0	17.46	0
BSN completion					
N	4	0	1	0	0
Mean % used	97.50%	0	10.00%	0	0
SD	5.00	0	0	0	0

Table 10.--Continued.

	Cases Where Preceptor/Role Model Was Used 50% or More of the Time				
	Preceptor/ Role Model 50% of Time or Greater	Supervised Clinical	Simulated Laboratory	Independent Study	Practicum/ Internship
All cases					
N	50	16	6	13	3
Mean % used	77.16%	33.06%	13.83%	19.92%	44.33%
SD	20.54	16.33	10.87	10.80	9.81
Generic and RNs combined					
N	36	11	4	8	3
Mean % used	76.72%	34.45%	10.00%	18.62%	44.33%
SD	22.23	18.52	7.07	6.39	9.81
BSN completion					
N	14	5	2	5	0
Mean % used	78.28%	30.00%	21.50%	22.00%	0
SD	16.06	11.18	16.26	16.43	0
	Cases Where Independent Study Was Used 50% or More of the Time				
	Independent Study 50% of Time or Greater	Supervised Clinical	Simulated Laboratory	Preceptor/ Role Model	Practicum/ Internship
All cases					
N	17	6	8	3	1
Mean % used	79.70%	45.83%	30.33%	36.66%	40.00%
SD	22.39	24.98	20.00	11.57	0
Generic and RNs combined					
N	12	5	8	0	1
Mean % used	82.50%	50.00%	30.33%	0	40.00%
SD	24.16	25.49	20.08	0	0
BSN completion					
N	5	1	0	3	0
Mean % used	73.00%	25.00%	0	36.66%	0
SD	17.88	0	0	11.54	0
	Cases Where Practicum/Internship Was Used 50% or More of the Time				
	Practicum/ Internship 50% of Time or Greater	Supervised Clinical	Simulated Laboratory	Preceptor/ Role Model	Independent Study
All cases					
N	18	8	1	7	1
Mean % used	66.66%	41.25%	20.00%	32.85%	20.00%
SD	20.50	17.06	0	13.80	0
Generic and RNs combined					
N	14	7	1	5	0
Mean % used	65.00%	40.00%	20.00%	38.00%	0
SD	20.56	18.02	0	13.03	0
BSN completion					
N	4	1	0	2	1
Mean % used	75.50%	50.00%	0	20.00%	20.00%
SD	22.17	0	0	0	0

Supervised clinical was used 50% or more of the time in 531 courses. Of those, the mean percentage of use was 86.07%. In these 531 courses, supervised clinical was used most frequently in combination with simulated laboratory. Of these 531 courses, 195 were reported as using simulated laboratory with supervised clinical. The mean percentage of use was 19.56%. Sixty cases reported the use of precepetor/role model with supervised clinical. Independent study was used in 68 cases. Practicum/internship was used in combination with supervised clinical in only 18 cases, making it the least likely combination.

Simulated laboratory was used 50% or more of the time in 67 courses. Of those, the mean percentage of use was 82.11%. When it was used 50% or more of the time, simulated laboratory was most frequently used in combination with supervised clinical. Twenty-nine courses were reported as using supervised clinical with simulated laboratory. When supervised clinical was used, it had a mean percentage use of 37.2%. Preceptor/role model and independent study were used in very few courses. Practicum/internship had no reported cases of combined use with simulated laboratory.

Fifty courses were reported as using preceptor/role model 50% or more of the time. The mean percentage of use was 77.16%. It was used with supervised clinical in 16 courses, with a mean percentage of use of 33.06%. It was used with independent study in 13 courses, with a mean percentage of use of 19.92%. Simulated laboratory and practicum/internship had limited use, six and three courses, respectively.

Independent study was used 50% or more of the time in only 17 courses. Its mean percentage of use was 79.7%. It was used in combination with supervised clinical in six cases and with simulated laboratory in eight cases and with preceptor/role model and practicum/ internship in even fewer cases.

Practicum/internship was used 50% or more of the time in 18 courses. Its mean percentage of use was 66.66%. Of those courses, it was used in combination with supervised clinical in eight courses and preceptor/role model in seven.

Table 9, which shows the frequency of percentage of use of each organizational pattern by course, also provides data regarding the combinations and variations of patterns for each category of required nursing course. The table identifies the number of courses that were reported as using each organizational pattern and the mean percentage they were used. Although this information was presented earlier, the specific combinations for each course were not emphasized.

For those courses that fit into the Introduction/Fundamentals and Nursing I category, the most common pattern was a combination of supervised clinical and simulated laboratory. Fifty-eight out of 92 courses were reported as using supervised clinical for a mean percentage time used of 62.56%. Seventy-five of the 92 courses were reported as using simulated laboratory and had a mean percentage time used of 59.98%. Preceptor/ role model and independent study had little use, and practicum/internship was not used at all.

For the Adult/Acute/Medical-Surgical category, supervised clinical was used in 48 out of 49 courses. The mean percentage of use was 86.1%. Simulated laboratory was most frequently used in combination with supervised clinical. Twenty-one out of 49 courses reported its use. The mean percentage of use was 20.33%. Preceptor/role model and independent study were used in few courses. Practicum/internship was not used in this course. Generally, for this course, a high usage of supervised clinical with a low usage of simulated laboratory was the most frequently used combination.

In courses in the area of Maternal-Child/Expanding Family, the combination was a high use of supervised clinical and a low use of the other four patterns. There was no strong combined pattern, but rather a heavy reliance on the single pattern. Simulated laboratory, preceptor/role model, and independent study all had mean percentages of use of around 10%, whereas supervised clinical's mean was 88.54%.

The Pediatrics/Child courses presented a very similar pattern to that of the previous course. The combination, when it did exist, was a high use of supervised clinical, a mean of 86.66%, and a very low use of the other patterns.

Clinical courses teaching the Psychiatric/Mental Health experience reflected a high reliance on supervised clinical and a combination with the other four organizational patterns that reflected a low level of use. In those cases that showed simulated laboratory as the combination pattern, the mean percentage of use was 10.83%. In those cases that identified preceptor/role model as the second

pattern in the combination, the mean increased to 21.66%. Although practicum/internship was used in only four cases, its mean of 47.5% reflected almost a 50/50 split with supervised clinical.

Those courses that fell into the Community Health category reflected a greater distribution of combinations. Although there continued to be a high use of supervised clinical, 49 out of 55 courses, there was more frequent use of preceptor/role model and independent study than was seen in the previous courses. The combinations of organizational patterns in this course were fairly evenly distributed between supervised clinical and simulated laboratory, preceptor/role model, or independent study.

In the Management/Leadership category, supervised clinical was reported to be the predominant pattern, with a mean of 76.61%. It was not clear which types of combinations existed in this course. Preceptor/ role model and practicum/internship, when used, were used to a much higher percentage than was seen in the other courses. The mean percentage of use for preceptor/role model was 70%, and for practicum/ internship it was 61.66%. In these courses, preceptor/role model or practicum/internship were seen as the dominant pattern. Therefore, the combinations were less clear.

In the Senior Practicum/Advanced Medical-Surgical category, there was heavy reliance on supervised clinical, with a mean percentage of use of 89.07% in combination with a low-level use of the other patterns. However, almost one-half of the cases used preceptor/role model to some degree. Therefore, the second most common combination

appeared to be preceptor/role model, which had a mean percentage use of 57.22%, and some other organizational pattern.

In summary, the analysis of combinations of organizational patterns for clinical instruction found heavy reliance on supervised clinical and simulated laboratory. This pattern appeared to hold true for all courses except those in the categories of Community Health, Management/Leadership, and Senior Practicum/Advanced Medical-Surgical. In these three course categories, more frequent combinations were seen involving preceptor/role model, independent study, or practicum/ internship.

Research Question 3

> What effect do the organizational patterns have on faculty resource requirements in baccalaureate nursing programs?

Two faculty workload variables were selected for analysis in order to determine what effect the organizational patterns had on faculty resource requirements for the instruction of required clinical nursing courses. The first variable was student/faculty ratio or the number of students assigned to each faculty member in the clinical course section. The second variable was the total number of clock hours per week the student and faculty member spent in the clinical course.

The frequency distribution of the reported student/faculty ratios for the 694 required clinical nursing courses is presented in Table 11. The mean ratio for all cases was 9.48, with a standard

deviation of 3.24. The mode was a student/faculty ratio of 10:1 and was reported in 262 or about 38% of the courses.

Table 11.--Reported student/faculty ratio for required clinical nursing courses.

# of Students to Faculty	All Cases # of Courses	Generic and RNs Combined # of Courses	BSN Completion # of Courses
1	2	2	0
3	6	6	0
4	3	3	0
5	17	16	1
6	43	37	6
7	42	38	4
8	126	116	10
9	48	43	5
10	262	251	11
11	22	20	2
12	51	41	10
13	1	1	0
14	6	5	1
15	9	7	2
16	11	10	1
18	1	1	0
19	1	0	1
20	2	0	2
25	2	2	0
29	1	0	1
40	1	1	0
48	1	1	0
No report	36	33	3
Total	694	634	60
Mean	9.48	9.39	10.42
SD	3.24	3.12	4.18
Mode	10	10	10

In the 60 courses reporting for the BSN completion programs, the mean student/faculty ratio was 10.42, making it slightly higher than the mean for all cases or for the generic and RNs combined (mean = 9.39). The difference between the BSN completion and generic and RNs combined means was found to be statistically significant ($t = 2.30$, $df = 656$, $p < .05$). To determine the degree of relationship, the t was converted into a point-biserial correlation coefficient. The r_{pb} was equal to .09, reflecting a very small effect. The mode for both groups was a ratio of 10, which was reported for about 18% of the BSN completion courses and 40% of the generic and RNs combined courses.

The mean student/faculty ratio for each organizational pattern is provided in Table 12, although there was not a great variation in the ratio for each organizational pattern. It does suggest that for all reported cases, supervised clinical had the smallest ratio, with a mean of 9.07. The highest ratio appeared in independent study, with a mean of 10.12. For the BSN completion program, the student/faculty ratio remained around 9:1 for supervised clinical but increased to around 11:1 for simulated laboratory, precepetor/role model, and independent study. While these and the following descriptions are suggestive, they were not tested at this point. It was felt that the differences as a function of dominant organizational patterns were more meaningful. Those are discussed later in this section.

Table 12.—Mean student/faculty ratio, by organizational pattern.

Organizational Pattern		All Cases	Generic and RNs Combined	BSN Completion
Supervised clinical	Mean	9.07	9.06	9.14
	SD	2.46	2.48	2.13
	# of courses	554	519	35
Simulated laboratory	Mean	9.64	9.56	11.00
	SD	3.51	3.44	4.42
	# of courses	253	239	14
Preceptor/ role model	Mean	9.94	9.68	11.35
	SD	4.23	4.33	3.42
	# of courses	111	94	17
Independent study	Mean	10.12	9.88	11.57
	SD	5.11	5.04	5.47
	# of courses	96	82	14
Practicum/ internship	Mean	9.63	9.77	8.50
	SD	1.96	2.01	1.00
	# of courses	35	31	4

Table 13 identifies the mean student/faculty ratio for each organizational pattern, by year taken. There was little difference in the student/faculty ratio from one year to the next. The ratio remained consistent for each organizational pattern, whether it was used in the sophomore, junior, or senior year. The only exception to this appeared to be in the preceptor/role model pattern. The mean student/faculty ratio for this pattern in the junior year was 8.88, and for the senior year it was 10.43.

Table 13.--Mean student/faculty ratio for each organizational pattern, by year taken--all reported cases.

Organizational Pattern		Freshman	Sophomore	Junior	Senior
Supervised clinical	Mean	10.00	8.97	8.94	9.22
	SD	0	2.49	1.79	2.99
	# of courses	2	68	245	239
Simulated laboratory	Mean	10.00	9.35	9.84	9.46
	SD	0	2.52	4.27	2.56
	# of courses	3	57	128	65
Preceptor/ role model	Mean	10.00	8.56	8.88	10.43
	SD	0	3.17	4.47	4.25
	# of courses	1	9	24	77
Independent study	Mean	0	9.50	10.43	10.00
	SD	0	2.00	7.01	3.67
	# of courses	0	8	37	51
Practicum/ internship	Mean	0	11.00	9.33	9.68
	SD	0	0	2.65	1.73
	# of courses	0	1	9	25

Table 14 provides the mean student/faculty ratios for each organizational pattern, by course, for all reported cases. It identifies the percentage of use of each organizational pattern by specific course title. This provides an opportunity to analyze the relationship between percentage of use of each organizational pattern in each course and the resulting mean student/faculty ratios.

The 61-80% and the 81-100% columns give a clearer indication of the effect that each organizational pattern had on the student/ faculty ratio because in these courses the pattern was clearly

Table 14.--Mean student/faculty ratio for each organizational pattern, by course, for all reported cases.

Course		Percentage of Reported Use of Supervised Clinical 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	12.25	9.50	9.62	8.18	9.10	9.14
	SD	1.71	3.42	.77	1.68	1.52	2.07
	# of courses	4	8	13	22	10	57
Adult/Acute/ Medical-Surgical	Mean	8.00	10.00	12.00	8.15	8.90	8.79
	SD	0	0	0	1.86	2.07	2.01
	# of courses	0	2	1	13	30	47
Maternal-Child/ Expanding Family	Mean	0	6.00	11.00	8.25	8.64	8.58
	SD	0	0	1.41	.50	1.96	1.94
	# of courses	0	2	2	4	25	33
Pediatrics/Child	Mean	0	0	9.33	7.33	9.50	9.06
	SD	0	0	3.06	1.15	1.35	1.35
	# of courses	0	0	3	3	10	16
Psychiatric/ Mental Health	Mean	0	10.00	8.50	8.80	9.45	9.23
	SD	0	0	1.91	1.10	1.64	1.57
	# of courses	0	1	4	5	20	30
Community Health	Mean	10.67	10.67	9.13	8.17	9.29	9.15
	SD	1.15	1.15	1.81	2.12	2.03	2.01
	# of courses	3	3	8	12	21	47
Management/ Leadership	Mean	10.00	0	9.50	7.80	10.38	9.68
	SD	0	0	1.00	2.49	5.27	4.01
	# of courses	3	0	4	5	13	25
Senior Practicum/ Advanced Medical-Surgical	Mean	0	8.00	8.00	9.60	8.89	8.96
	SD	0	0	0	.89	1.91	1.71
	# of courses	0	1	1	5	19	26
Other	Mean	1.00	9.21	10.19	8.96	8.95	9.08
	SD	0	2.91	5.82	1.51	1.91	2.72
	# of courses	1	14	32	56	170	273
Column total	Mean	10.00	9.26	9.79	8.58	9.05	9.07
	SD	3.28	2.74	4.13	1.66	2.13	2.46
	# of courses	12	31	68	125	318	554
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	10.00	8.84	9.85	8.52	9.10	9.06
	SD	3.28	2.69	4.31	1.60	2.14	2.48
	# of courses	12	25	62	118	302	519
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	0	11.00	9.17	9.57	8.25	9.14
	SD	0	2.45	.98	2.44	1.81	2.13
	# of courses	0	6	6	7	16	35

Table 14.--Continued.

