

AN ANALYSIS OF THE ACTIVITIES OF THIRTEEN
STUDENT NURSES IN A SELECTED
NEWBORN NURSING UNIT

by

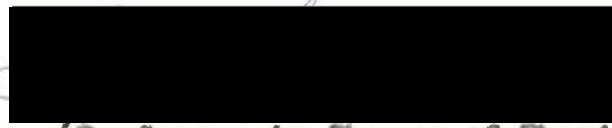
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J.M.U.

CHAPTER I
INTRODUCTION

Background of the Problem

Trends in modern society indicate that public demand for medical and health services, including nursing services, will continue to increase during future years. It is the belief of nursing leaders that "a sound educational foundation is basic to the improvement of nursing services." (48)

Admissions to schools of nursing in 1961 reached the highest mark in history, 76,469, with increases in all types of schools - baccalaureate, diploma, associate degree, and practical nursing. Records show a slow, steady climb since 1946, but the proportion of admissions and graduations is still not greater than the general population increase. (3) Thus, it is evident that all nursing needs cannot be met by professional nurses. "Nursing education, as is true of education for many other professions must prepare an adequate number of highly skilled practitioners so that nursing service may utilize a large and growing number of lesser prepared personnel." (33) Nursing education must constantly be analyzed, evaluated, and modified as necessary to meet the changing demands and health needs of society.

Nurses must be educated to carry out the functions which society expects of them. As the aims and philosophies

of various types of educational progress for nursing have been developed, the following statement has been prepared for graduates of baccalaureate programs:

Graduates are broadly prepared to give skillful nursing care to people in various hospital and community settings. They are prepared to interpret and demonstrate such care to others and have beginning competence in planning and directing nursing care given by associated nursing personnel working with them. They are prepared to function with increasing competence, with adaptability to change and initiative in instigating change based on understanding of underlying principles and judgment in assessing new factors in nursing situations. They are prepared to participate with members of other professions and citizen groups in community health programs and in solving health problems. (35)

The nursing curriculum is implemented by didactic classroom teaching combined with supervised practice in clinical areas to prepare the student for beginning practice in nursing. With curriculum changes and with greater emphasis on educational foundations, clinical practice time for student nurses has become significantly shorter. Analysis of the activities of nursing students in clinical practice areas can provide a basis upon which the educational program is evaluated and revised. Such analysis can be continued after revisions are made to determine whether the clinical practice is designed to meet the educational needs of the students.

Statement of the Problem

It is the purpose of this study to identify the nature and scope of the activities of the professional nurse

student while assigned to the newborn nursery for clinical experience. The study will attempt to answer the following questions:

1. How do professional nursing students divide their time between activities with the patient and activities away from the patient?
2. Is the time spent away from the patients devoted to activities related to their care, to the education of the student, or to non-nursing functions?
3. Have there been significant changes in the division of time and activities of the students in this selected situation since 1958 when a similar study was made?

Limitations of the Study

This study is limited to data collected by the continuous observation method during fifteen days of observation over a seven-week period. The total number of hours is limited to one hundred and four, the equivalent of one eight-hour shift for each of the thirteen subjects of the study.

The participants of the study have been limited to thirteen basic professional nursing students of one collegiate school of nursing who were enrolled for clinical practice in Obstetric nursing during the spring term, 1962 and assigned to the newborn nursery for clinical experience during the study period. A total of twenty students were enrolled in Obstetric nursing during the term.

The observations have been limited to the final seven weeks of the eleven-week term.

The observations have been limited to student activities while assigned to the newborn nursing unit. Orientation to the nursing unit, maternal-infant care experiences, and premature nursery experiences have not been included in the study.

Assumptions

For purposes of this study it is assumed that:

1. The continuous observation method is a valid means of obtaining data.
2. The professional nursing students will function in their usual manner during the observations and, therefore, will not distort the data.
3. The professional nursing students observed will perform activities similar to those of other students in comparable situations in the newborn nursing unit.
4. The professional nursing students carry out similar activities on the day shift, 7:00 A.M. to 3:30 P.M., whether assigned for clinical practice or applied nursing practice.
5. The activities observed during one-hundred and four hours will be representative of activities which could be observed in a longer period of study.

Justification of the Study

Evaluation should be a continuous part of curriculum development. Since changes have occurred at a fast pace in recent years it is necessary to determine whether these changes have positively or adversely affected learning experiences available in the clinical practice area.

It would seem important to test further the continuous

observation technique as a method for studying activities of professional nursing students in clinical practice to determine whether the technique provides valid results.

Further justification for this study is based on a recommendation of a previous study. A repetition of the study in the same setting was recommended for the purpose of comparing findings. (41)

Definitions

For the sake of clarity, the following definitions have been accepted for this study:

Professional nursing student: A student enrolled in a nursing program designed to prepare persons for beginning practice as registered professional nurses; specifically in this study, a student enrolled in a four-year baccalaureate degree nursing program of general and professional collegiate education.

Clinical practice area: A unit or division in a hospital or other institution or agency in which professional nursing students carry out assignments in actual care of patients under supervision of registered nurses.

Clinical laboratory practice: An experience in which the professional nursing student learns and practices nursing skills and techniques under the supervision and direction of the clinical instructor with the assistance of nursing service personnel in the clinical practice area.

Applied nursing practice: An experience in which the professional nursing student practices techniques and skills which she has learned in clinical laboratory practice, under the supervision of nursing service personnel, and for which the student receives remuneration from the nursing service agency.

Newborn nursery: The hospital unit where care is provided for newborn infants, beginning immediately after delivery and continuing until discharge from the hospital, usually three to four days. Services include care of well-babies, those with mild disorders, and slight to moderate prematurity.

Maternal-infant care: A clinical laboratory assignment in the obstetric nursing course of the selected school in which the professional nursing student cares for a selected mother and her newborn infant each day of the assignment.