Course		Percentage of Reported Use of Simulated Laboratory 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	7.38	9.33	9.57	11.00	10.54	9.67
	SD	2.13	2.57	1.13	3.92	2.79	2.72
	# of courses	8	27	7	4	26	72
Adult/Acute/ Medical-Surgical	Mean	8.93	9.00	0	8.00	0	8.90
	SD	1.27	2.24	0	0	0	1.48
	# of courses	14	5	0	1	0	20
Maternal-Child/ Expanding Family	Mean	8.75	7.00	0	0	0	8.40
	SD	1.58	1.41	0	0	0	1.65
	# of courses	8	2	0	0	0	10
Pediatrics/Child	Mean	9.25	0	0	0	0	9.25
	SD	1.50	0	0	0	0	1.50
	# of courses	4	0	0	0	0	4
Psychiatric/ Mental Health	Mean	9.83	0	0	0	0	9.83
	SD	1.60	0	0	0	0	1.60
	# of courses	6	0	0	0	0	6
Community Health	Mean	8.00	20.00	0	10.00	6.00	9.00
	SD	2.29	0	0	0	0	4.07
	# of courses	9	1	0	1	1	12
Management/ Leadership	Mean	8.00	0	0	0	0	8.00
	SD	2.83	0	0	0	0	2.83
	# of courses	4	0	0	0	0	4
Senior Practicum/ Advanced Medical-Surgical	Mean	9.67	0	8.00	0	0	9.43
	SD	.82	0	0	0	0	.98
	# of courses	6	0	1	0	0	7
Other	Mean	9.36	9.04	13.18	11.00	13.88	9.98
	SD	1.75	2.05	11.75	7.07	5.22	4.36
	# of courses	73	24	11	2	8	118
Column total	Mean	9.05	9.29	11.58	10.50	11.17	9.64
	SD	1.81	2.68	9.00	3.85	3.76	3.51
	# of courses	132	59	19	8	35	253
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	9.06	8.80	11.58	10.50	11.39	9.56
	SD	1.82	1.64	9.00	3.85	3.86	3.44
	# of courses	130	51	19	8	31	239
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	8.50	12.38	0	0	9.50	11.00
	SD	.71	5.29	0	0	2.65	4.42
	# of courses	2	8	0	0	4	14

Table 14.--Continued.

Course		Percentage of Reported Use of Preceptor/Role Model 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	10.00	0	0	14.50	0	12.25
	SD	0	0	0	7.78	0	5.19
	# of courses	2	0	0	2	0	4
Adult/Acute/ Medical-Surgical	Mean	9.00	10.00	0	0	0	9.20
	SD	1.41	0	0	0	0	1.30
	# of courses	4	0	0	0	0	5
Maternal-Child/ Expanding Family	Mean	7.60	0	0	0	0	7.60
	SD	3.05	0	0	0	0	3.05
	# of courses	5	0	0	0	0	5
Pediatrics/Child	Mean	6.00	0	0	0	0	6.00
	SD	0	0	0	0	0	0
	# of courses	1	0	0	0	0	1
Psychiatric/ Mental Health	Mean	10.00	10.00	10.00	0	0	10.00
	SD	1.63	0	0	0	-	1.26
	# of courses	4	1	1	0	0	6
Community Health	Mean	8.57	9.80	9.33	13.00	0	9.59
	SD	1.90	1.48	1.15	1.41	0	2.30
	# of courses	7	5	3	2	0	17
Management/ Leadership	Mean	0	10.00	10.00	10.00	10.80	10.33
	SD	0	0	0	0	5.97	3.73
	# of courses	0	2	3	2	5	12
Senior Practicum/ Advanced Medical-Surgical	Mean	9.20	8.00	10.00	10.00	10.83	9.93
	SD	1.10	0	0	0	2.71	2.02
	# of courses	5	1	1	1	6	14
Other	Mean	7.85	10.14	14.22	12.72	10.14	10.17
	SD	2.72	3.29	10.76	1.50	3.53	5.70
	# of courses	20	7	9	4	7	47
Column total	Mean	8.40	9.88	12.12	12.36	10.56	9.94
	SD	2.32	2.20	7.99	3.11	3.88	4.43
	# of courses	48	17	17	11	18	111
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	8.45	9.87	12.47	10.00	10.57	9.68
	SD	2.32	2.23	8.48	0	4.15	4.33
	# of courses	47	15	15	3	14	94
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	6.00	10.00	9.50	13.25	10.50	11.35
	SD	0	2.83	.71	3.24	3.32	3.41
	# of courses	1	2	2	8	4	17

Table 14.--Continued.

Course		Percentage of Reported Use of Independent Study 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	9.33	0	0	0	12.00	10.00
	SD	1.75	0	0	0	0	1.93
	# of courses	6	0	0	0	2	8
Adult/Acute/ Medical-Surgical	Mean	7.67	0	0	0	0	7.67
	SD	2.52	0	0	0	0	2.52
	# of courses	3	0	0	0	0	3
Maternal-Child/ Expanding Family	Mean	8.60	0	0	0	0	8.60
	SD	1.67	0	0	0	0	1.67
	# of courses	5	0	0	0	0	5
Pediatrics/Child	Mean	7.00	0	0	0	0	7.00
	SD	1.41	0	0	0	0	1.41
	# of courses	2	0	0	0	0	2
Psychiatric/ Mental Health	Mean	8.67	0	0	0	0	8.67
	SD	1.15	0	0	0	0	1.15
	# of courses	3	0	0	0	0	3
Community Health	Mean	10.13	10.00	5.00	0	29.00	11.07
	SD	2.53	0	0	0	0	5.65
	# of courses	8	4	1	0	1	14
Management/ Leadership	Mean	9.20	0	10.00	0	0	9.33
	SD	4.38	0	0	0	0	3.93
	# of courses	5	0	1	0	0	6
Senior Practicum/ Advanced Medical-Surgical	Mean	9.33	0	10.00	8.00	10.00	9.33
	SD	1.15	0	0	0	0	1.03
	# of courses	3	0	1	1	1	6
Other	Mean	10.40	8.57	18.50	6.00	7.50	10.59
	SD	2.97	2.70	19.76	0	2.12	6.19
	# of courses	35	7	4	1	2	49
Column total	Mean	9.73	9.09	14.14	7.00	13.00	10.13
	SD	2.76	2.21	15.08	1.41	8.15	5.11
	# of courses	70	11	7	2	6	96
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	9.55	9.00	15.80	0	9.80	9.88
	SD	2.79	2.31	18.14	0	2.49	5.04
	# of courses	62	10	5	0	5	82
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	11.13	10.00	10.00	7.00	29.00	11.57
	SD	2.17	0	0	1.41	0	5.47
	# of courses	8	1	2	2	1	14

Table 14.--Continued.

Course		Percentage of Reported Use of Practicum/Internship 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean						
	SD			NO CASES REPORTED			
	# of courses						
Adult/Acute/ Medical-Surgical	Mean						
	SD			NO CASES REPORTED			
	# of courses						
Maternal-Child/ Expanding Family	Mean	6.00	0	12.00	0	0	8.00
	SD	0	0	0	0	0	3.46
	# of courses	2	0	1	0	0	3
Pediatrics/Child	Mean	0	6.00	12.00	0	0	9.00
	SD	0	0	0	0	0	4.24
	# of courses	0	1	1	0	0	2
Psychiatric/ Mental Health	Mean	0	10.00	8.67	0	0	9.00
	SD	0	0	3.06	0	0	2.58
	# of courses	0	1	3	0	0	4
Community Health	Mean	10.00	9.00	10.00	0	0	9.60
	SD	0	1.41	2.83	0	0	1.67
	# of courses	1	2	2	0	0	5
Management/ Leadership	Mean	0	10.00	11.00	0	10.00	10.33
	SD	0	0	1.41	0	2.83	1.51
	# of courses	0	2	2	0	2	6
Senior Practicum/ Advanced Medical-Surgical	Mean	10.00	8.00	0	0	0	9.00
	SD	0	0	0	0	0	1.41
	# of courses	1	1	0	0	0	2
Other	Mean	9.89	0	10.00	11.00	10.00	10.58
	SD	1.69	0	0	1.41	0	1.50
	# of courses	9	0	1	2	1	13
Column total	Mean	9.31	8.86	10.20	11.00	10.00	9.63
	SD	2.02	1.57	2.20	1.41	2.00	1.96
	# of courses	13	7	10	2	3	35
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	9.31	8.67	10.75	11.00	11.00	9.77
	SD	2.02	1.63	2.12	1.41	1.41	2.01
	# of courses	13	6	8	2	2	31
Mean Student/Faculty Ratio for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	0	10.00	8.00	0	8.00	8.50
	SD	0	0	0	0	0	1.00
	# of courses	0	1	2	0	1	4

[a]Column totals given for comparison.

the dominant organizational pattern. The column total mean tells that in those cases where supervised clinical was used 61-80% of the time, the student/faculty ratio was 8.58:1, and that ratio was 9.05:1 for those cases that used it 81-100% of the time. When looking at the means listed in the 81-100% column for each course, the highest mean ratio was found for the Management/Leadership courses, which was 10.38. The lowest student/faculty mean ratio for supervised clinical appeared for the cases identified as Maternal-Child/Expanding Family. (Both of these were probably related more to conditions in the clinical setting rather than the specific organizational pattern; i.e., small OB units in hospitals may limit the number of students.)

Simulated laboratory was used 61-80% of the time in only eight courses and 81-100% of the time in 35 courses. The mean student/faculty ratios were 10.50 and 11.17, respectively. Its use was found to be most frequently in the Introduction/Fundamentals/ Nursing I courses.

For preceptor/role model, the column total for mean student/ faculty ratio reflects a higher ratio with increasing use, except for the 81-100% column, where there is a decline in the mean ratio. The highest mean ratios appear in the 41-60% column and the 61-80% column. The mean student/faculty ratio for the 41-60% column was 12.12:1, for 61-80% a ratio of 12.36:1 was found, and in the 81-100% usage column it dropped to a mean ratio of 10.56:1. This was most often reported for cases falling within Management/Leadership, Senior Practicum/Advanced Medical-Surgical, and Other.

The highest total mean student/faculty ratio for independent study appears in the 41-60% and the 81-100% columns. Seven courses were reported as using it 41-60% of the time, with a mean ratio of 14.14:1. Six courses were reported as using it 81-100% of the time, with a mean ratio of 13:1.

Practicum/internship had a very low usage as a predominant pattern. It was reported to be used 81-100% of the time in only three courses, 61-80% of the time in two courses, and 41-60% of the time in ten courses. The column total mean ratios are 10:1 for the 81-100%, 11:1 for the 61-80%, and 10.2:1 for the 41-60%.

Table 14 also provides the column totals for the courses reported by programs that had the generic and RNs in combined programs and the courses reported by programs that were BSN completion programs. This provides an opportunity to compare the BSN completion with those that included both generic and RN students. When the mean student/faculty ratio for cases in the BSN completion program were compared with cases in the generic and RNs combined programs, three of the five organizational patterns had higher faculty/student ratios. Simulated laboratory had a mean ratio of 11:1 for BSN completion and 9.56:1 for generic and RNs combined. Preceptor/role model had a mean ratio of 11.35:1 for BSN completion and 9.68:1 for generic and RNs combined. Independent study had a mean ratio of 11.57 for the BSN completion and 9.88 for the generic and RNs combined.

In examining the remaining two organizational patterns for comparison, the mean student/faculty ratios were about the same. The

mean student/faculty ratio for supervised clinical for the BSN completion programs was 9.14:1, and for generic and RNs combined it was 9.06:1. This left little, if any, difference between the two. For practicum/internship, the mean ratio was smaller for the BSN completion programs when compared to the generic and RNs combined. Since there were only four cases reported from the BSN completion, it was not possible to make a reasonable comparison.

When examining the individual column totals for each percentage of use in Table 14, there appeared to be very little difference between the student/faculty ratio for those required clinical nursing courses reported by BSN completion programs and those courses reported by generic and RNs combined programs.

In summary, for all cases reported as using the supervised clinical organizational pattern, the mean student/faculty ratio was 9.07:1, for simulated laboratory it was 9.64:1, for the preceptor/role model organizational pattern it was 9.94:1, for independent study the student/faculty ratio was 10.13:1, and for practicum/internship it was 9.63:1.

The number of clock hours in clinic per week reflects the number of hours a faculty member must be available to the students for supervision. Table 15 identifies the reported clock hours in clinic per week for reported clinical nursing courses. The mean number of hours for all cases was 11.03, with a mode of 12. The mean number of hours in clinic per week for those courses reported from BSN completion programs was 7, with a mode of 9. The mean for those cases

Table 15.--Reported clock hours in clinic per week for required clinical nursing courses.

Clock Hours	All Cases # of Courses	Generic and RNs Combined # of Courses	BSN Completion # of Courses
1	1	1	0
2	13	10	3
3	43	38	5
4	32	24	8
5	4	4	0
6	80	67	13
7	10	10	0
8	52	45	7
9	55	40	15
10	16	16	0
11	6	6	0
12	118	116	2
13	12	12	0
14	20	20	0
15	33	31	2
16	92	91	1
18	44	44	0
19	2	2	0
20	8	8	0
23	1	1	0
24	5	5	0
27	1	1	0
30	3	3	0
32	3	3	0
40	2	2	0
No report	38	34	4
Total	694	634	60
Mean	11.03	11.41	7.00
SD	5.52	5.54	3.21
Mode	12	12	9

reported from generic and RNs combined programs was 11.41, with a mode of 12. The difference between BSN completion and generic and RNs combined cases was significant ($t = 5.86$, $df = 6.54$, $p < .01$). The degree of relationship was determined by converting the t into a point-biserial correlation coefficient. The r_{pb} was equal to .22, indicating only a weak relationship between program type and hours in clinic.

Table 16 provides the mean clock hours reported for each organizational pattern. Simulated laboratory was reported as having the fewest hours, with a mean of 10.23 hours for all cases. For those courses reported from BSN completion programs, independent study was reported as using the fewest hours, with a mean of 6.57 hours. Practicum/internship provided the greatest number of hours in clinic. Preceptor/role model was second in the number of hours in clinic for all cases and for cases reported from generic and RNs combined. This was not true for courses reported from BSN completion programs.

Table 16.--Mean clock hours in clinic per week reported for each organizational pattern.

Organizational Pattern		All Cases	Generic and RNs Combined	BSN Completion
Supervised clinical	Mean	11.27	11.50	7.94
	SD	4.69	4.71	2.71
	# of courses	550	515	35
Simulated laboratory	Mean	10.23	10.41	7.00
	SD	5.19	5.21	3.67
	# of courses	246	233	13
Preceptor/ role model	Mean	12.44	13.37	7.13
	SD	7.73	7.86	4.01
	# of courses	108	92	16
Independent study	Mean	10.69	11.39	6.57
	SD	5.46	5.53	2.38
	# of courses	96	82	14
Practicum/ internship	Mean	12.75	13.39	8.25
	SD	6.36	6.54	1.50
	# of courses	32	28	4

Table 17 identifies the mean clock hours in clinic per week reported by all cases for clinical nursing courses for each of the five organizational patterns by year. Those courses taught in the sophomore year required about 60% of the number of hours per week of those taught in the junior and senior years. The number of hours increased from the junior to senior year, as well.

Supervised clinical was the organizational pattern reported as using the greatest number of hours in both the sophomore year, with a mean of 6.69 hours, and the junior year, with a mean of 11.12 hours.

Preceptor/role model was the organizational pattern reported as using the greatest number of hours in the senior year, with a mean of 14.11 hours.

Table 17.--Mean clock hours in clinic per week reported for required nursing courses, by organizational pattern and year--all cases.

Organizational Pattern		Freshman	Sophomore	Junior	Senior
Supervised clinical	Mean	6.00	6.69	11.12	12.79
	SD	0	3.58	4.32	4.43
	# of courses	2	68	242	238
Simulated laboratory	Mean	4.67	5.88	10.70	13.39
	SD	2.31	3.69	4.86	4.26
	# of courses	3	56	123	64
Preceptor/ role model	Mean	6.00	6.00	9.83	14.11
	SD	0	1.00	4.68	8.33
	# of courses	1	9	23	75
Independent study	Mean	0	6.11	10.19	11.84
	SD	0	3.89	5.09	5.54
	# of courses	0	9	36	51
Practicum/ internship	Mean	0	6.00	10.43	13.71
	SD	0	0	6.48	6.24
	# of courses	0	1	7	24

The mean clock hours in clinic per week by the percentage of time that an organizational pattern was used are identified by course in Table 18. In looking at each course, it is possible to identify the mean number of hours in clinic per week reported for each course

Table 18.--Mean clock hours in clinic per week for each organizational pattern, by course, for all reported cases.

Course		Percentage of Reported Use of Supervised Clinical 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	4.67	3.63	8.54	9.48	9.10	8.07
	SD	2.31	1.51	4.52	4.84	5.13	4.76
	# of courses	3	8	13	21	10	55
Adult/Acute/ Medical-Surgical	Mean	3.00	3.00	5.00	10.69	11.37	10.51
	SD	0	0	0	3.01	4.19	4.27
	# of courses	1	2	1	13	30	47
Maternal-Child/ Expanding Family	Mean	0	12.50	6.00	12.75	12.11	12.03
	SD	0	9.19	0	2.99	3.70	3.92
	# of courses	0	2	1	4	27	34
Pediatrics/Child	Mean	0	0	12.50	13.33	12.55	12.69
	SD	0	0	9.19	2.31	4.08	4.19
	# of courses	0	0	2	3	11	16
Psychiatric/ Mental Health	Mean	0	3.00	11.25	14.00	11.68	11.72
	SD	0	0	4.57	7.75	3.51	4.63
	# of courses	0	1	4	5	22	32
Community Health	Mean	12.00	7.00	7.13	11.50	12.36	10.89
	SD	5.66	4.58	2.47	3.40	4.66	4.45
	# of courses	2	3	8	12	22	47
Management/ Leadership	Mean	15.33	0	14.00	12.20	14.23	13.92
	SD	3.06	0	5.42	3.77	5.89	5.01
	# of courses	3	0	4	5	13	25
Senior Practicum/ Advanced Medical-Surgical	Mean	0	16.00	16.00	13.20	13.58	13.69
	SD	0	0	0	3.35	3.53	3.36
	# of courses	0	1	1	5	19	26
Other	Mean	6.00	10.00	8.47	12.96	11.57	10.41
	SD	0	7.46	4.54	3.80	4.42	4.65
	# of courses	1	13	30	56	168	268
Column total	Mean	9.30	7.67	8.98	12.02	11.84	10.27
	SD	5.77	6.42	4.68	4.16	4.37	4.69
	# of courses	10	30	64	124	322	550
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	9.30	7.54	9.19	12.27	12.02	11.50
	SD	5.77	6.95	4.84	4.12	4.36	4.71
	# of courses	10	24	58	117	306	515
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	0	8.17	7.00	7.71	8.31	7.94
	SD	0	4.02	2.00	1.60	2.89	2.71
	# of courses	0	6	6	7	16	35

Table 18.--Continued.

Course		Percentage of Reported Use of Simulated Laboratory					
		1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals Nursing I	Mean	9.25	8.28	6.86	4.67	4.50	6.67
	SD	4.56	5.18	3.93	2.31	2.40	4.35
	# of courses	8	25	7	3	26	69
Adult/Acute/ Medical-Surgical	Mean	11.14	7.20	0	3.00	0	9.75
	SD	3.03	4.02	0	0	0	3.91
	# of courses	14	5	0	1	0	20
Maternal-Child/ Expanding Family	Mean	13.00	7.50	0	0	0	11.91
	SD	3.85	2.12	0	0	0	4.18
	# of courses	8	2	0	0	0	10
Pediatrics/Child	Mean	15.00	0	0	0	0	15.00
	SD	3.46	0	0	0	0	3.46
	# of courses	4	0	0	0	0	4
Psychiatric/ Mental Health	Mean	14.00	0	0	0	0	14.00
	SD	8.00	0	0	0	0	8.00
	# of courses	5	0	0	0	0	5
Community Health	Mean	12.33	3.00	0	3.00	6.00	10.25
	SD	8.77	0	0	0	0	5.01
	# of courses	9	1	0	1	1	12
Management/ Leadership	Mean	13.00	0	0	0	0	13.00
	SD	2.00	0	0	0	0	2.00
	# of courses	4	0	0	0	0	4
Senior Practicum/ Advanced Medical-Surgical	Mean	14.00	0	16.00	0	0	14.29
	SD	3.58	0	0	0	0	3.35
	# of courses	6	0	1	0	0	7
Other	Mean	13.31	11.04	5.30	3.00	7.25	11.63
	SD	3.73	4.94	2.87	0	6.73	4.94
	# of courses	72	24	10	1	8	115
Column totals	Mean	12.84	9.23	6.50	3.83	5.17	10.23
	SD	3.97	5.07	4.00	1.72	3.87	5.19
	# of courses	130	57	18	6	35	246
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	12.94	9.30	6.50	3.83	5.29	10.41
	SD	3.91	5.24	4.00	1.72	4.08	5.21
	# of courses	128	50	18	6	31	233
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	6.50	8.71	0	0	4.25	7.00
	SD	3.54	3.95	0	0	1.26	3.67
	# of courses	2	7	0	0	4	13

Table 18.--Continued.

Percentage of Reported Use of Preceptor/Role Model							
Course		1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	6.00	0	0	4.00	0	5.33
	SD	2.83	0	0	0	0	2.31
	# of courses	2	0	0	1	0	3
Adult/Acute/ Medical-Surgical	Mean	7.50	14.00	0	0	0	8.80
	SD	3.00	0	0	0	0	3.90
	# of courses	4	1	0	0	0	5
Maternal-Child/ Expanding Family	Mean	10.20	0	0	0	0	10.20
	SD	5.50	0	0	0	0	5.50
	# of courses	5	0	0	0	0	5
Pediatrics/Child	Mean	12.00	0	0	0	0	12.00
	SD	0	0	0	0	0	0
	# of courses	1	0	0	0	0	1
Psychiatric/ Mental Health	Mean	10.67	6.00	14.00	0	0	10.40
	SD	8.33	0	0	0	0	6.54
	# of courses	3	1	1	0	0	5
Community Health	Mean	10.14	12.50	8.67	5.00	0	9.81
	SD	4.56	3.42	3.06	1.41	0	4.71
	# of courses	7	4	3	2	0	16
Management/ Leadership	Mean	0	8.50	14.67	14.00	7.50	10.82
	SD	0	.71	2.31	2.83	7.19	5.42
	# of courses	0	2	3	2	4	11
Senior Practicum/ Advanced Medical-Surgical	Mean	14.40	6.00	20.50	18.00	20.57	17.56
	SD	3.58	0	16.26	0	12.53	10.07
	# of courses	5	1	2	1	7	16
Other	Mean	12.95	8.67	10.89	5.50	24.25	13.30
	SD	4.24	6.19	7.61	1.00	10.26	8.30
	# of courses	19	6	9	4	8	46
Column total	Mean	11.43	9.67	12.39	8.20	19.37	12.44
	SD	4.77	4.73	7.55	5.20	12.01	7.76
	# of courses	46	15	18	10	19	108
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	11.56	9.46	13.13	15.33	22.07	13.37
	SD	4.75	4.65	7.65	3.06	11.91	7.86
	# of courses	45	13	16	3	15	92
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	6.00	11.00	6.50	5.14	9.25	7.13
	SD	0	7.07	3.54	1.07	5.62	4.01
	# of courses	1	2	2	7	4	16

Table 18.--Continued.

Course		Percentage of Reported Use of Independent Study 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean	5.00	0	0	0	3.00	4.50
	SD	2.68	0	0	0	0	2.45
	# of courses	6	0	0	0	2	8
Adult/Acute/ Medical-Surgical	Mean	11.33	0	0	0	0	11.33
	SD	5.03	0	0	0	0	5.03
	# of courses	3	0	0	0	0	3
Maternal-Child/ Expanding Family	Mean	12.60	0	0	0	0	12.60
	SD	6.15	0	0	0	0	6.15
	# of courses	5	0	0	0	0	5
Pediatrics/Child	Mean	17.50	0	0	0	0	17.50
	SD	2.12	0	0	0	0	2.12
	# of courses	2	0	0	0	0	2
Psychiatric/ Mental Health	Mean	20.00	0	0	0	0	20.00
	SD	4.00	0	0	0	0	4.00
	# of courses	3	0	0	0	0	3
Community Health	Mean	10.63	9.00	4.00	0	4.00	8.87
	SD	4.03	4.76	0	0	0	4.45
	# of courses	8	4	1	0	2	15
Management/ Leadership	Mean	11.20	0	16.00	0	0	12.00
	SD	5.02	0	0	0	0	4.90
	# of courses	5	0	1	0	0	6
Senior Practicum/ Advanced Medical-Surgical	Mean	14.67	0	9.00	6.00	12.00	11.83
	SD	2.31	0	0	0	0	3.92
	# of courses	3	0	1	1	1	6
Other	Mean	11.47	14.00	4.75	9.00	7.25	10.88
	SD	5.22	3.87	2.75	0	5.25	5.31
	# of courses	32	7	4	1	4	48
Column total	Mean	11.55	12.18	6.86	7.50	6.11	10.69
	SD	5.47	4.71	4.78	2.12	4.34	5.46
	# of courses	67	11	7	2	9	96
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	12.27	12.80	6.20	0	6.38	11.39
	SD	5.29	4.47	5.67	0	4.57	5.53
	# of courses	59	10	5	0	8	82
Mean Clock Hours in Clinic Per Week for Each Organisational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	6.25	6.00	8.50	7.50	6.57	6.57
	SD	2.71	0	.71	2.12	2.38	2.38
	# of courses	8	1	2	2	14	14

Table 18.--Continued.

Course		Percentage of Reported Use of Practicum/Internship 1-20%	21-40%	41-60%	61-80%	81-100%	Total
Intro./Fundamentals/ Nursing I	Mean						
	SD			NO CASES REPORTED			
	# of courses						
Adult/Acute/ Medical-Surgical	Mean						
	SD			NO CASES REPORTED			
	# of courses						
Maternal-Child/ Expanding Family	Mean	12.50	0	0	0	0	12.50
	SD	9.19	0	0	0	0	9.19
	# of courses	2	0	0	0	0	2
Pediatrics/Child	Mean	0	19.00	0	0	0	19.00
	SD	0	0	0	0	0	0
	# of courses	0	1	0	0	0	1
Psychiatric/ Mental Health	Mean	0	16.00	7.50	0	0	10.33
	SD	0	0	2.12	0	0	5.13
	# of courses	0	1	2	0	0	3
Community Health	Mean	8.00	11.00	9.00	0	0	9.75
	SD	0	7.07	0	0	0	4.35
	# of courses	1	2	1	0	0	4
Management/ Leadership	Mean	0	11.00	15.00	0	10.00	12.00
	SD	0	7.07	4.24	0	1.41	4.43
	# of courses	0	2	2	0	2	6
Senior Practicum/ Advanced Medical-Surgical	Mean	16.00	16.00	32.00	0	24.00	22.00
	SD	0	0	0	0	0	7.66
	# of courses	1	1	1	0	1	4
Other	Mean	12.11	0	8.00	8.50	0	11.17
	SD	5.30	0	0	7.78	0	5.37
	# of courses	9	0	1	2	0	12
Column total	Mean	12.15	13.57	13.43	8.50	14.67	12.75
	SD	5.34	5.29	9.05	7.78	8.14	6.36
	# of courses	13	7	7	2	3	32
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for Generic and RNs Combined[a]							
Column total	Mean	12.15	14.83	15.20	8.50	17.50	13.39
	SD	5.34	4.49	10.45	7.78	9.19	6.54
	# of courses	13	6	5	2	2	28
Mean Clock Hours in Clinic Per Week for Each Organizational Pattern, by Course, for BSN Completion[a]							
Column total	Mean	0	6.00	9.00	0	9.00	8.25
	SD	0	0	0	0	0	1.50
	# of courses	0	1	2	0	1	4

[a]Column totals given for comparison.

and how the number of hours was affected by percentage of reported use of each organizational pattern.

In reviewing the reported use of supervised clinical and the related effect on clock hours, it appeared that a usage of supervised clinical 61% or more of the time resulted in the greatest number of hours in clinic per week. The column total mean for all courses using supervised clinical 81-100% of the time was 11.84 hours, and for 61-80% of the time it was 12.02 hours. This can be compared to a mean of 8.98 hours for 41-60% of the time usage, 7.67 hours for 21-40%, and 9.30 hours for 1-20%.

Simulated laboratory presented a very different pattern. The highest mean hours in clinic per week appeared when simulated laboratory was used 1-20% of the time, a column total mean for all courses of 12.84, or 21-40% of the time with a mean of 9.23 hours. This relates to the influence that the organizational patterns of supervised clinical and simulated laboratory had on each other because this appeared as the most frequent combination pattern. When simulated laboratory was used a higher percentage of the time, the mean number of hours in clinic per week declined. For example, the column total mean for usage of 41-60% of the time was 6.5 hours, and for 81-100% of the time it was 5.17 hours.

When preceptor/role model was used 81-100% of the time, the greatest number of hours in clinic per week occurred. For example, when it was reported to be used 81-100% of the time, there was a mean

of 19.37 hours of clinic per week. However, with a standard deviation of 12.01 there was a wide range of hours.

When the organizational pattern of independent study was used, the effect on the mean hours in clinic per week appeared to be similar to that found with simulated laboratory. For example, when it was used 1-20% of the time, this resulted in a column total mean for all courses of 11.55 hours. This reflects the effect of this pattern combining with another, more dominant pattern. Only nine cases reported using this pattern 81-100% of the time. This resulted in a column total mean for all courses of 6.11 hours per week in clinic.

Practicum/internship had few cases reporting a high usage. Therefore, little can be said about it. Its greatest use appeared in the 1-20% of time column. This produced 12.15 mean hours per week in clinic. Its use to a greater extent should result in a much larger number of hours in clinic per week because it is defined as concentrated or extended blocks of time in clinic.

Table 18 also provides the column totals reporting the mean number of hours in clinic for all courses reported from programs that included generic and RNs combined and those that were BSN completion. The number of hours in clinic per week for those courses reported from programs identified as BSN completion were considerably less than those reported from generic and RNs combined.

In summary, the mean hours in clinic per week for required clinical nursing courses by organizational pattern for all reported cases were: supervised clinical, 10.27 hours per week; simulated

laboratory, 10.23 hours per week; preceptor/role model, 12.44 hours per week; independent study, 10.69 hours per week; and practicum/ internship, 12.75 hours per week.

The relationship between each organizational pattern and the faculty resource requirements was further analyzed by looking at those cases that reported there was use of a particular pattern 50% or more of the time. This analysis showed the effect of the organizational pattern when it was the dominant pattern used. Table 19 provides such an analysis. It presents the mean student/faculty ratio and the mean number of hours in clinic for those required clinical nursing courses that were reported as using a particular organizational pattern 50% or more of the time.

For those courses that were reported as using supervised clinical 50% or more of the time, the mean student/faculty ratio was 9.04:1, with a mean of 11.53 hours per week in clinic. As can be seen in Table 19, simulated laboratory, when used 50% or more of the time, had a higher mean student/faculty ratio of 11.21:1 with fewer hours in clinic per week, 5.44 hours. When preceptor/role model was the dominant pattern, the mean student/faculty ratio was 11.57:1, with a mean of 14.32 hours per week in clinic. Independent study, when the dominant pattern, was reported as having a mean student/faculty ratio of 13.46:1, with a mean of 6.5 hours in clinic per week. Practicum/ internship, when used 50% or more of the time, had a mean student/ faculty ratio of 10.43:1 and a mean for hours per week in clinic of

Table 19.--Mean student/faculty ratio and mean hours per week in clinic, by organizational pattern, in reported cases where the percentage of use was 50% or more for all reported cases.