Plan for the Study

The plan for the study may be described in the following steps:

1. Select the site and subjects from which to collect the data for analysis.
2. Obtain permission and cooperation for conducting the study.
3. Procure the hour schedules of the nursing students assigned to the clinical area. Set up a schedule for obtaining data, based on determination of a typical hour pattern.

4. Refine the form for recording observations as necessary.
5. Modify the list of activity categories to meet present specifications of the area.
6. Explain the study to the subjects to obtain their cooperation. Explain the study to nursing personnel in the selected unit who will be indirectly involved and obtain their cooperation.
7. Carry out a trial observation period to assist the researcher in developing observation and recording techniques.
8. Obtain census records of the clinical area for the preceding year and compare with the census for the study period.
9. Make continuous, timed observations of the students' activities and record on the prepared observation form.
10. Assign each observed activity to the appropriate activity category.
11. Compute the total time spent in each of the defined activity categories; convert to percentages of the total observation time.
12. Depict the data in graphic form.
13. Compare data with findings of the previous study in the selected clinical area and depict comparisons in graphic form.
14. Draw conclusions and implications from data obtained.
15. Formulate recommendations, if any, for further studies.

Overview

This report will be organized in four chapters.

Chapter I, Introduction, has presented the background and statement of the problem and outlined the study. Chapter II,

Review of Literature and Related Studies, will present a resume of literature and studies which are significantly related. Chapter III, Procedure and Findings, will present an explanation of procedures involved in the study and an interpretation of the findings. Chapter IV, Summary, Conclusions, and Recommendations, will provide a summary of the study, and conclusions and recommendations for further study based on the data obtained.

CHAPTER II

REVIEW OF LITERATURE AND RELATED STUDIES

The growth of the profession of nursing and of nursing education has been dependent on the wise and able leadership of many persons. As the profession has developed it has drawn on the resources and contributions of other groups in society. Industry has been the source of many techniques useful in nursing, among them time studies and job analysis.

Job analysis has been described as "a method used to discover the component elements of a job by observation, study, and recording pertinent information relating to the nature of a specific job." (31) Job analysis can answer the following questions:

1. What does the worker do?
2. How does he do it?
3. Why does he do it?
4. What is involved in the doing? (31)

All four questions have been and are being answered in various studies in nursing. The first question relates specifically to activity or job analysis as used in this study.

Job analyses of various types have been found useful

in nursing and nursing education in the past forty years. The first study of national significance in nursing, the Winslow-Goldmark Report, was published in 1923 in Nursing and Nursing Education in the United States. The four-year study, sponsored by the Rockefeller Foundation, was conducted by Dr. C-E. A. Winslow and Josephine Goldmark. The original purpose was to study the training of the public health nurse, but the scope was soon broadened to study the entire problem of nursing and nursing education as it existed at that time. The Committee for the Study of Nursing Education attempted to determine the tasks to be performed and the qualifications necessary so that sound minimum educational standards for each type of nursing service required by society could be established. (12)

Systematic observation of work was one method of collecting data. The study agents accompanied public health nurses in their daily activities in the field to collect quantitative and qualitative data. In the study of hospital schools of nursing, beside other methods of survey, the study agents accompanied students on the hospital wards to see all phases of their training, determining the time spent on nursing duties, as well as non-nursing and non-educational duties. It was found that more than one-fifth of the students' time was spent in non-educational activities. This is equivalent to seven months of time out of a three-year course. The committee recommended that

hospitals hire permanent staff to carry out the non-educational and non-nursing types of jobs to relieve students from these activities. A basic problem found in nursing and nursing education with inadequate numbers of desirable candidates was the need to base nursing programs on standards similar to those of other educational fields. In answer to questions about the public health nurse which the committee had first set out to study it was concluded that "for all forms of nursing a basic clinical training is necessary." (12)

After considerable work and planning by national nursing organizations and leaders, the Committee on the Grading of Nursing Schools was formed in 1926 to conduct a comprehensive study of the status of nursing schools throughout the United States. The committee defined its function as "the study of ways and means for insuring an ample supply of nursing service, of whatever type and quality is needed for adequate care of the patient, at a price within his reach." (13) In its final report, Nursing Schools Today and Tomorrow, published in 1934, the committee revealed that there was an overproduction but under-education of nurses. Nurses of a truly professional type were needed. Much of the data for the report were obtained by questionnaires and interpreted by statistical methods. Although each school was graded on each item of the questionnaires and individual reports given to the

schools, the committee did not publish a classified list of schools. However, the studies produced some valuable and long-lasting results and recommendations which resulted in improvements in nursing education. (13)

Observations, time studies, and activity analyses of students in schools of nursing, as one part of the grading study, were delegated to Blanche Pfefferkorn and Ethel Johns. The findings of that part of the study were published in An Activity Analysis of Nursing in 1934. Activity analysis, as a tool in curriculum construction, was determined to have value as a functional approach, that is, to determine what the worker does and what he must know to perform these duties intelligently. Herein lie the implications of activity analysis for nursing education. The authors felt that the values of an activity analysis by a continuous observation technique outweighed the disadvantages of the time involved. (29)

As Director of the Department of Studies of the National League of Nursing Education Blanche Pfefferkorn carried out a series of observations of the bedside nursing in fifteen hospitals on the Atlantic Coast to obtain an overview of the total activities of a graduate or student nurse during a tour of duty. The study was reported in The American Journal of Nursing in 1932. (38) The objective data obtained provided a basis for discussion and recommendations for nursing education. The time studies were also

found to have implications for assignments and for determining nursing time limits required to give good nursing care to patients.