Organizational Pattern Used 50% or More		# of Reported Cases	Mean Student/ Faculty Ratio		# of Reported Cases	Mean Hours Per Week in Clinic	
			Mean	SD		Mean	SD
Supervised clinical	All cases	510	9.04	2.42	509	11.53	4.45
	Generic and RNs combined	481	9.06	2.45	480	11.75	4.45
	BSN completion	29	8.76	1.88	29	7.90	2.46
Simulated laboratory	All cases	62	11.21	5.80	59	5.44	3.79
	Generic and RNs combined	58	11.33	5.95	55	5.53	3.91
	BSN completion	4	9.50	2.65	4	4.25	1.26
Preceptor/ role model	All cases	46	11.57	5.59	47	14.32	10.15
	Generic and RNs combined	32	11.40	6.38	34	17.27	10.31
	BSN completion	14	11.93	3.29	13	6.62	3.62
Independent study	All cases	13	13.46	11.97	16	6.50	4.43
	Generic and RNs combined	9	13.56	13.14	12	6.33	5.00
	BSN completion	4	13.25	10.63	4	7.00	2.45
Practicum/ internship	All cases	14	10.43	1.95	11	13.28	8.48
	Generic and RNs combined	12	10.83	1.80	9	14.22	9.18
	BSN completion	2	8.00	.00	2	9.00	.00

Note: The actual number of reported cases varied slightly because a few reports omitted data.

13.28. (Note the standard deviations, which reflected a wide distribution.)

These data were statistically analyzed to determine if there were significant differences between each organizational pattern when each served as a dominant pattern. This reflected the nature of each pattern when not influenced by other organizational patterns.

These analyses were done by taking the reported courses in which an organizational pattern was reportedly used 50% or more of the time and grouping them by organizational pattern. Then a one-way ANOVA was used to test for differences in student/faculty ratio and clinic hours per week as a function of organizational pattern. There were 645 cases represented in the student/faculty ratio analysis and 642 in the clinic hours analysis.

These analyses showed that there were significant differences in student/faculty ratios ($F = 13.64$, $df = 4,640$, $p < .01$) and hours in clinic ($F = 27.38$, $df = 4,637$, $p < .01$) among the organizational patterns. Post hoc comparisons using the Fisher LSD test showed that supervised clinical had a significantly lower student/faculty ratio than simulated laboratory, preceptor/role model, or independent study (all $t's > 3.00$, $df = 640$, $p < .01$). No significant difference was found between supervised clinical and practicum/internship. Supervised clinical required more clinic hours than simulated laboratory ($t = 6.13$, $df = 637$, $p < .01$) or independent study ($t = 2.74$, $df = 637$, $p < .01$) and fewer clinic hours than preceptor/role model ($t = 2.53$,

df = 637, $p < .01$). No significant differences were found between supervised clinical and practicum/internship.

The data did not shift a great deal when looking only at those cases that were reported by programs that had generic and RNs combined. The major exception to this was the number of hours in clinic for the organizational pattern of preceptor/role model, which increased to 17.27 hours per week for generic and RNs combined. It should be noted that the standard deviation reflected a wide distribution.

In analyzing only those cases that were reported by BSN completion programs, the mean faculty/student ratio was consistent with that found in all cases, except for the organizational patterns of simulated laboratory and practicum/internship, which had lower ratios. All patterns reflected lower mean hours in clinic except for independent study, which was slightly higher than what was found in all cases.

This is also an appropriate time to analyze the effect that combinations of organizational patterns had on faculty resource requirements. By comparing Tables 12 and 16 with Table 19, it is possible to see that when combinations were used, the resulting student/faculty ratios and the number of hours in clinic were influenced by the dominant pattern. Since supervised clinical was the overwhelmingly dominant pattern, its faculty resource requirements also dominated the results.

The student/faculty ratios for simulated laboratory, preceptor/role model, independent study, and practicum/internship were much larger as dominant patterns (Table 19) than when they were used as secondary patterns (Table 12). In addition, a comparison of the number of hours in clinic per week identified in Table 16 with those in Table 19 showed much greater differences for simulated laboratory, preceptor/role model, independent study, and practicum internship. (This same effect can be seen by looking at the column totals of Tables 14 and 18.) Logically, it was the dominant organizational pattern, when used in combination, that determined the faculty resources. Combining organizational patterns appeared to lead to a heavier use of faculty resources than occurred when the secondary pattern stood alone as a dominant pattern in its own right.

Another analysis of the effect of the organizational patterns on faculty resource requirements is presented in Table 20. This table identifies the number of full-time faculty per student per course that organizational pattern generated. This was accomplished by using the following formula:

$$\frac{\text{Mean number of full-time equivalent faculty per clinical course}}{\text{Mean number of students per clinical course}} = \text{Full-time equivalent faculty per student per clinical course}$$

This formula adjusts for both student/faculty ratios and hours in clinic, which combine to determine the number of faculty actually needed (FTEs) to teach a course.

Table 20.--Full-time faculty per student[a] for each clinical course by organizational pattern when the percentage of use was 50% or more for all reported cases.

Organizational Pattern Used 50% or More		# of Reported Cases	Mean # of Students Per Course		# of Reported Cases	Mean # of Full-Time Faculty Per Course[a]		Full-Time Equivalent Faculty Per Student Per Course[a]
			Mean	SD		Mean	SD	
Supervised clinical	All cases	509	55.65	36.60	499	4.98	3.92	.0894
	Generic and RNs combined	480	57.51	36.75	470	5.16	3.97	.0896
	BSN completion	29	24.86	12.97	29	2.07	.85	.0834
Simulated laboratory	All cases	65	72.06	48.08	64	4.50	4.57	.0624
	Generic and RNs combined	61	75.15	47.85	60	4.71	4.64	.0626
	BSN completion	4	25.00	19.49	4	1.38	.48	.0550
Preceptor/ role model	All cases	50	44.90	35.71	46	4.06	5.10	.0903
	Generic and RNs combined	36	55.11	36.61	33	5.05	5.72	.0916
	BSN completion	14	18.64	12.91	13	1.53	.67	.0818
Independent study	All cases	16	33.38	14.38	14	1.84	1.62	.0551
	Generic and RNs combined	12	35.17	13.14	10	1.95	1.89	.0554
	BSN completion	4	28.00	18.67	4	1.56	.66	.0558
Practicum/ internship	All cases	16	42.38	44.01	15	3.50	4.27	.0825
	Generic and RNs combined	14	46.14	45.97	13	3.73	4.56	.0808
	BSN completion	2	16.00	.00	2	2.00	.00	.1250

Note: The actual number of reported cases varied slightly because a few reports omitted the data.

[a]This includes all reported faculty, including graduate assistants, laboratory assistants, and practicing nurses.

[b]Calculated by the following:

$$\frac{\text{Mean Number of Full-Time Equivalent Faculty Per Clinical Course}}{\text{Mean Number of Students Per Clinical Course}} = \text{Full-Time Equivalent Faculty Per Student Per Clinical Course}$$

Again, this analysis was done using only those cases that were reported as using a particular organizational pattern 50% or more of the time, so that it was possible to detect the influence of the dominant pattern. In looking at Table 20, it can be seen that for all reported cases it took .0894 of a faculty member per student per clinical course using supervised clinical, .0624 of a faculty member per student per clinical course using simulated laboratory, .0903 of a faculty member per student per clinical course using preceptor/role model, .0551 of a faculty member per student per clinical course using independent study, and .0825 of a faculty member per student per clinical using practicum/internship. Based on this calculation, preceptor/role model consumed the most faculty resources, followed by supervised clinical; third was practicum/role model, fourth was simulated laboratory, and least consumptive was independent study.

Looking back to Table 19 for comparison, it can be seen that simply having a high student/faculty ratio did not lead to fewer faculty needed. The courses that used the lowest number of faculty had both a high student/faculty ratio and a low mean number of hours in clinic per week. For the organizational pattern of preceptor/role model, which had a student/faculty ratio comparable to simulated laboratory, the advantage gained in the student/faculty ratio appeared to be lost in the large number of hours per week in clinic provided by the pattern. A pattern that had both a high student/faculty ratio and fewer hours in clinic required fewer faculty.

In summary, preceptor/role model consumed .0903 faculty (FTE) per student per clinical course, supervised clinical consumed .0894, practicum/internship consumed .0825, simulated laboratory consumed .0624, and last, independent study was the lowest with .0551 faculty.

In concluding this section, it is important to emphasize the difficulty in data analysis created by the overwhelming use of supervised clinical and the very limited use of the other organizational patterns by comparison. While attempts were made to provide a careful analysis of the effect that each organizational pattern had on faculty resource requirements, this analysis was limited by the lack of clinical courses reported to be using patterns other than supervised clinical.

Research Question 4

> What are the resource requirements in terms of academic preparation of faculty used to staff clinical instruction in baccalaureate nursing programs?

The distribution of academic preparation of faculty teaching the reported 694 required clinical nursing courses is shown in Table 21 for all cases by each of the nine identified course categories. The academic preparation of clinical faculty appeared to reflect a mix of academic credentials with the overwhelming majority prepared at the master's level. Of the 3,492 faculty identified in this study, 2,793 or 80% had a master's degree. Three hundred thirty-eight or 9.7% held doctorates. Seventy-nine or 2.3% had bachelor's degrees. Graduate assistants made up 108 or 3.1% of the reported faculty. One hundred thirty-six or 4% were reported to be practicing nurses.

Table 21.--Reported number of faculty, by academic preparation, for each clinical course.

Course		# of Reported Courses	Number of Faculty[a]												Total # of Reported Faculty
			Doctoral Degree		Master's Degree		Bachelor's Degree		Graduate Assistant		Laboratory Assistant		Practicing Nurse		
			N	%	N	%	N	%	N	%	N	%	N	%	
Introduction/ Fundamentals/ Nursing I	All cases	92	35	7.6	373	80.7	9	2.0	31	6.7	13	2.8	1	.2	462
	Generic and RNs combined	85	31	7.0	364	81.4	9	2.0	30	6.7	12	2.7	1	.2	447
	BSN completion	7	4	26.6	9	60.0	0	0	1	6.7	1	6.7	0	0	15
Adult/Acute/ Medical-Surgical	All cases	49	14	5.3	217	82.5	9	3.4	13	5.0	1	.4	9	3.4	265
	Generic and RNs combined	45	12	4.7	213	83.2	9	3.5	12	4.7	1	.4	9	3.5	265
	BSN completion	4	2	28.6	4	57.1	0	0	1	14.3	0	0	0	0	7
Maternal-Child/ Expanding Family	All cases	35	6	5.0	98	83.1	6	5.1	4	3.4	1	.9	3	2.5	118
	Generic and RNs combined	33	6	5.3	94	82.5	6	5.3	4	3.5	1	.9	3	2.6	114
	BSN completion	2	0	0	4	100.0	0	0	0	0	0	0	0	0	4
Pediatrics/ Child	All cases	19	3	4.3	58	82.9	2	2.9	1	1.4	1	1.4	5	7.1	70
	Generic and RNs combined	19	3	4.3	58	82.9	2	2.9	1	1.4	1	1.4	5	7.1	70
	BSN completion	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychiatric/ Mental Health	All cases	34	13	13.4	81	83.5	0	0	0	0	1	1.0	2	2.1	97
	Generic and RNs combined	32	13	14.0	77	82.8	0	0	0	0	1	1.1	2	2.1	93
	BSN completion	2	0	0	4	100.0	0	0	0	0	0	0	0	0	4
Community Health	All cases	55	18	10.8	140	83.8	3	1.8	0	0	1	.6	5	3.0	167
	Generic and RNs combined	45	16	10.7	126	84.0	2	1.3	0	0	1	.7	5	3.3	150
	BSN completion	10	2	11.8	14	82.3	1	5.9	0	0	0	0	0	0	17
Management/ Leadership	All cases	37	11	8.3	99	75.0	3	2.3	0	0	1	.8	18	13.6	132
	Generic and RNs combined	32	9	8.0	90	80.4	3	2.7	0	0	1	.8	9	8.0	112
	BSN completion	5	2	10.0	9	45.0	0	0	0	0	0	0	9	45.0	20
Senior Practicum/ Advanced Med.-Surgical	All cases	40	32	14.2	145	64.4	3	1.3	5	2.2	2	.8	38	16.9	225
	Generic and RNs combined	36	32	15.5	137	66.5	3	1.5	5	2.4	2	1.0	27	13.1	206
	BSN completion	4	0	0	8	42.1	0	0	0	0	0	0	11	57.9	19
Other	All cases	333	206	10.5	1582	80.8	44	2.2	54	2.8	17	.9	55	2.8	1958
	Generic and RNs combined	307	198	10.5	1531	81.0	43	2.3	54	2.9	17	.9	46	2.4	1889
	BSN completion	26	8	11.6	51	74.0	1	1.4	0	0	0	0	9	13.0	69
Totals	All cases	694	338	9.7	2793	80.0	79	2.3	108	3.1	38	1.1	136	4.0	3492
	Generic and RNs combined	634	320	9.6	2690	80.6	77	2.3	106	3.2	37	1.1	107	3.2	3337
	BSN completion	60	18	11.6	103	66.5	2	1.3	2	1.3	1	.7	29	18.7	155

[a]This does not reflect an FTE but only reflects the number of faculty identified with the credential for each of the reported cases.

All course categories used doctorally prepared faculty. The mean percentage of doctorally prepared faculty was 9.7%. The course categories of Psychiatric/Mental Health, Community Health, Senior Practicum/Advanced Medical-Surgical, and Other reported a percentage of doctorally prepared faculty greater than the mean. The course categories of Adult/Acute/Medical-Surgical, Maternal-Child/Expanding Family, and Pediatrics/Child were well below the mean.

All course categories were reported as using master's-prepared faculty. Master's-prepared faculty comprised 80% of the faculty in all course categories except Management/Leadership and Senior Practicum/Advanced Medical-Surgical. Management/Leadership and Senior Practicum/Advanced Medical-Surgical were somewhat lower, with 75% and 64.4%, respectively.

Eight of the nine course categories were reported using faculty holding bachelor's degrees. This academic level included about 2% of the total for each category. Maternal-Child/Expanding Family was slightly more, with 5.1%, and Psychiatric/Mental Health had no reported use of bachelor's-prepared faculty.

Six of the nine course categories were reported as using graduate assistants as clinical faculty. The greatest use was reported in Introduction/Fundamentals/Nursing I, in which 6.7% of the faculty were graduate assistants. In the Adult/Acute/Medical-Surgical category, they comprised about 5% of the faculty. In the remaining four categories, graduate assistants accounted for 3% or less of the

faculty. Psychiatric/Mental Health, Community Health, and Management/ Leadership had no reported use of graduate assistants as faculty.

Laboratory assistants were used as faculty in all of the reported course categories. Their use, however, appeared very limited. For the most part, they made up about 1% or less of each course faculty. The exception was Introduction/Fundamentals/Nursing I, which had a usage of about 2.8%.

Practicing nurses were used as clinical faculty in all course categories. They were reported to make up about 3% or less of the faculty in six of the nine categories. Their heaviest use was reported in Management/Leadership and Senior Practicum/Advanced Medical-Surgical.

Table 22 provides the reported number of faculty by academic preparation for each organizational pattern. The courses reported in the table are those that were reported as using the specific organizational pattern 50% or more of the time. This provides an opportunity to examine the relationship between the dominant organizational pattern and the academic level of the faculty.