The next reported use of a time study in nursing was directed by Phoebe Gordon in cooperation with the University of Minnesota. It was reported in 1934 as "A Time Study of Head Nurse Activities" in The American Journal of Nursing. The purpose of the study was to present "accurate and objective information to others for aid in the solution of various hospital problems." (21) The subjects were thirty-six head nurses and supervisors in three hospitals in Minnesota. The time study was carried out by the continuous shadowing technique of observing and simultaneously recording activities. The study helped prove the value of the use of the technique in nursing. The findings of the study showed that head nurses and supervisors spent 55.6% of their time in administrative and supervisory activities, strongly suggesting that hospitals should demand careful selection and adequate preparation for individuals with these positions.

After World War II the number of studies of nursing and nursing education increased as shortages in personnel became more critical, more nonprofessional workers were employed by nursing service, and medical care, technology, and nursing problems became more complex.

In 1948 the Russell Sage Foundation published Nursing

for the Future, a report by Dr. Esther Lucile Brown, a social anthropologist and expert in social research. This national study to determine the needs of society for nursing was a major contribution to nursing. Dr. Brown emphasized that "nursing must make one of its first matters of important business the long overdue official examination of every school." (8) It was also felt that gradual changes in nursing education should come about through local, state, and national conferences and through efforts of individual nurse educators in their own schools and communities. Experiments in simultaneously shortening the educational period but improving the course of study were particularly needed. Dr. Brown also felt, as did other leaders in education, that the preparation of professional nurses belongs in institutions of higher learning. The need for experimentation and study in nursing education was clearly revealed in the report.

Dr. Brown's report was followed in 1949 by the Interim Classification of Basic Schools of Nursing, prepared by the National Committee for the Improvement of Nursing Services with financial and staff assistance from the United States Public Health Service. (40) In 1950 the report of the Subcommittee on School Data Analysis of the National Committee for the Improvement of Nursing Services, Nursing Schools at Mid-Century, was published. (48) The latter detailed study, accomplished by questionnaire method,

considered the current status of nursing education facilities throughout the nation at mid-century. Improvements in the areas of faculty preparation, educational standards, utilization of clinical facilities, and financial support were shown to be necessary. Providing better nursing education would be a step in providing better nursing service. The report was presented in the hope of giving some perspective and insight in planning for the future in nursing education. (48)

In the ensuing years nursing education has been the subject of continuing study throughout the nation by a variety of groups. These include national and local nursing organizations, as the National League for Nursing and the American Nurses' Association, government primarily through the United States Public Health Service, and schools themselves, universities, colleges, and hospital schools of nursing. Countless individuals and various foundations, such as the Russell Sage Foundation, the Commonwealth Fund, the W. K. Kellogg Foundation, the American Nurses' Foundation, and voluntary health organizations have given support by conducting studies and granting financial assistance for studies. With this great interest in nursing education improvements are being made.

In May 1950 the House of Delegates of the American Nurses' Association approved a program of Studies of Nursing Functions. It was felt by the members that research

into the nurses' work might help solve the problem of the crucial shortage of nursing personnel. (26; 30) One of the areas for study listed in the Master Plan was the study of "functions of all types of nursing personnel in a cross section of nonfederal hospitals." (30) After inauguration of two pilot studies, individual states developed plans, carried out, and reported on studies. In eight years a total of thirty studies were completed on nursing functions. The first report of the studies was published by the American Nurses' Association in 1956 as Nurses Invest in Patient Care. (4) The final report, Twenty Thousand Nurses Tell Their Story, was a compilation and summary of findings of the thirty studies from the individual reports and was published in 1958. (26) The individual studies were conducted by state organizations throughout the nation.

Fifteen of the studies involved time studies either as the exclusive method or to complement other methods as they attempted to answer some of the following questions:

1. How do professional nurses allocate their time?
2. How do auxiliary nursing personnel allocate their time?
3. How does the use of time vary in different parts of the country and in different kinds of hospitals?
4. Are professional nurses expending large blocks of time on functions which conceivably could be carried out by others? (26)

Many of these studies modified methods developed in time studies in industry, including observation of the worker and recording data on precoded checklists.

Although nursing education was not studied, the study of functions of the graduate professional nurse has affected the education of the student and future graduate nurse. Study of functions of nurses supplements knowledge of abilities needed by nurses as a first step in curriculum construction for professional education programs.

About the time the American Nurses' Association began its Nursing Function Studies, the Division of Nursing Resources of the United States Public Health Service became involved in nurse function studies, particularly the development of methods for studying nursing service personnel and their utilization.

In 1950 Appollonia Olson and Helen Tibbitts conducted a study of head nurse activities at The Massachusetts General Hospital at the request of the hospital to help find a solution to its concern about the constantly increasing work load of nurses. The study is reported in Head Nurse Activities in a General Hospital. (34) The method of continuous observation was applied in this study which revealed what the head nurse did, the time spent on each activity, and the frequency of interruptions. In 1952 the Division of Nursing Resources of the United States Public Health Service published The Head Nurse Looks at Her

Job, a manual based on the techniques developed in the previous study at Massachusetts General Hospital, for use by hospitals in the study of the head nurse's job and the division of time between patient-care management and unit management. (18)

How to Study Nursing Activities in a Patient Unit was published in 1954 by the Division of Nursing Resources to assist hospital administration and nursing service administration in studying the work of a group to provide better staffing and personnel utilization. (15) Whereas the first two manuals are concerned with the continuous timed observation method for study of one individual at a time, the latter manual develops a work sampling technique with intermittent observations at fifteen minute intervals of each worker in the group. The manual adapts this method specifically to studying the activities of a group of workers on a patient care unit in a hospital. Eight major activity areas are described for classification of the observations with directions for modifications of the list to meet the needs of individual study situations. The work-sampling method provides reliable information about:

1. The activities that consume the most time.
2. The kinds of activities performed by each category of personnel.
3. The distribution of types of activities according to the period of the work day in which they occur. (15)

Two additional manuals in the series published by the Division of Nursing Resources of the Public Health Service are How to Study Supervisor Activities in a Hospital Nursing Service and How to Study the Nursing Service of an Outpatient Department. The continuous timed observation method is further developed in both of these manuals.

Under the direction of Faye Abdallah of the Division of Nursing Resources an exhaustive study was made in the state of Michigan and the findings published in 1954 in For Better Nursing in Michigan. (14) To relieve nursing shortages in Michigan as quickly as possible, the study recommended:

1. Better utilization of existing nursing personnel.
2. Provision of more nursing service.
3. Gearing the nursing education system to the present and the future demands for nursing service.
4. Improvement of personnel policies.
5. Research to define more precisely the need for nursing services. (14)

To study the utilization of nursing personnel and the relationship to nursing shortages, the work-sampling technique of observation was used. Personnel in three hospitals in Michigan were studied and recommendations made that other hospitals in the state use the same technique to do similar studies.

Marion J. Wright reports a study at Harper Hospital,

Detroit, Michigan in 1954 in Improvement of Patient Care.

(50) The shortage of nursing personnel was critical at Harper Hospital and it was felt that "proper utilization of professional skills and abilities and all other resources available that can be trained to assist in the care of patients" would improve the performance of patient care. (49)

The work-sampling study technique proved well adapted to the situation as an ideal tool in the over-all survey of nonrepetitive types of hospital jobs. Observations were made every thirty minutes during the twenty-four hour periods and classified into twenty-nine activity categories. Further studies on experimental units and work simplification techniques were used to follow up the studies, resulting in changes which permitted nursing personnel to spend more time caring for their patients. (17; 24; 49; 50)

An article in Nursing Research, "Work-Sampling Applied to the Study of Nursing Personnel," describes the major observation techniques of studying nursing personnel, namely work-sampling and continuous timed observations. (1) Both observation methods originated in industrial management circles. In the 1880's Frederick W. Taylor developed continuous time studies to determine what the workers did in their jobs. In 1935 L. H. C. Tippett developed the less costly and less involved technique of making randomly spaced observations of workers. Results obtained were similar to those obtained by the continuous techniques. (1)

The work-sampling method was further developed for industry by R. L. Morrow. (32) As these methods have been modified for studies in nursing they have been useful to find better ways of utilizing professional nursing staff.

The work-sampling method is described by Abdallah and Levine as intermittent, instantaneous observations. (1) The method was first designed for nursing by the Division of Nursing Resources and used in the study of a floor manager position in a New York hospital. The study was reported in Nursing Research in "The Floor Manager Position - Does It Help the Nursing Unit?" in 1954. (51) Since publication of How to Study Nursing Activities in a Patient Unit the technique has been used extensively in general and special hospitals and clinics to study positions and staffing patterns, utilization of staff, and to improve patient care. (9; 11; 14; 36; 50; 51)

The continuous, timed observation of activities requires one observer shadowing one worker constantly. Two variations of the continuous method are the zone technique in which the observer observes all personnel in an assigned zone and records activities minute by minute and the self-analysis or self-recording technique in which study the participants keep their own records of activities. (1) The latter method was attempted by the Division of Nursing Resources in a pilot study of head nurse activities but was found to be quite impractical for head nurses due to frequent

change of activities. "Whose Job is the Head Nurse Doing?" reports this study. (19) The technique was used successfully by supervisors in a study of the Denver, Colorado, Visiting Nurse Service reported as "How Were the Supervisors Spending Their Time?" in the Nursing Outlook. (42)

The shadowing technique, one observer watching one worker constantly and recording simultaneously, has gained the most use of the continuous, timed techniques in nursing studies. The technique appears to be used most frequently for study of a single level of personnel while the work-sampling technique is used for the study of a group of workers including several levels of abilities and positions. However, the use of continuous observation has been reported for the study of groups of personnel by Phoebe Gordon, "Who Does What - The Report of a Nursing Activities Study" (22) and by Edward G. Bens, "A Nursing Staff Studies Its Services", a Veterans Administration Hospital study. (7)

The technique and tools developed for nursing as described in Head Nurse Activities in a General Hospital (34) and The Head Nurse Looks at Her Job (18) have been reported more frequently. The method is used in the study reported by Dorothy Carroll in Nursing Research, "A Study of Supervisory Functions in Public Health Nursing Agencies." (10) Hazel Keith also adopted the technique for a Master's

study in 1954, "A Time and Activity Analysis of the Functions of a Director and Assistant Director of Nursing Service", reported in Nursing Research in 1958. (29)

A time and activity study of registered professional nurses in medical units (45), a study of nurses in a psychiatric ward (44), and a study of licensed practical nurses in a general hospital (46) using continuous, timed observation techniques have been reported in the literature by various investigators.

The modification of the continuous, timed observation technique for use in the study of professional nursing students has been reported by Marjorie Sidnam in An Analysis of the Activities of Three Student Nurses in a Selected Newborn Unit. The principles of use for the study of students remain the same as for study of hospital nursing service personnel. Comparisons with the findings of the study will be found in Chapter III.

In summary, it is evident that, as a growing profession, nursing must continue to study itself. Activity analysis has been an important part of nursing studies to provide factual data about the functions of nursing and to insure better utilization of nursing personnel. Activity analysis can be useful in realistic curriculum construction. The method of choice, work-sampling or continuous, timed observation, depends on the situation to be studied.

CHAPTER III
PROCEDURE AND FINDINGS

Problem

In the continuous problem of curriculum change for the school of nursing, activity analysis can be used as one evaluation tool. As the curriculum revisions are made studies can be repeated to use comparison as further evaluation. The pattern and setting of this study follows a study done four years previously, 1958. In the interim certain curriculum changes have been made.