Upon examination of each individual organizational pattern, some differences appeared. For all organizational patterns except independent study, about 10% of the faculty held doctoral preparation. Independent study had only one reported doctorally prepared faculty member.

Master's-prepared faculty comprised 80% of the faculty in those cases reporting that supervised clinical or simulated laboratory

Table 22.--Reported number of faculty, by academic preparation, for each organizational pattern when used 50% of the time.

Course		# of Reported Courses	Number of Faculty[a]												Total # of Reported Faculty
			Doctoral Degree		Master's Degree		Bachelor's Degree		Graduate Assistant		Laboratory Assistant		Practicing Nurse		
			N	%	N	%	N	%	N	%	N	%	N	%	
Supervised clinical	All cases	531	268	9.7	2265	81.7	69	2.5	92	3.3	30	1.1	48	1.7	2772
	Generic and RNs combined	502	256	9.4	2214	81.7	69	2.6	92	3.4	30	1.1	48	1.8	2709
	BSN completion	29	12	19.0	51	81.0	0	0	0	0	0	0	0	0	63
Simulated laboratory	All cases	67	30	9.8	246	80.1	6	2.0	15	4.9	9	2.9	1	.3	307
	Generic and RNs combined	63	27	9.0	243	81.0	5	1.7	15	5.0	9	3.0	1	.3	300
	BSN completion	4	3	42.9	3	42.9	1	14.2	0	0	0	0	0	0	7
Preceptor/ role model	All cases	50	28	11.4	145	58.7	1	.4	2	.8	1	.4	70	28.3	247
	Generic and RNs combined	36	26	13.3	124	63.6	1	.5	2	1.1	0	.5	41	21.0	195
	BSN completion	14	2	3.8	21	40.4	0	0	0	0	0	0	29	55.8	52
Independent study	All cases	17	1	2.2	32	69.6	2	4.3	0	0	2	4.3	9	19.6	46
	Generic and RNs combined	12	1	3.6	23	82.2	2	7.1	0	0	2	7.1	0	0	28
	BSN completion	5	0	0	9	50.0	0	0	0	0	0	0	9	50.0	18
Practicum/ internship	All cases	18	7	9.5	47	63.5	1	1.4	0	0	1	1.4	18	24.2	74
	Generic and RNs combined	14	6	8.8	43	63.2	0	0	0	0	1	1.5	18	26.5	68
	BSN completion	4	1	16.7	4	66.6	1	16.7	0	0	0	0	0	0	6
Totals	All cases	683	334	9.7	2735	79.3	79	2.3	109	3.2	43	1.3	146	4.2	3446
	Generic and RNs combined	627	316	9.6	2647	80.2	77	2.3	109	3.3	43	1.3	108	3.3	3300
	BSN completion	56	18	12.3	88	60.3	2	1.4	0	0	0	0	38	26.0	146

[a]This does not reflect an FTE but only reflects the number of faculty identified with the credential for each of the reported cases.

was its dominant organizational pattern. Preceptor/role model and practicum/internship reported that the master's-level faculty made up from 58.7% to 63.5% of the total faculty. Independent study, when the BSN completion programs were subtracted, showed that 82.2% of its faculty were master's prepared.

Bachelor's-prepared faculty were reported with all organizational patterns but comprised a low percentage of the total faculty. Most frequent use was found in those courses that reported supervised clinical as the dominant pattern.

Graduate assistants were found in only three of the five organizational patterns. They appeared most frequently with supervised clinical and simulated laboratory, where they made up 3.3% and 4.9% of the total faculty, respectively. No use was reported with independent study or practicum/role model.

Laboratory assistants, although seen with all patterns, most frequently appeared with supervised clinical and simulated laboratory and were infrequently seen in the others.

The largest percentage of practicing nurses was found as faculty when preceptor/role model, independent study, and practicum/internship were the dominant organizational patterns. When preceptor/role model was used, 28.3% of the faculty were practicing nurses, for independent study 19.6% were practicing nurses, and for practicum/internship 24.2% were reported to be practicing nurses. It must be noted, however, that the last two organizational patterns were used less often and represented very few faculty.

Table 23 has been included to provide an indication of the number of courses that were reported to have each level of academic preparation. This gives an indication of the number of courses that were staffed with each of the various levels of faculty and, when they were, the mean number in each course. Of the 694 courses, 218 or 31.4% reportedly had doctorally prepared faculty. Six hundred forty-four or 92.8% of the 694 courses had master's-prepared faculty. Bachelor's-prepared faculty were reported to be used in 59 or 8.5% of the courses, and graduate assistants in 66 or 9.5% of the courses. Laboratory assistants were found in 35 or 5%, and practicing nurses in 21 or 3% of the courses. The table also identifies the mean number of faculty per course for each academic level, when used.

Table 23.--Number of courses reporting use of each academic level of faculty and mean number of faculty per course, by academic preparation, for all reported cases (N = 694).

Academic Preparation	# of Courses Reporting Use		Mean # Per Course	SD
	N	%		
Doctorate	218	31.4	1.55	1.03
Master's	644	92.8	4.34	3.33
Bachelor's	59	8.5	1.34	.80
Graduate assistant	66	9.5	1.64	1.32
Laboratory assistant	35	5.0	1.09	.37
Practicing nurse	21	3.0	6.48	3.42

When a comparison of the data from Table 21 was made with Table 23, it was possible to determine that although doctorates made up only 9.7% of the total number of clinical faculty, they were found, to some extent, in 31.4% of the reported courses. Using the same comparison, laboratory assistants made up 1.1% of the total clinical faculty and were found in 5% of the reported courses, and practicing nurses made up 4% of the clinical faculty and were found in 3% of the courses. Comparison of the two tables certainly provides a greater understanding of the distribution of each level of preparation of faculty.

In summary, 9.7% of all reported clinical faculty held doctorates, 80% held master's degrees, and 2.3% had bachelor's degrees. Graduate assistants comprised 3.1% of the total clinical faculty. Laboratory assistants and practicing nurses were reported to make up 1.1% and 4%, respectively.

Research Question 5

> Is there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements in baccalaureate nursing programs, based on selected demographic data?

Four demographic variables were selected for analysis to determine what, if any, relationship existed between the variables and the use of the five organizational patterns or the faculty resource requirements of student/faculty ratio and number of hours per week in clinic. The four demographic variables were college/university size,

program size, type of curriculum, and whether the program included graduate study or not.

College/university size. Table 24 presents the mean reported use of each organizational pattern as a function of college size. For presentation purposes, college size was grouped into seven categories in this table. Supervised clinical had a range for percentage of use from 78.27% to 85.81%, based on college size. The other four organizational patterns showed a much wider range.

These data were tested with a nondirectional hypothesis, using Pearson's correlation coefficient. No significant relationships were found between college size and the percentage of use for any of the organizational patterns.

Table 25 provides the mean student/faculty ratio and the mean number of hours in clinic per week by college/university size. The range of student/faculty ratios was 8.4:1 to 10.5:1. Clock hours in clinic per week reflected a similar situation. The range of clock hours per week in clinic was 10.28 to 12.83 hours.

These data were also tested with a nondirectional hypothesis, using Pearson's correlation coefficient. A very weak relationship was found to exist between student/faculty ratio and college/university size. As the college size increased, so did the student/faculty ratio ($r = .10$, $df = 565$, $p < .05$). In addition, a very weak relationship was found between numbers of clock hours in clinic and college/university size. As college/university size increased, so did the number of hours in clinic ($r = .08$, $df = 654$, $p < .05$).

Table 24.--Reported use of organizational patterns by size of college/university--all cases.

College/ University Size	Supervised Clinical			Simulated Laboratory			Preceptor/ Role Model			Independent Study			Practicum/ Internship		
	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD
1- 2,500	167	78.27	23.45	82	29.71	29.11	23	48.17	33.59	30	33.23	32.30	12	38.17	26.17
2,500- 5,000	90	80.08	22.32	46	26.52	20.13	25	53.52	33.33	14	28.29	32.15	2	55.00	63.64
5,001- 7,500	47	85.66	20.74	21	32.33	31.64	9	25.00	30.31	1	20.00	.00	0	0	0
7,501-10,000	48	84.23	20.65	20	56.90	39.20	6	55.00	37.28	10	18.20	10.22	3	65.00	30.41
10,001-12,500	49	80.00	19.79	19	42.89	32.58	24	29.17	19.65	17	23.82	18.59	10	41.00	23.78
12,501-15,000	24	81.25	21.49	14	25.00	21.68	5	4.60	4.93	6	23.17	37.71	4	7.00	3.46
15,000+	132	85.81	20.32	59	36.31	35.64	23	46.27	38.33	24	20.96	21.28	3	43.33	11.55

Table 25.--Reported mean student/faculty ratio and mean clock hours in clinic per week by college/ university size--all cases.

College Size	# of Courses	Mean Student/ Faculty Ratio	SD	# of Courses	Mean Clock Hours in Clinic Per Week	SD
1- 2,500	186	8.40	2.16	187	10.42	5.02
2,501- 5,000	93	10.18	2.65	92	10.70	5.02
5,001- 7,500	57	8.58	2.29	57	11.12	5.19
7,500-10,000	56	9.88	3.37	57	12.83	6.42
10,001-12,500	61	9.44	2.45	61	10.28	5.24
12,501-15,000	32	10.50	1.88	32	11.72	2.92
15,000+	150	10.21	4.73	147	11.37	6.43

Size of baccalaureate program. Table 26 shows the reported use of each organizational pattern, by program size. Again, for presentation purposes, the programs sizes were grouped into five categories. Pearson correlation coefficients on the raw data were used to test for a relationship. A very weak relationship was found to exist between program size and supervised clinical, as well as simulated laboratory. As program size increased, so did the use of supervised clinical ($r = .09$, $df = 573$, $p < .05$) and simulated laboratory ($r = .16$, $df = 264$, $p < .05$). There was no relationship with size of baccalaureate program for the remaining organizational patterns.

Table 27 presents the reported mean student/faculty ratio and mean clock hours in clinic per week by program size. The range of student/faculty ratio by program size was a ratio from 8.9:1 to 10.23:1. The range for clock hours per week in clinic ranged from 10.06 to 11.86 hours. These data were also tested to determine if there was a significant relationship between program size and student/faculty ratio or the number of hours in clinic. A very weak relationship was found to exist between program size and student/faculty ratio. The larger the program, the larger the student/faculty ratio ($r = .10$, $df = 656$, $p < .05$). No relationship was found to exist between program size and number of hours in clinic.

Type of curriculum: Integrated versus nonintegrated. The third demographic variable was the type of curriculum the program reported itself to be, integrated or nonintegrated. For discussion

Table 26.--Reported use of organizational patterns by program size--all cases.

Program Size	Supervised Clinical			Simulated Laboratory			Preceptor/ Role Model			Independent Study			Practicum/ Internship		
	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD
1-150	164	75.87	25.89	82	29.89	28.69	53	44.45	29.62	46	25.70	23.23	28	44.39	26.85
151-300	193	86.27	17.54	87	35.56	32.07	28	43.93	38.52	24	36.75	35.10	1	50.00	.00
301-450	97	81.24	22.99	40	36.58	31.89	15	28.67	33.46	8	14.88	8.63	2	75.00	35.36
451-600	57	82.53	20.54	26	39.08	33.98	12	56.67	32.29	18	28.84	24.44	3	33.33	15.28
601+	44	83.75	22.27	18	41.83	36.69	9	16.67	17.44	7	14.00	12.38	5	20.60	30.56

Table 27.--Reported mean student/faculty ratio and mean clock hours in clinic per week by program size--all cases.

Program Size	# of Courses	Mean Student/ Faculty Ratio	SD	# of Courses	Mean Clock Hours in Clinic Per Week	SD
1-150	158	8.90	2.91	185	10.82	4.99
151-300	212	9.40	4.12	219	11.48	5.32
301-450	104	9.83	2.56	95	10.06	4.79
451-600	77	10.23	2.46	76	11.33	6.75
601+	50	9.52	1.88	50	11.86	6.18

purposes, integrated usually reflected a blending of content across the nursing courses in the curriculum, with less division in the curriculum content; the nonintegrated was usually a more traditional, discipline-specific curriculum. Seventy-six or 63.3% of the 120 programs identified themselves as being integrated. Forty-three or 35.8 percent reported that they were nonintegrated. One program did not respond.

Table 28 provides the mean reported use of each organizational pattern by type of curriculum. These data were analyzed using a t-test to determine if there was a difference in the percentage of use of each organizational pattern by those programs that considered their curriculum integrated. Of the five organizational patterns, only supervised clinical, which was reported to be used 79.92% of the time with an integrated curriculum and 84.01% of the time with a nonintegrated curriculum, showed a significant difference ($t = 2.17$, $df = 573$, $p < .05$). All other t's were less than 1.52. To determine the degree of relationship between the use of supervised clinical by type of curriculum, the t was converted into a point-biserial correlation coefficient. This r_{pb} was equal to .09, which suggested a very weak degree of relationship. Therefore, while the nonintegrated curriculum had a slightly higher use of supervised clinical, this represented a small effect.

Table 29 provides the reported mean student/faculty ratios and hours in clinic per week, by curriculum type. The mean student/faculty ratio for integrated was 9.48:1, and for integrated it was

Table 28.--Mean reported use of organizational patterns by type of curriculum--all cases.

Type of Curriculum	Supervised Clinical			Simulated Laboratory			Preceptor/ Role Model			Independent Study			Practicum/ Internship		
	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD
Integrated	339	79.92	22.29	174	35.72	31.57	67	46.51	33.74	72	27.60	26.69	22	39.82	32.12
Nonintegrated	236	84.01	22.02	92	30.86	30.95	52	37.12	33.05	31	23.55	27.18	17	42.29	22.18

Table 29.--Reported mean student/faculty ratio and mean clock hours in clinic per week by reported curriculum type--all cases.

Curriculum Type	# of Courses	Mean Student/ Faculty Ratio	SD	# of Courses	Mean Clock Hours in Clinic Per Week	SD
Integrated	404	9.48	3.37	405	11.29	5.54
Nonintegrated	254	9.47	3.02	251	11.61	5.45

9.47:1. The mean hours in clinic per week for those courses reported from the integrated curriculum was 11.29, and for nonintegrated, 11.61.

The t-test was used to determine if there were significant differences between student/faculty ratio or number of hours in clinic, based on curriculum types. There was no significant difference between the student/faculty ratios of those programs that were considered integrated when compared to those that were nonintegrated ($t = .02$, $df = 656$, $p < .05$). Also, no significant differences were found in number of hours in clinic between integrated and nonintegrated curricula ($t = 1.56$, $df = 654$, $p < .05$).

Graduate programs. Fifty-five or 45.8% of the 120 nursing programs reported that they had a graduate program. Sixty-five or 54.2% reported that they had no graduate program.

Table 30 presents the mean reported use of each organizational pattern, by course, reported by those nursing programs that had graduate programs and those that had none. These data were also analyzed using a t-test to determine if there was a difference in the mean percentage of use of each organizational pattern by those nursing programs that reported they included graduate programs when compared to those that had none. Of the five organizational patterns, only supervised clinical, which had a mean percentage of use of 83.82% for those with graduate programs and 79.59% for those with no graduate programs, showed a significant difference ($t = 2.28$, $df = 573$, $p < .05$). All other t's were less than 1.12. The degree of relationship

Table 30.--Mean reported use of organizational patterns by programs with and without graduate education.