This study was carried out to determine the nature and scope of activities of the professional nursing student in the newborn nursery, a segment of obstetric nursing clinical experience, and to determine whether these activities meet the objectives of the course in obstetric nursing and contribute to the education of the professional nursing student in a baccalaureate nursing program. The study further attempted to determine the effect curriculum revisions in the past four years have had on the activities of the student in the newborn nursery.

The data for this study were obtained by the continuous, timed technique of observation of the activities of thirteen professional nursing students during a total of one hundred

and four hours in a selected newborn nursery.

Setting

The newborn nursery selected for this study is located in a 310-bed, general hospital which is part of a university medical teaching center. The entire department is composed of six different parts designed to meet nursing care needs. The two large nurseries each have a maximum capacity of approximately twenty bassinets. The incubator room accommodates three incubators. A combination scrub room and examination room is used by nursing personnel for scrubbing before entering the nursery, and by doctors and other non-nursery personnel to gown, mask, and scrub before entering the nursery. An examining table and the necessary equipment for examinations and minor procedures done by physicians is available in the examination room and is accessible to the nursery through a sliding glass window. The large central work room is used for care and handling of equipment and supplies and contains cabinets, cupboards, and refrigerator for storage. The nurses' station is located in one area of the work room. The precaution nursery with its own utility room is located across the corridor from the main portion of the department. The formula laboratory is located in another part of the obstetrical department.

The newborn nursery is equipped to care for infants

immediately after delivery until discharge from the hospital, usually three to four days after birth. The majority of the infants cared for in the nursery are normal, well newborns, but the nursery is equipped to care for infants with mild to moderate disorders and moderate prematurity. Ill or premature infants may be transferred, however, to a nearby pediatric hospital.

The average census of the newborn nursery during the seven week period of this study was 17.5. The average daily census for the fifteen days during which the observations were made was 16.4 infants.

Although the normal nurse staffing pattern for the selected area varies slightly from day to day, the general pattern on the day shift (7:00 A.M. to 3:30 P.M.) includes the nursery head nurse, one staff nurse, and one or two licensed practical nurses. An obstetric head nurse is in charge of the entire department, including labor and delivery rooms, postpartum, and newborn nursery. The number of students assigned to the nursery varied from one to three on the days of the study, usually one or two. The students were assigned 7:00 A.M. to 12:00 noon or 7:00 A.M. to 3:30 P.M. Evenings, nights, and week ends typically have a lighter staffing pattern.

A functional method of assignment is used in the selected area. One of the licensed practical nurses assigned to the nursery on the day shift is responsible

for preparation of formula needed for the day. Other nursery duties are assigned to her when formula preparation is completed. Patient care is done by all categories of personnel. The head nurse is responsible for administration of the unit, supervision of personnel, and maintenance of patient records, as well as miscellaneous activities. The housekeeping department provides janitorial service for the unit.

Selection of Subjects

The final seven weeks of the eleven-week spring quarter of the school year were selected for the study. The study schedule varied from eight to twenty hours of observations per week, as students were assigned to the newborn nursery. The observations were made during eleven full eight-hour days and four part days.

Evenings, nights, week ends, and holidays were not used for clinical practice experience for students, although these times might be selected for students for applied nursing practice. The clinical instructor was not available to the student at these times. These times were not used for observations for this study.

The pattern of student experiences in obstetric nursing during the term in which the study was conducted included postpartum care, 15 hours; labor and delivery, 45 hours; outpatient clinic, 30 hours; premature nursery,

15 hours; maternal and infant care, 30 hours; newborn nursery, 20 hours; obstetrician's office visit, 8 hours. The time allowed for applied nursing practice for each student, eight or twelve hours per week, was divided approximately equally between postpartum, labor and delivery, and newborn nursery. Thus, thirty to forty-four hours of the total applied nursing practice would be spent in the newborn nursery. The total clinical practice nursing experience per student in the nursery was twenty hours, including orientation to the area, but excluding the related experiences of premature nursery and maternal-infant care. At the time of this study orientation to the nursery had been completed for all the students in the group.

Because it was assumed that students carried out similar activities whether assigned to clinical practice or applied nursing practice, student activities were observed at both times to obtain an adequate time sample for the study.

Students could be assigned to the unit on Monday, Thursday, and Friday during the 7:00 A.M. to 3:30 P.M. shift and on Tuesday from 7:00 A.M. to 12:00 noon. Tuesday afternoon and Wednesday were reserved for classes. Consequently students were never assigned to the unit at the latter times. Although the observation schedule varied from week to week, Tuesday, Thursday, and Friday were used for observations.

The total size of the group enrolled in obstetric nursing during the term was twenty students. A total of thirteen students were assigned to the newborn nursery for clinical experience at various times during the seven-week study period. These thirteen students were used for the observations by which data were obtained.

The total observation period covered 104 hours. The average observation time for each student was eight hours, with a range of five to thirteen hours.

The total 104 hours are approximately equal to the total clinical experience of five students, or the combined clinical practice and applied nursing practice experience of two students.

The selection of the students when two or more were assigned to the nursery on one study day depended on several factors. Whenever possible, a student assigned for clinical practice was selected. When two or more students were assigned for the same experience the one who had been observed less frequently was selected.

The students who participated in the study were enrolled in a baccalaureate degree nursing program. Following at least one year of general courses on a college campus they enrolled in the school of nursing. In addition to the obstetrical nursing course they were enrolled, for the spring quarter, in Trends in Nursing, two credit hours, and Introduction to Public Health Nursing, three credit

hours. In the previous six quarters of the professional nursing program the students had taken courses in basic sciences, anatomy and physiology, organic and biochemistry, pharmacology, and bacteriology. Background in clinical nursing courses included fundamentals of nursing, medical and surgical nursing, operating room nursing, tuberculosis nursing, and pediatric nursing. Additional courses in sociology and psychology, principles of teaching, and communications had been included. Nursing courses which were scheduled to follow obstetric nursing included psychiatric nursing and public health nursing field experience.

Procedure

After selecting the site and subjects for the study arrangements were made with the obstetric nursing clinical instructor and the nursing service personnel concerned to conduct the study. A study schedule was set up and agreed upon by the persons concerned. The final schedule, however had to be varied slightly from week to week during the study, as the hour schedules for the students were completed not more than two weeks in advance. A definite schedule could not be determined at the beginning of the observation period. The total 104 hours of observation was completed over a seven week period.

The form on which observations were recorded was derived

from the description of the method used in the Sidman study on which this one was based. The forms were prepared on lined, legal sized (8 x 14 $\frac{1}{2}$ inches) paper. Information on the heading of each page included the day of the study, date, day of the week, hour, census, and code identification of the student being observed. When each page was divided down the center there was space for recording sixty minute by minute observations (thirty in each column) with a column for the time, the activity category, and description of the activity. At the bottom of each page the total number of minutes during the hour for each category of activity was computed and recorded. A separate sheet was used for each hour of observation during the study period. A recording was made each minute whether the activity of the student changed or not. (See Appendix A for sample observation form.)

The list of activity categories from the study on which this was based was adopted for this study with no modifications. However, none of the activities of the students could be identified as Formula Preparation, Category VII, in the analysis of the data. In this setting students are not usually assigned to the preparation of formula. It is identified as an activity of the licensed practical nurse. Thus, this category could be eliminated. It is retained in this study for purposes of comparison.

For the original study Categories I, II, III, IV, VIII,

and X were adapted from the pamphlet, How to Study Nursing Activities in a Patient Unit. Categories V, VI, VII, and IX were devised specifically for the study by the previous investigator.

The ten categories of activities are defined for the purposes of this study as follows:

I Patient: Giving Care

Carrying out a nursing procedure for an infant
 Assisting doctors with treatments or procedures for infants
 Bathing and dressing infants.
 Assisting with examinations of infants
 Admission and discharge of an infant
 Feeding infants

II Patient: Other Direct Activities

Other activities in the patient's presence, including
 Evaluation of an infant's need for care
 Observing physical condition of infants
 Observing behavior of infants

III Patient: Exchange of Information about Patient

Exchanging verbal reports with
 Unit personnel
 Nursing service administration
 Physicians
 Other hospital departments
 Patients' families and friends
 Other interested persons or agencies
 Listening to or giving reports
 Receiving or giving assignment relating to patient care
 Reporting on or off duty

IV Patient: Indirect Care

Other patient-centered activities not in the presence of the patient, such as
 Care of records and record forms relating to care of infants

Charting of care given
 Preparation of medications and treatments
 for infants
 Assembling and terminal care of equipment
 used for care of infants

V Patient: Teaching

Instruction of mothers or other family members,
 including
 Instruction in care of the infant
 Instruction in formula preparation

VI Instruction: Received by Nursing Student

Ward conferences
 Orientation to newborn nursery
 Demonstration of procedures and equipment
 Answers to questions of student
 Explanations, suggestions, and comments pertaining
 to
 Care of the newborn infant
 Care of the obstetrical patient
 Policies in effect in the nursery

VII Formula Preparation

Preparation of formulae for newborn infants in
 the nursery

VIII Maintenance of Equipment, Supplies and Physical
 Environment

Obtaining requisite equipment and supplies
 Determining standard inventory
 Requisition
 Storage
 Processing
 Exchanges of information regarding these activities

IX Stand-by

Unoccupied
 Waiting for something to do

X Personal

Conversation about personal affairs
 Coffee time
 Changing into street uniform or nursery scrub wear

Time spent at meals is considered as off-duty time. However, time taken beyond the allotted thirty minutes is classified as Personal, Category X. Time for coffee breaks is considered as personal time, as is changing clothing. However, changing into appropriate clothing is a requirement for nursery personnel. Time for washing hands was considered as part of the procedure for which the student prepared herself or which she had completed. Time in traveling, such as walking in the corridors to take infants to their mothers, was considered as part of the activity upon destination.

A four hour trial observation period was conducted four days before the actual study was initiated to assist the observer in developing further observation and recording techniques, to test the tool, and to acquaint nursing personnel in the unit with the purposes of the study and to permit them to become accustomed to the presence of the observer.

The investigator explained the purposes of the study and the method of obtaining data to the students to be observed when they arrived on the unit in the morning. The students were very willing to participate in the study and appeared to function in the usual manner. They were assured that the study would not identify them and would not be an evaluation of their individual performance.

As the continuous, timed observations were carried out the observer recorded every activity of the students as a running account on the prepared form. The activities recorded were assigned to the appropriate activity category after the observations of the day were completed to allow the observer to see and record all activities during the observation period. There was some slight difficulty in assigning certain activities to the appropriate category due to the brief descriptions in the original study. The investigator attempted to classify such items in the most logical category and to maintain consistency throughout the classification. This may account for some small differences between the results of the two studies.

In the analysis of the data only the activity categories were used. However, the activity descriptions on the observation forms could be used for further study.

Minute totals for each category were determined for each hour of observation. At the end of the study period totals for each category were tallied and percentages derived.

Presentation and Interpretation of Data

Figure 1, page 37, shows the distribution of students' time, by percentages in categories of activities, during the observation period.

The total fifteen day observation period is equivalent

to 104 hours, or 6240 minutes,

The time spent in giving patient care, Category I, was 3276 minutes or 52.5% of the total time. Other direct activities in the presence of the patient, Category II, involved 333 minutes or 5.4% of the total time. The students spent 418 minutes, 6.7% of the time, in activities classified as exchange of information about the patient (infant and mother), Category III. Patient-centered activities of indirect care, Category IV, required 964 minutes or 15.5% of the total time. Category V, patient teaching, involved 29 minutes, or 0.4% of the total time. Patient-centered activities with the patient, Categories I, II, and V, involved 3638 minutes or 58.3% of the total time. All patient-centered activities in the presence of the patient and away from the patient, Categories I, II, III, IV, and V, required 5020 minutes, or 80.5% of the total observation time period.