	Supervised Clinical			Simulated Laboratory			Preceptor/ Role Model			Independent Study			Practicum/ Internship		
	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD	# of Courses	Mean % of Use	SD
Graduate programs	273	83.82	20.52	118	34.15	30.92	50	38.40	35.36	50	25.06	27.73	12	41.92	35.13
No graduate programs	302	79.59	23.57	148	33.95	31.85	69	45.30	32.27	53	27.62	26.04	27	42.33	25.00

between the use of supervised clinical and those nursing programs with graduate programs and without graduate programs was determined by converting the t into a point biserial correlation coefficient. This r_{pb} was equal to .095, which suggested only a very weak degree of relationship. Therefore, those nursing programs that included a graduate program used supervised clinical slightly more than did those that did not have graduate programs.

Table 31 presents the mean student/faculty ratios and mean number of hours in clinic reported by those programs with and without graduate study. The mean student/faculty ratio for courses from programs with graduate study was 9.86:1, which was slightly larger than the 9.14:1 found in courses from programs that had no graduate study. For mean number of hours in clinic per week the opposite was true: No graduate study produced a mean of 11.16 hours, which was only slightly larger than the 10.88 hours in those courses from programs with graduate study.

The t-test was again used to determine if there were significant differences between student/faculty ratios or number of hours in clinic, based on whether or not a nursing program had a graduate program. There was a significant difference in the student/faculty ratio for those programs that included graduate study when compared with those that did not ($t = 2.85$, $df = 656$, $p < .01$). To determine the degree of relationship, the t was converted into a point-biserial correlation coefficient. The r_{pb} was equal to .11, which suggested a weak degree of relationship. Those nursing programs that had a

Table 31.--Reported mean student/faculty ratio and mean clock hours in clinic per week in programs with and without graduate education--all cases.

	# of Courses	Mean Student/ Faculty Ratio	SD	# of Courses	Mean Clock Hours in Clinic Per Week	SD
Graduate program	308	9.86	3.58	307	10.88	5.88
No graduate program	350	9.14	2.86	349	11.16	5.18

graduate program had a slightly higher student/faculty ratio. No significant difference was found in the number of hours in clinic for those nursing programs that had graduate programs and those that did not ($t = .66$, $df = 654$, $p > .05$).

Other Program Characteristics

Section 2 of the survey instrument also provided additional data related to clinical instruction in baccalaureate programs, which gave an idea of what was typically found in the 120 programs that completed the questionnaire.

Collective Bargaining and Clinical Workload

Questions 1 through 3 of Section 2 of the survey instrument were intended to determine the effect collective bargaining had on the clinical setting. Twenty-seven or 22.5% of the 120 programs reported that they had a collective bargaining agreement with faculty. Of those 27 programs, 22 reported that the agreement specified a normal teaching load. Only three programs reported this collective bargaining agreement specified the size of clinical laboratory groups. In these programs the clinic size was eight or ten students per instructor.

Where there was no contract determination of clinic group size, the range was 7 to 15 students per instructor. For those reporting, the clinic size was determined by the following: 17 indicated that there were state regulations (Board of Nursing) which

determined the size, 18 cited accreditation standards as the rationale for size, and 29 reported other reasons affected clinic size. These reasons were:

1. Nineteen programs reported that either the university, the department, or the faculty determined the size of the clinics, based on choice and experience, level of student, own preference, or usual practice in their state.

2. Nine programs reported health agencies limited the number of students, either through written policy, competition from other nursing programs, or limited number of clients/patients because of small units.

3. Only one program cited budget as the factor that determined clinic group size.

Credit Hour/Clock Hour Ratios

The number of credit hours a faculty member was given for the clock hours spent in a clinic was reported by 99 of the 120 programs. Table 32 shows the distribution of credit hours given for each clock hour spent in clinical instruction. The range was from .25 to 2.00 credits for each clock hour. The mean was .54 credits per clock hour. Forty-two programs reported that .33 of a credit hour was given for each clock hour, making the most frequent ratio one credit hour for every three clock hours in clinic. Twenty programs reported that .50 of a credit hour was given for each clock hour, making one credit hour for every two clock hours the second most frequent ratio.

Table 32.--Reported credit hours given to each faculty member for each clock hour spent in clinical instruction.

Credit Hours for Each Clock Hour	# of Programs Reporting
.25	9
.33	42
.47	1
.50	20
.55	1
.67	8
.75	1
.80	1
1.00	8
1.30	7
2.00	1

The number of credit hours a student is given for the clock hours spent in a clinic was reported by 112 of the 120 programs. Table 33 shows the distribution of credit hours given for each clock hour the student spent in the clinical setting. The range was .25 to 3.00 credit hours for each clock hour, with a mean of .40. Seventy-eight programs reported that they gave .33 of a credit hour for each hour spent in the clinical setting. This made one credit hour for every three clock hours the most common ratio. Eighteen programs reported that .50 of a credit hour was given for each clock hour in clinic, making the ratio of one credit hour for every two clock hours the second most common.

Table 33.--Reported credit hours given to students for each clock hour spent in clinic.

Credit Hours for Each Clock Hour	# of Programs Reporting
.25	11
.33	78
.44	1
.50	18
.67	1
1.00	1
2.00	1
3.00	1

Special Fees for Clinical

Forty-eight or 40% of the 120 programs reported that they charged special fees beyond usual tuition for their clinical courses. Seven programs reported that they had fees that were on a per credit basis. These fees ranged from $8 to $150 per credit, with a mean of $40. Fourteen programs reporting had a supply or equipment fee. The range was from $10 to $50 per clinical course, with a mean of $25. Thirty programs reported that they had a flat fee or special assessment. The range was from $6 to $260, with a mean of $85.

Use of Practicing Nurses

Fifty-seven or 47.5% of the 120 programs reported that they used practicing nurses for clinical instruction. Of these, only 19 reported that they paid the practicing nurse for that instruction. Thirty-eight programs reported that they gave the practicing nurse

faculty status. The most frequent faculty status given was the rank of adjunct, followed by regular faculty status. A few reported giving honorary status.

When practicing nurses were used, 28 programs reported that they required the practicing nurse to have a master's degree, 25 programs reported that they required the bachelor's degree, and 6 programs reported that they had no degree requirements for their practicing nurses.

Twenty-six programs reported that they gave their practicing nurses university benefits. Of the 26, 25 gave library privileges, 9 gave recreational privileges, and 7 gave a bookstore discount. Ten of the 26 programs reported other benefits, such as free or reduced tuition, free continuing education, and parking privileges.

Payment for Clinical Instructors

Thirty-three or 27.5% of the 120 programs reported that they hired clinical instructors on a per hour basis. Twenty-three of the 33 programs reported an hourly salary that ranged from $6 per hour to $34 per hour, with a mean of $15 per hour. Some programs reported that the hourly payment rate depended on the individual clinical instructors.

Of the 120 programs responding to the survey, four reported that their union contracts prevented hiring hourly clinical instructors. Ten reported that it was prohibited by university policy, and 18 reported that the hiring of hourly clinical instructors was prohibited by departmental policy. Twenty-six programs reported that

hourly hiring had not been considered as an alternative, and 12 reported that it had been considered but found not feasible.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The purpose of this study was to determine the most commonly used organizational patterns of clinical nursing instruction in baccalaureate nursing programs and to determine what effect each has on faculty resource requirements for that instruction. The study was based on the belief that this information is of value to nursing faculty and administrators because the faculty resource requirements generated by clinical instruction are a major cost factor in the budgets of schools of nursing. Therefore, this information will add to the data base on which nursing faculty and administrators can make decisions concerning clinical nursing instruction.

A descriptive research design, as defined by Isaac and Michael (1977), was used in conducting this study. The writer developed the survey instrument and survey procedure following the methodology identified by Dillman (1978). In addition, a group of seven experienced nursing program administrators participated in reviewing and evaluating the instrument.

The data analysis provided information for each of the following research questions:

1. What are the organizational patterns of clinical nursing instruction in baccalaureate nursing programs?

2. What are the variations and combinations of organizational patterns found in baccalaureate nursing programs?

3. What effect do the organizational patterns have on faculty resource requirements in baccalaureate nursing programs?

4. What are the resource requirements in terms of academic preparation of faculty used to staff clinical instruction in baccalaureate nursing programs?

5. Is there a relationship between organizational patterns of clinical nursing instruction and faculty resource requirements in baccalaureate nursing programs, based on selected demographic data?

The major findings relevant to these research questions are discussed in the following pages.

Major Findings

Organizational Patterns for Clinical Instruction

Because each pattern has a unique effect on the structure and faculty resource requirements of the educational program, it was important to identify the extent to which each organizational pattern was used in clinical instruction. The overwhelming majority (82.85%) of the reported courses were taught using the organizational pattern of supervised clinical. When used, it was used for 81.59% of the class time. Therefore, supervised clinical was both used most often and represented a high percentage of the class time. Simulated

laboratory was reported as being used in 38.32% of the reported courses. When utilized, it was used for about 34.04% of the class time, making it the second most commonly used pattern. Preceptor/role model was the third most frequently used organizational pattern; 17.14% of the reported courses used it and, when used, it represented about 42.4% of the class time. Independent study was the fourth most commonly used pattern (14.84%); when used, it was used 26.37% of the time. Last by a great distance was the pattern of practicum/internship. It was reportedly used in 5.61% of the courses and, when utilized, was used 42.4% of the time.

Solo usage of each pattern. The number of courses reported as using a pattern 100% of the time again reflected the heavy use of supervised clinical; 230 of the total 694 reported total reliance on it. By comparison, the other patterns had very low reported use as a solo pattern. Simulated laboratory was used 100% of the time in only 35 courses, preceptor/role model was used 100% of the time in only 17 courses, independent study in only 8 courses, and practicum/internship in only 4.

Organizational pattern by course category. Upon examination of the nine course categories identified, supervised clinical was found to be the dominant (used 50% or more of class time) organizational pattern in eight of the nine categories. In only one category of courses, Introduction/Fundamentals/Nursing I, was it found not to be the dominant organizational pattern. For this course category the most frequently used organizational pattern was simulated laboratory.

It was reported to be used in 81.5% of the courses. However, when examining the mean percentage of use of both supervised clinical and simulated laboratory for this course category, they appeared to be almost equal. Supervised clinical was used 62.5% of the time, and simulated laboratory was used 59.98% of the time.

Combinations of Organizational Patterns

For the vast majority of courses, the combination of organizational patterns occurring most frequently was supervised clinical in conjunction with simulated laboratory. This combination usually involved heavy use of supervised clinical, with lighter use of simulated laboratory. Five hundred thirty-one of the 694 courses were reported as using supervised clinical 50% or more of the time. Of the 531, 195 were reported using it in combination with simulated laboratory. In the 195 cases, the mean percentage of use of simulated laboratory was 19.56%. This combination appeared to hold true for most course categories except for Introduction/Fundamentals/Nursing I, which reflected more equal use of the two organizational patterns.

In three course categories, Community Health, Management/Leadership, and Senior Practicum/Advanced Medical-Surgical, supervised clinical remained the dominant organizational pattern. However, it was more frequently seen in combinations involving preceptor/role model, independent study, or practicum/internship than simulated laboratory.

Organizational Patterns and Faculty Resource Requirements

Each organizational pattern generated different faculty resource requirements. To fully understand the faculty resource requirements, it is necessary to compare both the student/faculty ratio and the number of hours per week in clinic. Supervised clinical had a mean student/faculty ratio of 9.04:1 and a mean of 11.53 hours in clinic per week. Simulated laboratory had a mean student/faculty ratio of 11.21:1, with a mean number of hours in clinic of 5.44. Preceptor/role model had a mean student/faculty ratio of 11.57:1, with a mean number of hours in clinic of 14.32. Independent study had a mean student/faculty ratio of 13.46:1 and a mean number of hours in clinic per week of 6.50. Practicum/internship had a mean student/faculty ratio of 10.43:1 and a mean number of hours in clinic per week of 13.28. It is obvious that simply having a high student/faculty ratio did not mean that an organizational pattern required fewer faculty resources. The pattern that used the best faculty resources had both a high student/faculty ratio and a low mean number of hours in clinic per week. By these criteria, independent study had the lowest faculty resource requirements, followed by simulated laboratory, practicum/internship, and supervised clinical, with preceptor/role model having the highest faculty resource requirements.

Academic Preparation of Clinical Faculty

The vast majority, 80%, of all reported clinical faculty had a master's degree as their highest academic degree. Doctorates were

reported for 9.7% of the faculty, with 2.3% having bachelor's degrees. The remaining 8% included graduate assistants, laboratory assistants, and practicing nurses, who were used on a limited basis. Graduate assistants were most often used with organizational patterns of supervised clinical or simulated laboratory. Laboratory assistants were most frequently used with supervised clinical and simulated laboratory. Practicing nurses were most frequently used with the organizational patterns of preceptor/role model, independent study, and practicum/internship.

Selected Demographic Factors

College size. No relationship was found between the size of the college/university and its use of any organizational pattern. A weak relationship between college/university size and student/faculty ratio was found to exist. As college size increased, so did the student/faculty ratio. In addition, a weak relationship was found to exist between college/university size and number of hours in clinic. As the college/university size increased, so did the number of hours in clinic.

Program size. A weak relationship was found to exist between program size and the use of supervised clinical and simulated laboratory. As program size increased, so did the use of supervised clinical and simulated laboratory. In addition, a very weak relationship was found to exist between program size and student/faculty ratio. The larger the program, the larger the student/faculty ratio. No

relationship was found between program size and number of hours in clinic.

Type of curriculum. A very weak relationship was found to exist between type of curriculum and the use of the organizational pattern of supervised clinical. The nonintegrated curriculum had a slightly higher use of supervised clinical than did the integrated curriculum. No difference was seen in the use of faculty resource requirements.

Graduate programs. When comparing schools that reported that their nursing programs included graduate study with those that did not, some differences were found. It was found that those nursing programs that had a graduate program used the organizational pattern of supervised clinical slightly more than those that did not have one. In addition, those nursing programs that had a graduate program had a slightly higher student/faculty ratio. No difference was found in the number of hours in clinic.

Practicing Nurses in Clinical Instruction

Practicing nurses were reported to be used for clinical instruction by 57 or 47.5% of the 120 programs. Of these, only one-third reported that they paid the practicing nurses for that instruction. This finding has particular importance for the organizational patterns of preceptor/role model, independent study, and practicum/internship because in this study those patterns had the

heaviest use of practicing nurses. Twenty percent or more of the faculty in these organizational patterns were practicing nurses.

Conclusions

Based on the findings discussed in the preceding section, the following conclusions were drawn.

1. Supervised clinical was used as the dominant organizational pattern in the vast majority of baccalaureate nursing programs.

2. The organizational patterns of simulated laboratory, preceptor/role model, independent study, and practicum/internship were used as a dominant organizational pattern on a very limited basis, and this made it difficult to determine their full effect on the faculty resource requirements for clinical instruction in baccalaureate nursing programs.

3. The most frequent combination of organizational patterns for clinical instruction was the use of supervised clinical in conjunction with simulated laboratory.

4. Baccalaureate nursing programs can reduce their faculty resource requirements for clinical instruction by increasing, where possible, the use of simulated laboratory and independent study.

5. The organizational pattern of preceptor/role model resulted in the greatest number of hours per week of clinical instruction.

6. The majority of clinical nursing faculty had a master's degree as the highest academic degree.

7. Graduate assistants, laboratory assistants, and practicing nurses were used on a very limited basis in the clinical education of baccalaureate nursing students.

8. The organizational patterns of preceptor/role model, independent study, and practicum/internship resulted in the heaviest use of practicing nurses for clinical instruction.

9. The majority of baccalaureate nursing programs that used practicing nurses for clinical instruction did not pay them for providing this service.

10. The demographic factors of college/university size, program size, type of curriculum, and the presence or not of a graduate program had little or no effect on the use of the five organizational patterns or the faculty resource requirements of student/faculty ratio and number of hours per week in clinic.