The portion of time classified as instruction received by the nursing students during the observation periods, Category VI, was 495 minutes, or 7.9% of the total time.

Category VII, formula preparation, was not observed as a student activity. Maintenance of equipment, supplies, and the physical environment, Category VIII, required 134 minutes or 2.1% of the total time.

Stand-by or unoccupied time, Category IX, involved 119 minutes or 1.9% of the time. 472 minutes or 7.6% of the

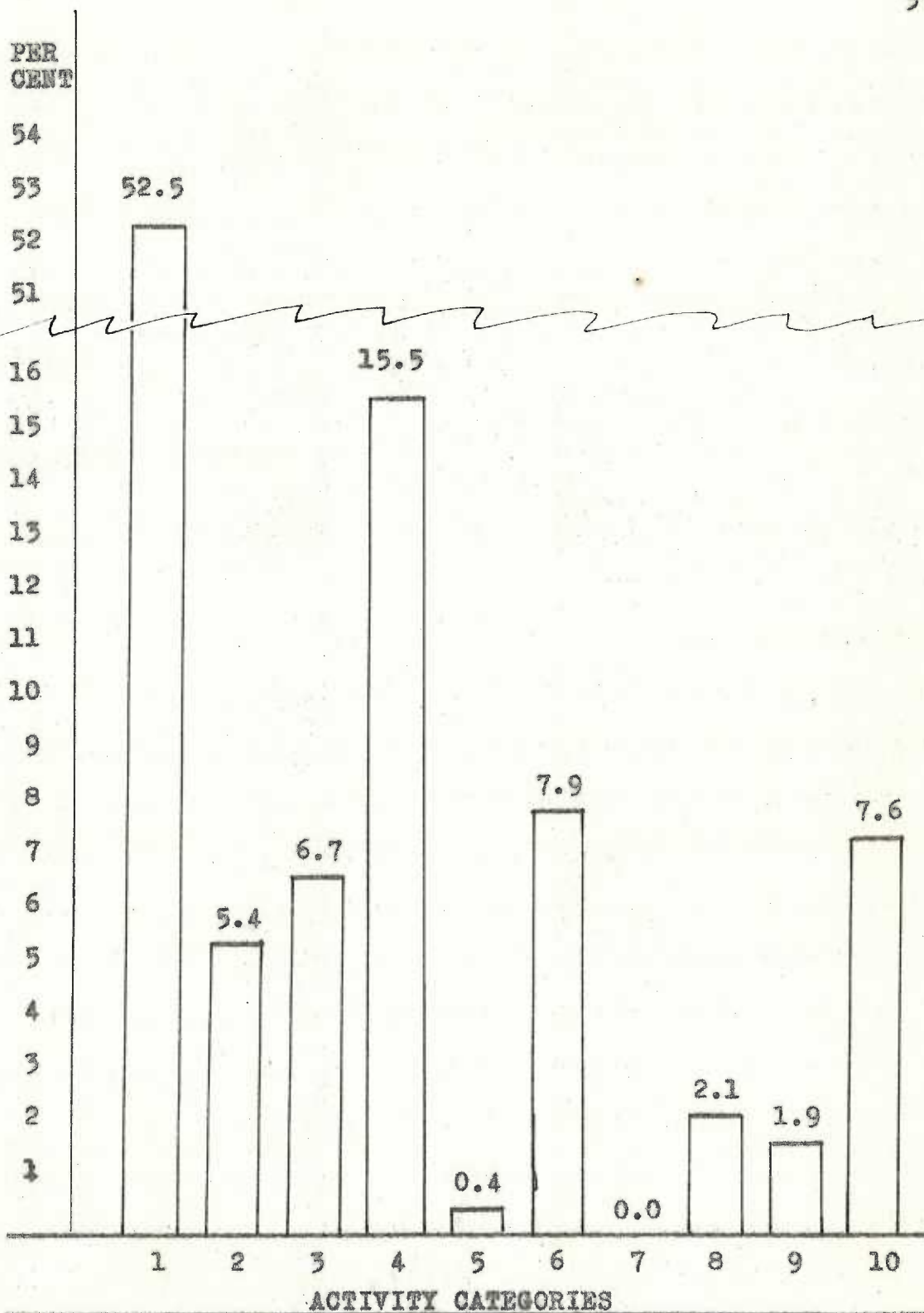


Figure 1. Percentage Distribution of Thirteen Nursing Students' Time Between Categories of Activities for 104 Hours of Observation

time was spent on personal activities, Category X. Stand-by and personal activities, Categories IX and X, combined took 9.5% of the total time or 591 minutes.

In summary, activities with the patient, Categories I, II, and V, involved 58.3% of the time and activities for the patient, Categories III and IV, 22.2% of the time. Instruction of the student, Category VI, involved 7.9% of the total time. 11.6% of the time was spent in non-nursing activities, including Categories VII, VIII, IX, and X.

Comparisons and contrasts can be made between the division of professional nursing student activities in the selected newborn nursery in 1958 and in 1962. The differences in hours of observation are small, 90 hours in 1958, and 104 hours in 1962. The total number of hours of student experience was significantly shorter in 1962. The original study used three students, while the present study used thirteen students. However, the percentage figures can be used for comparisons of activities in each category.

In this study 30.8% more time was spent in direct patient care, Category I; 0.6% more time in other direct patient activities, Category II; 1.2% more time in exchange of information about patients, Category III; 0.5% more in indirect care, Category IV; and 0.6% less time in patient teaching, Category V. All patient-centered activities combined involved 32.5% more of the students' time in the present study. 1.6% more time was devoted to instruction

of the student, Category VI, in the findings of this study.

Maintenance of equipment, supplies, and physical environment, Category VIII, and formula preparation, Category VIII, combined required 24.2% of the students' total time in 1958 and only 2.1% in 1962, a difference of 22.1%. The difference in stand-by time, Category IX, was 10.1% less in 1962. The difference in personal time, Category X, was only 1.9% less in 1962. The combined difference is 12.0% less time in the present study for stand-by and personal activities.

Table 1 on page 40 shows the comparisons of nursing students' activities by categories in the two observation studies.

Table 1. Percentage Comparisons of Student Nurse Activities by Categories of Activities in Two Studies in a Selected Newborn Nursery

Activity Category	Study Made in 1958	Study Made in 1962	Percentage Differences
1. Giving patient care.....	21.7%	52.5%	+ 30.8%
2. Other direct activities in the presence of the patient.....	4.8%	5.4%	+ 0.6%
3. Exchange of information about the patient.....	5.5%	6.7%	+ 1.2%
4. Indirect care of the patient.....	15.0%	15.5%	+ 0.5%
5. Patient teaching.....	1.0%	0.4%	- 0.6%
6. Instruction received by nursing student.....	6.3%	7.9%	+ 1.6%
7. Formula preparation.....	3.9%	0.0%	- 3.9%
8. Maintenance of supplies, equipment, and physical environment..	20.3%	2.1%	- 18.2%
9. Stand-by.....	12.0%	1.9%	- 10.1%
10. Personal.....	9.5%	7.6%	- 1.9%

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study of the activities of professional nursing students in a basic baccalaureate degree program in a selected newborn nursing unit was carried out to determine the nature and scope of activities, the division of time between activities with the patient, all patient-centered activities, education of the student, and non-nursing functions, and to show significant changes in the activities in the selected unit since 1958.

The site and subjects for the study were selected and administrative arrangements were made. The continuous, timed technique of observation, the observation forms, and the list of activity categories were adopted from the previous related study.

The investigator carried out a four hour trial observation period to gain further skill in the technique and use of the tool.

During the actual study continuous timed observations of the activities of thirteen different students were made and recorded in running form for fifteen days over a seven week period and a total of 104 hours. The data were

tabulated and the findings presented in Chapter III of this study. Comparisons were then made with the findings of the 1958 study.

The data can be summarized as follows:

1. 58.3% of the students' time was spent in activities with the patient; 22.2% in other patient-centered activities. Combined, 80.5% of the time was spent in all patient-centered activities.
2. 7.9% of the total 104 hours was utilized for activities relating to instruction of the student.
3. 11.6% of the total time was spent on non-nursing activities, as maintenance of equipment, stand-by, and personal time.
4. There was an increase of 32.5% of the time on patient-centered activities, largely direct patient care, since 1958.
5. Time devoted to educational activities remained nearly the same, only 1.6% increase since 1958.
6. Non-nursing activities dropped 34.1% from 45.7% to 11.6% since 1958.

Conclusions

The scope of this study is too limited to draw general conclusions with broad implications for nursing education in

general, or even for nursing education in the selected school, but it may have implications for evaluation of the one portion of the curriculum studied - Obstetrical Nursing.

There have been significant changes in this setting with the trend to increase time spent in patient-centered activities and decrease non-nursing and non-educational activities. Factors which may play a part in these changes are:

1. Shortening of the total clinical practice time in the area with increasing emphasis on patient-centered activities.
2. Increased use of licensed practical nurses on the regular staff and less dependence on student contributions to nursing service.
3. Increased resources in the selected unit for care of premature infants and infants with mild to moderate disorders; the total census has increased, thus more experience is available.

Although patient teaching seems to be as strongly emphasized as previously as a role of the professional nurse, there was a 0.6% decrease in the amount of patient teaching activities. The central emphasis of the Maternal-Infant Care experience is patient teaching. Either this activity is not carried over into the nursery setting or the structured routine schedule of the nursery day does

not lend itself to an increase in patient teaching activities.

It may also be concluded that the continuous, timed observation technique is applicable to and useful for the study of student nurse activities. However, it is time consuming, costly for general use, and only one person or one job can be studied at any one time. It has been shown that other methods can obtain comparable results. (15)

Recommendations For Further Study

Studies of other parts of the total infant care experience in obstetrical nursing for professional nurse students in this setting may be done to evaluate the total experience. The experiences include premature nursery and Maternal-Infant Care. A compilation of results and comparison with this study would be valuable.

Similar studies in other clinical areas in the total nursing curriculum of the school could be used for further complete evaluation.

Similar studies in other schools of nursing, including baccalaureate degree, diploma, and associate degree programs as well as practical nurse schools, could be done for comparison and contrast, as well as individual study.

Studies using other techniques of observation, such as work-sampling, to compare their usefulness for study of student nurse activities would be helpful to nursing education.

A study of the feelings and attitudes of professional nursing students toward patient teaching would shed more light on one question raised by this study.

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APPENDIX A
SAMPLE OF OBSERVATION RECORD

Day of Study _____ Day of Week _____ Student _____
Date _____ Hour _____ Census _____

Min.	Categ.	Activity	Min.	Categ.	Activity
01			31		
02			32		
03			33		
04			34		
05			35		
06			36		
07			37		
08			38		
09			39		
10			40		
11			41		
12			42		
13			43		
14			44		
15			45		
16			46		
17			47		
18			48		
19			49		
20			50		
21			51		
22			52		
23			53		
24			54		
25			55		
26			56		
27			57		
28			58		
29			59		
30			60		

Minute Totals for Each Category:

I _____ IV _____ VII _____ X _____
 II _____ V _____ VIII _____
 III _____ VI _____ IX _____