Recommendations

Based on this study, the following are recommended:

1. Baccalaureate nursing programs should explore alternative organizational patterns for clinical instruction in an effort to be more cost-effective. However, the desire for cost savings must not compromise the quality of the student's educational experience.

2. Baccalaureate nursing programs should explore the possibility of increasing the use of the organizational pattern of preceptor/role model because this leads to an increase in the number of hours of clinical experience for the student without added expenditure of faculty resources.

3. Because the organizational patterns of preceptor/role model and practicum/internship resulted in greater use of practicing nurses, baccalaureate nursing programs should consider these patterns as ways of expanding and enhancing the student's clinical experience and supplementing their clinical faculty resources.

4. Baccalaureate nursing programs should explore the indirect faculty resource requirements (paper work, counseling time, and so on) for independent study to determine the full effect that this model has on faculty workload to better evaluate its cost effectiveness.

5. Baccalaureate nursing programs should develop greater rewards for practicing nurses who contribute to the clinical educational experiences of student nurses and encourage larger numbers of practicing nurses to participate in this process.

6. Baccalaureate nursing programs should explore the effect that increased use of graduate assistants and laboratory assistants has on the clinical education process and its costs.

Implications for Nursing Practice and Education

This researcher attempted to examine the way in which clinical nursing education is organized and the requirements for faculty resources generated by that organization. The findings suggested that the heavy reliance on the organizational pattern of supervised clinical may, at least to some degree, contribute to the high consumption of faculty resources and thus the high cost of clinical nursing education. The findings also suggested that there is a general lack of use

of the other organizational patterns. This makes it difficult to determine the total effect that the other patterns had on faculty resource requirements. It seems logical that, given this situation, nursing education must become more involved in exploring its current practices and move to incorporate organizational patterns that are less resource consumptive and as cost effective as possible, without endangering the education of the student.

This study was a beginning effort to look more closely at current practices and to question the rationale for these practices. This is not to imply that nursing suddenly turn students loose on the health care system with little or no supervision. It does, however, imply that nursing education develop and use better-equipped simulated laboratories, and allow more opportunities for independent clinical experiences and greater use of service-based role models. This educational decision process should consider both cost effectiveness and instructional effectiveness.

The findings of this study also implied that, together, nursing education and nursing service consider the development of a plan for greater use of the practicing nurses in clinical education. Practicing nurses need to recognize that the future of the profession lies in the clinical educational process, something in which they also have a stake. Educators need to recognize that greater use of practicing nurses can lead to a better educational system. The effective use of educational resources must become an important issue to both nursing service and education.

Recommendations for Future Research

Based on the findings of this study, the following recommendations are made for future research:

1. The reasons for the high use of supervised clinical and the lower use of the other patterns should be investigated.

2. The effect that combinations of organizational patterns have on faculty resource requirements should be more fully explored.

3. The organizational patterns of preceptor/role model and practicum/internship should be the subject of further investigation to more fully evaluate their effect on faculty resource requirements.

4. Programs that have successfully incorporated practicing nurses into their clinical educational system should be identified and studied in order to evaluate why they have succeeded.

5. A modified replication of this study, which would allow a more in-depth examination of fewer programs, may lead to a clearer comparison of the organizational patterns and the resulting faculty resource requirements.

6. The effect of each of these organizational patterns on educational outcomes should be explored.

7. The indirect faculty resource requirements (noncredit hours) of clinical nursing education should be more fully explored to determine their effect on clinical faculty time.

APPENDICES

APPENDIX A

SAMPLES OF COVER LETTERS TO ACCOMPANY THE QUESTIONNAIRES

COVER LETTER
Room 10F, Learning Resources Building
Department of Nursing
Northern Michigan University
Marquette, Michigan 49855

Addressee: Chair of Nursing
Address

Dear

There has been in increasing concern expressed by College and University Administrators for careful allocation and utilization of faculty resources by baccalaureate nursing programs. The purpose of this project is to study the organization structure and faculty resource requirements for clinical instruction in baccalaureate nursing programs.

Your program is one of a representative number of baccalaureate nursing programs selected for this study. You were selected in a random sample of baccalaureate nursing programs accredited by the National League for Nursing. In order for the results to be truly representative of nursing programs, it is important that each questionnaire be completed and returned.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is being done so your name can be checked off the mailing list when the questionnaire is returned. Your name will never be placed on the questionnaire. All responses will remain anonymous and only pooled or summarized data will be reported.

The results of this study will be used to complete the degree requirements for this doctoral candidate. You may receive a summary of the result by putting your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

I would be most happy to answer any questions you might have. Please write or call. My phone numbers are: Office (906) 227-2488, and Home (906) 226-3336.

Thank you for your assistance.

Sincerely,

Elmer W. Moisio, R.N., M.S.N.
Doctoral Candidate

Enclosure

POST CARD WEEK 2

Date

Last week a questionnaire seeking information about the organizational patterns and faculty resoruce requirements for clinical nursing instruction in your baccalaureate nursing program was mailed to you. Your program was selected as one of a random sample of baccalaureate programs accredited by the National League for Nursing.

If you have already completed and returned it to me, please accept my sincere thanks. If not, I would appreciate your completing and returning the questionnaire at your earliest convenience. Because it has been sent to only a small, but representative, sample of baccalaureate programs, it is extremely important that yours also be included in the study if the results are to accurately represent what is currently happening in nursing programs.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me and I will get another to you in the mail today. Telephone numbers: Office (906) 227-2488, or Home (906) 226-3336.

Sincerely,

Elmer W. Moisio, R.N., M.S.N.
Doctoral Candidate

FOLLOW UP LETTER - WEEK FOUR

Room 10F Learning Resources Building
Department of Nursing
Northern Michigan University
Marquette, Michigan 49855

Addressee: Chair of Nursing
Address

Dear

I am writing to you about my study of organizational patterns and faculty resource requirements for clinical nursing instruction in baccalaureate programs. Since I have not received your completed questionnaire, I am writing to encourage you to respond.

This research project was undertaken to determine the organizational patterns for clinical nursing instruction and their impact on faculty resource requirements for baccalaureate nursing programs. The results will be used to complete requirements for a doctoral degree.

I am writing to you because of the significance each questionnaire has to the usefulness of this study. In order the for results of this study to be truly representative, it is essential that each program in the sample return their questionnaire.

In the event your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Elmer W. Moisio, R.N., M.S.N.
Doctoral Candidate

Enclosure

FOLLOW UP LETTER - WEEK SEVEN

Room 10F Learning Resources Building
Department of Nursing
Northern Michigan University
Marquette, Michigan 49855

Addressee: Chair of Nursing
Address

Dear

I am writing to you about my study of organizational patterns and faculty resource requirements for clinical nursing instruction in baccalaureate nursing programs. I have not yet received your completed questionnaire.

The number of questionnaires returned is very encouraging. But whether I will be able to accurately describe the organizational patterns and their impact upon faculty resource requirements depends upon you and the others who have not yet responded. Your response is very important to the outcome of this study.

It is for these reasons that I am sending this third and last mailing. If my other correspondence did not reach you, a replacement questionnaire is enclosed. May I urge you to complete and return it as quickly as possible.

Your contribution to the success of this study will be greatly appreciated.

Sincerely,

Elmer W. Moisio, R.N., M.S.N.
Doctoral Candidate

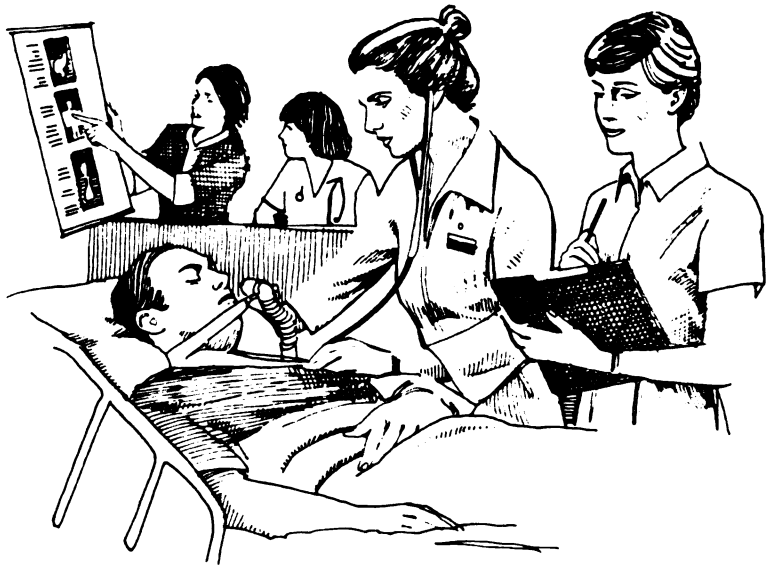
Enclosure

APPENDIX B

THE QUESTIONNAIRE

ORGANIZATIONAL PATTERNS

and Faculty Resource Requirements For Clinical Nursing Instruction in Baccalaureate Programs



A Study of Organizational Patterns and Faculty Resource Requirements For Clinical Nursing Instruction in Baccalaureate Programs

THANK YOU FOR YOUR

TIME AND EFFORT

Elmer W. Moisio, R.N., M.S.N.
Doctoral Candidate
Room 10F, Learning Resources Building
Department of Nursing
Northern Michigan University
Marquette, MI 49855

SECTION 1

Directions for completion of the questionnaire section 1.

COURSE DATA

Under the section entitled Course Data please do the following:

a. Under the column "Course Title" list each required clinical course or the clinical portion of each required course in the baccalaureate nursing curriculum.
b. Under the column "Year Taken" circle the letter F, S, J, or Sr, indicating the year in which the student would normally take the course, ie., freshman, sophomore, junior, or senior.
c. Under the column "Credit Hours" identify the number of term or semester hours for the clinical course or the clinical portion of the course. Also indicate term or semester.

ORGANIZATIONAL DATA

Under the section entitled Organizational Data provide an estimate of the percentage of time each organizational pattern is used for clinical instruction in the course. The following definitions will apply:

a. Supervised Clinical - Faculty members accompany a group of students into a health care agency and provide direct supervision of them while they care for patients.
b. Simulated Laboratory - Structured learning experiences in caring for patients that simulate real-life situations. A faculty member or laboratory assistant provides supervision of the students.
c. Preceptor/Role Model - Faculty members identify practicing nurses who work with students on a one to one basis. Faculty member does not directly supervise the student, but periodically checks with the student and preceptor to evaluate learning experience. Faculty member may or may not be present in the clinical agency. Such learning may not be confined to patient care but also may incorporate direct observation of key nursing personnel.
d. Independent Study - Student is responsible for planning the specific objectives and activities of the experience and for fulfilling the learning needs. Faculty member serves as an advisor to the student, is not present during the experience and does not provide direct supervision.
e. Practicum/Internship - Concentrated extended blocks of time in the clinical setting caring for patients and functioning autonomously in a staff nurse role. Faculty may or may not be present in the clinical agency. Practicing nurses may or may not be used as resource people.

FACULTY WORKLOAD DATA

Under the section entitled Faculty Workload Data please put the following data in the appropriate column:

a. Indicate the number of students currently enrolled in the clinical course.
b. Identify the current Faculty/Student ratio for the clinical course, or clinical portion of the course. (ie., Number of students per clinical section.)
c. Identify the current number of clock hours the student actually spends in the clinical section per week.
d. Identify the total number of clinical sections for the course for the current term or semester.
e. Identify the total number of faculty members (expressed in full-time equivalent) needed to teach the clinical course, or the clinical portion of the course in the current term or semester.

FACULTY PREPARATION

Under the section entitled Faculty Preparation please do the following:

a. In each of the columns indicate the preparation of faculty used to teach each clinical course. State the number who have doctorates, masters or bachelors as their highest degree.
b. Graduate assistant may include masters or doctoral students if appropriate.
c. Laboratory assistants may include nurses or non-nurses.
d. Practicing nurses include all levels of academic preparation.

COURSE DATA			ORGANIZATIONAL DATA					FACULTY WORKLOAD DATA					FACULTY PREPARATION						
COURSE TITLE	(Circle F,S,J, or Sr, YEAR TAUGHT for Freshman, Soph. Junior or Senior)	CREDIT HOURS - SEMESTER OR TERM (Clinical Portion)	PLEASE ESTIMATE PERCENTAGE OF TIME USED IN EACH CLINICAL: SUPERVISED CLINICAL	SIMULATED LABORATORY	PRECEPTOR/ROLE MODEL	INDEPENDENT STUDY	PRACTICUM/INTERNSHIP	NO. OF STUDENTS ENROLLED IN THE CLINICAL COURSE	FACULTY/STUDENT RATIO (Clinical Portion)	TOTAL NO. OF CLOCK HOURS PER EACH CLINICAL SECTION (Per Week)	NO. OF CLINICAL SECTIONS FOR CURRENT TERM OR SEMESTER	TOTAL NO. OF FACULTY (FULL-TIME EQUIVALENT) NEEDED TO TEACH THIS COURSE (Clinical Portion)	PLEASE IDENTIFY THE NUMBERS IN EACH CATEGORY: DOCTORATES	MASTERS	BACHELORS	GRADUATE ASSISTANT	LABORATORY ASSISTANT	PRACTICING NURSE
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		

COURSE DATA		ORGANIZATIONAL DATA						FACULTY WORKLOAD DATA					FACULTY PREPARATION						
COURSE TITLE	(Circle F,S,J, or Sr, YEAR TAUGHT for Freshmen, Soph. Junior or Senior)	PLEASE ESTIMATE PERCENTAGE OF TIME USED IN EACH CLINICAL						NO. OF STUDENTS ENROLLED IN THE CLINICAL COURSE	FACULTY/STUDENT RATIO (Clinical Portion)	TOTAL NO. OF CLOCK HOURS PER EACH CLINICAL SECTION (Per Week)	NO. OF CLINICAL SECTIONS FOR CURRENT TERM OR SEMESTER	TOTAL NO. OF FACULTY (FULL-TIME EQUIVALENT) NEEDED TO TEACH THIS COURSE (Clinical Portion)	PLEASE IDENTIFY THE NUMBERS IN EACH CATEGORY						
		SUPERVISED CLINICAL	SIMULATED LABORATORY	PRECEPTOR/ROLE MODEL	INDEPENDENT STUDY	PRACTICUM/INTERNSHIP	CREDIT HOURS - SEMESTER OR TERM (Clinical Portion)						DOCTORATES	MASTERS	BACHELORS	GRADUATE ASSISTANT	LABORATORY ASSISTANT	PRACTICING NURSE
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		
	F S J Sr																		

SECTION 2

Directions: Please answer the following general questions about your nursing program.

1. Is there a collective bargaining agreement with faculty? ___YES ___NO

2. Does the agreement specify a normal full-time teaching load? ___YES ___NO

   2-a. If yes, what is the number of credit hours per academic year? _____

   2-b. If no, what is considered to be a full-time teaching load in credit hours per academic year for your program? _____

3. Does the collective bargaining agreement specify size of clinical laboratory groups? ___YES ___NO

   3-a. If yes, what is the size? _____

   3-b. If no, what is considered an acceptable size? _____

   3-c. Is this size determined by ___STATE REGULATIONS

   ___ACCREDITATION STANDARDS

   ___OTHER _____
   Specify

4. What is the ratio of clock hours to credit hours used to tabulate faculty clinical workload? (ie., 2 clock hours in clinical generate 1 credit hour of teaching load) CLOCK _____ CREDIT _____

5. What is the ratio of clock hours to credit hours used to tabulate the clinical experience for the student? (ie., 3 clock hours in clinical generate 1 credit) CLOCK _____ CREDIT _____

6. What is the total number of credits for required nursing courses in your undergraduate nursing major? CREDITS IN THEORY _____

   CREDITS IN CLINICAL _____

7. Is faculty travel time to and from clinical areas of setting considered as part of the faculty workload? ___YES ___NO

8. Does your program charge a special fee (beyond usual tuition) for clinical courses? ___YES ___NO

   8a. If yes is it:

   Fee per Credit? ___YES ___NO AMOUNT _____

   Supply or Equipment fee? ___YES ___NO AMOUNT _____

   Flat Fee/Special Assessment ___YES ___NO Amount _____

   Other _____

9. Does your program use practicing nurses for clinical instruction? ___YES ___NO

9-a. If yes, are they paid? ___YES ___NO AMOUNT _____

9-b. Are they given faculty status? ___YES ___NO TYPE _____

9-c. Do you require that they have a ___MASTERS
___BACHELORS
___NO REQUIREMENT FOR DEGREE

9-d. Are they given university benefits? ___YES ___NO

9-e. If yes, which of the following?

____LIBRARY ____RECREATIONAL MEMBERSHIP
____BOOKSTORE DISCOUNT ____OTHER _____
Specify

10. Does your program hire clinical instructors on a per hour basis?

___YES ___NO

10-a. If yes, what is the hourly pay? _____

10-b. If no, is it prevented by: ___UNION CONTRACT
___UNIVERSITY POLICY
___DEPARTMENTAL POLICY

10-c. If no, ___HAS NOT BEEN CONSIDERED AN ALTERNATIVE.
___HAS BEEN CONSIDERED AS AN ALTERNATIVE AND FOUND NOT FEASIBLE.

11. How many faculty do you employ in your undergraduate program?

FULL-TIME _____ PART TIME _____

12. Current enrollment in the undergraduate nursing program is _____.

13. Do you consider your undergraduate curriculum to be ___INTEGRATED
___NON-INTEGRATED

14. Does your school of nursing include a graduate nursing program?

___YES ___NO

15. Does your baccalaureate nursing program include:

___GENERIC STUDENTS ONLY

___REGISTERED NURSE STUDENTS ONLY

___REGISTERED NURSE STUDENTS AND GENERIC STUDENTS

___THE R.N. STUDENTS ARE IN THE GENERIC PROGRAM

___THE R.N. STUDENTS ARE PART OF A SPECIAL COMPLETION PROGRAM

16. Is your program in a ___COLLEGE or ___UNIVERSITY?

17. Is your institution ___PUBLIC or ___PRIVATE?

18. What is the size (total enrollment) of your college or university?

_____

IF YOU HAVE ANY ADDITIONAL COMMENTS ON THIS SUBJECT, PLEASE INCLUDE THEM IN THE SPACE PROVIDED BELOW.

.....

THANK YOU AGAIN FOR PARTICIPATING IN THIS STUDY. IF YOU WOULD LIKE A SUMMARY OF THE RESULTS OF THIS STUDY, WRITE YOUR NAME AND ADDRESS ON THE BACK OF THE RETURN ENVELOPE. TO INSURE CONFIDENTIALITY PLEASE DO NOT WRITE YOUR NAME, INSTITUTION OR ADDRESS ON THIS QUESTIONNAIRE.

APPENDIX C

LETTERS OF PERMISSION FOR CARRYING OUT THE STUDY

APPROVAL OF DISSERTATION PROPOSAL

To

Graduate Student Affairs Office

(To be submitted by doctoral student immediately following approval by his Guidance Committee.)

Title of the Dissertation (may be tentative but should be accurate and descriptive):

A Study of The Organizational Patterns of Clinical Nursing Instruction and Their Impact on Faculty Resource Requirements in Baccalaureate Nursing Programs

Anticipated date of completion: December 1985

Date approved by Guidance Committee: 5-31-84

Student's major field: College and University Administration

Student number: 0285944

Student's name: Elmer William Moisio
(please print legibly)

Student's signature: Elmer W. Moisio

Guidance Committee Members (Signatures required):

Chairperson: [signature] Date: 5/31/84

Director: [signature]

[signature]

Kay E White

Date received in GSAO:

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
238 ADMINISTRATION BUILDING
(517) 355-2186

EAST LANSING • MICHIGAN • 48824

July 3, 1984

Mr. Elmer W. Moisio
Room 10F Learning Resources Building
Department of Nursing
Northern Michigan University
Marquette, Michigan 49855

Dear Mr. Moisio:

Subject: Proposal Entitled, "A Study of the Organizational Patterns of Clinical Nursing Instruction and Their Impact on Faculty Resource Requirements in Baccalaureate Nursing Programs"

I am pleased to advise that I concur with your evaluation that this project is exempt from full UCRIHS review, and approval is herewith granted for conduct of the project.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval prior to July 3, 1985.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to my attention. If I can be of any future help, please do not hesitate to let me know.

Sincerely,

Henry E. Bredeck
Chairman, UCRIHS

HEB/jms

cc: Nonnamaker

REFERENCES

REFERENCES

Anderson, Norma. "The Historical Development of American Nursing Education." Journal of Nursing Education 20 (January 1981): 18-36.

Andreoli, Kathleen. "Faculty Productivity." Journal of Nursing Administration 9 (November 1979): 47-53.

_____, and Musser, Leigh A. "Improving Nursing Faculty Workload." Nursing Outlook 25 (November 1977): 721-23.

Baccalaureate Education in Nursing: Key to a Professional Career in Nursing--1983-84. Publication No. 15-1311. New York: Council of Baccalaureate and Higher Degree Programs, National League for Nursing, 1983.

Bartol, Genevieve. "Independent Study in Nursing Education." Journal of Nursing Education 23 (September 1984): 304-306.

Bazuin, Charles H., and Yonke, Annette M. "Improvement of Teaching Skills in a Clinical Setting." Journal of Medical Education 53 (May 1978): 377-82.

Blanchard, Steven. "The Discontinuity Between School and Practice." Nursing Management 14 (April 1983): 41-43.

Brown, Elsa. "Comparing and Analyzing Expenditure Factors in Nursing Education." Analyzing the Cost of Baccalaureate Nursing Education, pp. 13-25. Publication No. 15-1880. New York: National League for Nursing, 1982.

Brown, Billye. "Costing Methodology: An Essential Aspect of Budgeting." Budget Management in Baccalaureate Nursing Programs, pp. 9-22. Publication No. 15-1848. New York: National League for Nursing, 1981.

_____; Lasher, William; and Embrey, C. L. "A Cost Methodology for Schools of Nursing." Nursing Outlook 27 (September 1979): 584-89.

Bryson, Joann. "Cost-Effective Management: Its Implications for Schools of Nursing." Cost-Effective Management in Schools of Nursing, pp. 9-16. Publication No. 16-1897. New York: National League for Nursing, 1982.

Chicherella, Beryl, and Lutz, Wilma. "Professional Nurturance: Preceptorships for Undergraduate Nursing Students." American Journal of Nursing 81 (January 1981): 107-109.

Christy, Teresa. "Clinical Practice as a Function of Nursing Education: An Historical Analysis." Nursing Outlook 28 (August 1980): 493-97.

Clark, Mary. "Staff Nurses as Clinical Teachers." American Journal of Nursing 81 (February 1981): 315-18.

Cotanch, Patricia Holleran. "Self-Actualization and Professional Socialization of Nursing Students in the Clinical Laboratory Experience." Journal of Nursing Education 20 (October 1981): 4-14.

Coudret, Nadine. "Determining Faculty Work Load." Nurse Educator 6 (March-April 1981): 38-41.

Crawford, Myrtle; Laing, Gail; Linwood, Marjorie; Kyle, Mavis; and DeBlock, Audrey. "A Formula for Calculating Faculty Workload." Journal of Nursing Education 22 (September 1983): 285-86.

Crosby, Leanna. "Coping With Shrinking Resources." Nursing Outlook 33 (July/August 1985): 175-77.

Curran, Connie, and Metcalf, Cleo. "Combining Resources." Nursing Management 14 (January 1983): 33-36.

Dachelet, Christy, et al. "The Critical Incident Technique Applied to the Evaluation of the Clinical Practicum Setting." Journal of Nursing Education 20 (October 1981): 15-31.

Dahl, Jeannine. "Structured Experience: A Risk-Free Approach to Reality-Based Learning." Journal of Nursing Education 23 (January 1984): 34-37.

Dear, Margaret R., and Bartol, Genevieve. "Independent Study as a Learning Experience in Baccalaureate Nursing Programs: Perceptions and Practices." Journal of Nursing Education 23 (June 1984): 240-44.

Dienemann, Jacqueline. "Reducing Nursing Faculty Workloads Without Increasing Costs." Image: The Journal of Nursing Scholarship 11 (Fall 1983): 111-14.

Dillman, Don A. Mail and Telephone Surveys--The Total Design Method. New York: John Wiley and Sons, 1978.

Farrell, Marie, and Eckert, Joseph. "Zero-Based Budgeting in Nursing Education." Nursing Outlook 27 (December 1979): 792-95.

Fawcett, Jacqueline. "Integrating Research Into the Faculty Workload." Nursing Outlook 27 (April 1979): 259-62.

Hartin, Jean. "Nursing Apprenticeship." Nursing Management 14 (March 1983): 28-29.

Holliman, Juanita. "Analyzing Faculty Workload." Nursing Outlook 25 (November 1977): 721-23.

Infante, Mary Sue. The Clinical Laboratory in Nursing Education. New York: John Wiley and Sons, 1975.

Isaac, Stephen, and Michael, William B. Handbook in Research and Evaluation for Education and the Behavioral Sciences. San Diego, Calif.: Edits Publishers, 1979.

Jacox, Ada. "The Community of Scholars: Its Meaning and the Involvement of Nursing Faculty." Current Issues Affecting Nursing as a Part of Higher Education, pp. 31-41. Publication No. 15-1639. New York: National League for Nursing, 1976.

Jason, Hilliard. "Study of Medical Teaching Practices." Journal of Medical Education 37 (December 1962): 1258-84.

Johnson, JoAnn. "The Education/Service Split: Who Loses?" Nursing Outlook 28 (July 1980): 412-15.

Kasprisin, Christina, and Young, Wendy. "Nurse Internship Program Reduces Turnover, Raises Commitment." Nursing and Health Care 6 (March 1985): 137-40.

Keen, Mary, and Dear, Margaret. "Mastery of Role Transition: Clinical Teaching Strategies." Journal of Nursing Education 22 (May 1983): 183-86.

Kilcullen, Pamela. "A Learning Experience in Independent Study." Journal of Nursing Education 24 (January 1985): 30-31.

Kloth, Luther C., and Morrison, Mary Ann. "Supervised Versus Independent Student Laboratories." Physical Therapy 63 (February 1983): 225-28.

Knopf, Lucille. "Studying the Costs of Nursing Education Programs." Cost-Effective Management in Schools of Nursing, pp. 29-44. Publication No. 16-1897. New York: National League for Nursing, 1982.

Krejcie, Robert, and Morgan, Daryle. "Determining Sample Size for Research Activities." Educational and Psychological Measurement 30 (1970): 607-10.

Langstrom, Nancy. "Budgetary Planning--A Key to Program Survival and Success." Budget Management in Baccalaureate Nursing Programs, pp. 1-8. Publication No. 15-1848. New York: National League for Nursing, 1981.

Lazinski, Harriet. "The Effects of Clinical Teaching on the Budgets of Schools of Nursing." Journal of Nursing Education 18 (1979): 21-24.

Lysaught, J. P. "A Five Year Follow-up on an Abstract for Action." Paper presented at the National League for Nursing Convention, Atlanta, Georgia, May 3, 1979.

Maraldo, Pamela. "Better Nursing Care Through Preceptorships." R.N. (40 (March 1977): 69-71.

Martin, Joy, and Paskowitz, Jane. "Planned Acquisition of Experiences." Supervisor Nurse 37 (September 1975): 20-22.

Mayberry, William E. "Some Dimensions of Clinical Teaching." Journal of Dental Education 37 (July 1973): 8-12.

McDowell, B. Joan; Nardini, Donna; Negley, Shirley; and White, Joyce. "Evaluating Clinical Performance Using Simulated Patients." Journal of Nursing Education 23 (January 1984): 37-39.

Meleca, C. Benjamin; Schimpfhauser, Frank; Witteman, Joseph; and Sachs, Larry. "Clinical Instruction in Nursing: A National Survey." Journal of Nursing Education 20 (October 1981): 32-40.

Morton, Paula. "The Financial Distress of Higher Education: Impact on Nursing." Image: The Journal of Nursing Scholarship 15 (Fall 1983): 102-106.

Nursing Education Facilities: Programming Considerations and Architectural Guide. Report of the Joint Committee on Educational Facilities for Nursing of the National League for Nursing and the Public Health Service, Washington, D.C. Publication No. 11870 f-16.

Olson, Elizabeth. "Baccalaureate Students' Perceptions of Factors Assisting Knowledge Application in the Clinical Laboratory." Journal of Nursing Education 22 (January 1983): 18-21.

O'Shea, Helen, and Parsons, Margaret. "Clinical Instruction: Effective and Ineffective Teacher Behaviors." Nursing Outlook 27 (June 1979): 411-15.

Ozimek, Dorothy, and Yura, Helen. Considerations for Effective Utilization of Nursing Faculty in Baccalaureate and Higher Degree Programs. Publication No. 15-1655. New York: National League for Nursing, 1977.

Polit, Denise, and Hungler, Bernadette. Essentials of Nursing Research. Philadelphia: J. B. Lippincott, 1985.

Porter, Karen, and Feller, Carolyn. "The Relationship Between Patterns of Massed and Distributive Clinical Practicum and Student Achievement." Journal of Nursing Education 18 (October 1979): 27-34.

Pugh, Elizabeth. "Research on Clinical Teaching." In Review of Research in Nursing Education. Edited by William Holzemer. Thorofare, N.J.: Slack, 1983.

Sams, Lauranne. "To What Extent Are Nursing Faculty a Part of the Community of Scholars in Higher Education?' Current Issues Affecting Nursing as a Part of Higher Education, pp. 23-30. Publication No. 15-1639. New York: National League for Nursing, 1976.

Saylor, Angelita; Kaylor, Leone; Genthe, Delaine; and Otis, Eileen. "Guidelines for Faculty Workload." American Journal of Nursing 5 (May 1974): 902-904.

Sommerfeld, Denise, and Hughes, Jean. "How Independent Should Independent Learning Be?" Nursing Outlook 28 (July 1980): 416-20.

Stritter, Frank; Hain, Jack; and Grimes, David. "Clinical Teaching Reexamined." Journal of Medical Education 50 (September 1975): 876-82.

Taylor, Judy, and Cleveland, Patricia. "Effective Use of the Learning Laboratory." Journal of Nursing Education 23 (January 1984): 32-34.

Turnbull, Ellie. "Rewards in Nursing: The Case of Nurse Preceptors." Journal of Nursing Administration 13 (January 1983): 10-13.

Van Dalen, D. B., and Meyer, W. J. Understanding Educational Research. New York: McGraw-Hill, 1966.

Wagner, Doris. "Nursing Administrators' Assessment of Nursing Education." Nursing Outlook 28 (September 1980): 557-61.

Walters, Clara. "Using Staff Preceptors in a Senior Experience." Nursing Outlook 29 (April 1981): 245-47.

Werner, June. "Joint Endeavors: The Way to Bring Service and Education Together." Nursing Outlook 28 (September 1980): 546-50.

Whitis, Grace. "Simulation in Teaching Clinical Nursing." Journal of Nursing Education 24 (April 1985): 161-63.

Wooley, Alma S. "Questioning the Mailed Questionnaire as a Valid Instrument for Research in Nursing Education." Image: The Journal of Nursing Scholarship 16 (Fall 1984): 115-19.