NURSING PAPERS

DECEMBER 1972

Volume 4, No. 2

Nursing Papers is a publication of the School of Nursing, McGill University. Address all materials and enquiries to Moyra Allen, 3506 University Street, Montreal 112.

Subscription rate: $1.00 per issue, $2.00 — one year, $4.00 — two years.
Slightly higher outside Canada.

YEAR IV

This issue of *Nursing Papers* finds itself in the mailboxes of 400 paid subscribers, a superficial index of its growth over the past year. More important, we feel, is the diversity of the articles inside. Dialogue flourishes in the letters section. "What Is Nursing?", a special insert with a new format, has many possible uses — to be determined by you, the reader.

We have a managing editor for the first time this fall, Vivian Geeza, with whose help we hope to find and publish more high calibre articles, increase our readership, sell more advertising, and make more nurses aware that *Nursing Papers* exists. Mrs. Geeza majored in English at Oberlin College; her background includes experience in editing, publishing and public relations. She will be pleased to help edit submissions from individual authors if they wish.

One of the first jobs of the new managing editor has been to streamline the subscription and distribution procedure. We hope you find this an improvement. If any problems occur, please let us know.

In June, the *Nursing Papers* "ambassadors" held their first meeting in Montreal. There is now an ambassador in each university school of nursing who has taken on the job of encouraging writing and soliciting comment from her colleagues. Your ambassador will be able to answer such questions as:

- What kinds of articles does *Nursing Papers* want?
- Where do I send my paper?
- Is this paper too long?
- How can I subscribe to *Nursing Papers?*

Our ambassadors are interested not only in research projects, but in ideas you may be developing related to the teaching of nursing or the nursing of patients. They can help you get your ideas and comments into print. (Of course, if there is no ambassador near you — and some of our readers are far-flung — write directly to the editors.)

You may note an increase in advertising. We are offering space to university schools of nursing at the rate of one page for $125.00 per year (two issues) and a half page for $70.00. The J. B. Lippincott Company of Canada Ltd., through their vice-president Charles W. Lindsay, sent us a donation of $100.00 which is very much appreciated.

As always, we welcome your comments, especially in the form of reviews or critiques of specific articles. Your reaction to "What Is Nursing?", the insert in the center of this issue, is eagerly awaited.

LETTERS TO NURSING PAPERS

Using Interviews for Student Selection

To the Editor:

My congratulations to Mrs. V. Wood for pinpointing some of the problems associated with student selection, evaluation procedures and educational policies in her article "The Borderline Student Nurse." I disagree, however, that a multi-stage admission procedure should be adopted for those applicants whose previous academic record would indicate that we have a potential borderline student. This may or may not be a valid assumption. I am sure that many nurse educators have experienced the student who comes equipped with a brilliant academic record and, alas, is a disaster at the bedside — and that's where the action is! In my opinion the time-consuming and expensive task of interviewing all potential applicants is, in the long run, economical to the student, the nursing program, the taxpayer, and last but by no means least, the patient. At the British Columbia Institute of Technology, part of the selection process is a mandatory interview prior to acceptance, for all applicants who wish to enter the nursing program. The interviewer focuses on four areas of concern.

(1) *Grades.* There is no minimum grade requirement. Each applicant has an opportunity to defend, justify, rationalize, etc., a mediocre or poor academic record. Applicants are often given guidance or counselled into other career opportunities: for example, the applicant who has repeated high school graduation twice and been granted a 51% in biology or chemistry by some frustrated teacher! However, it is possible in our affluent society to find an applicant who works six days a week and obtains high school graduation by attending classes four nights a week — and produces a final transcript which, on first appraisal, might be judged "limited ability". You find out about things like this when you take the time to interview applicants.

(2) *Physical and mental health records* are completed prior to the interview and are available during the time of the interview. It is normal to be "abnormal" in this age of future shock. However, an interviewer skilled in observing and identifying manifestations of gross psychopathology has an obligation to help this applicant receive help. So often applicants have admitted that they have applied to other schools of nursing and can't understand why, with a B+ average, they were not accepted. (Why do we lack the courage to be honest with applicants — are we afraid of being sued for using our knowledge?)

(3) *Finances.* This is an important area of concern, especially when the student does not receive a stipend and free room and board.

Failure to assess and stress the individual financial cost to the student often results in crises for faculty and students (bursaries, scholarships, and government loans notwithstanding).

(4) *Motivation.* This, alas, is the most difficult variable to assess. We are gaining experience and learning from our mistakes. We do, as a matter of policy, accept a limited number of students who could be labelled a risk "A" for academic reasons, or "O", other reasons including attitude, mental health, or questionable motivation. However, the faculty does not know who these students are. Some students in both these categories have proven us right in our initial assessment; others have proven us wrong.

Our attrition rate since the program began in 1967 has averaged 6.2%. Our attrition rate for 1970 was 3.75%. A continuing follow-up study of the graduates appears to indicate that we are producing safe, competent beginning nurse practitioners.

Mary Sutherland
Chief Instructor,
Chairman of the Selections Committee
Nursing Program
British Columbia Institute of Technology
Burnaby, B.C.,
February, 1972.

Une division de nos énergies?

Madame la rédactrice,

Je vous félicite de votre publication.

Je me pose cependant quelques questions auxquelles je n'ai pas de réponse. Les éducatrices ne devraient-elles pas écrire pour *L'Infirmière Canadienne* et/ou *The Canadian Nurse?* Pouvons-nous vraiment nous permettre une telle division de nos énergies? La qualité des travaux écrits pour *Nursing Papers* n'ajoutera-t-elle pas à celle du journal national qui rejoint un plus grand nombre d'infirmières?

Je vous renouvelle mon appréciation de votre revue . . .

Evelyn T. Adam
Professeur adjoint
Faculté de Nursing
Université de Montréal
Mai 1972

The Editor replies:

In response to Evelyn Adam's letter questioning the reason for publishing a journal such as *Nursing Papers,* I refer to the initial editorial (April 1969).

Les participants aux assemblées du CCUSN ou autres réunions, ont souvent regretté l'absence de communications entre les écoles universitaires de sciences infirmières. A un moment ou l'autre, chacune de nous a exprimé le désir de discuter certains aspects des sciences infirmières avec des collègues des autres parties du pays, d'échanger et de développer certaines idées concernant l'étude et l'enseignement des sciences infirmières dans le cadre universitaire. Aujourd'hui, le besoin de dialogue devient plus urgent, vu la complexité de la recherche en sciences infirmières et les diverses recommandations en vue d'améliorer les services de santé.

A l'avenir, nous anticipons que le CCUSN parlera au nom des écoles universitaires de sciences infirmières. D'ici là, le personnel enseignant de SGN a pris l'initiative de presenter un modeste journal, assurant ainsi un médium pour analyser certaines idées, pour répondre aux questions et exposer certains projets et opinions préparés par des personnes intéressées à l'éducation universitaire et à la recherche en sciences infirmières.

As *Nursing Papers* has developed, initial position papers of CAUSN, both national and regional, have been published. Furthermore, the CAUSN is becoming more involved with *Nursing Papers* and now provides some financial support.

The rationale for publishing *Nursing Papers* is not to reach all nurses, but rather to provide a forum for communication among our colleagues, particularly faculty of university schools of nursing. For example, it is our hope that nurse researchers can describe their work and present problems and ideas to others, who then can respond by questioning approaches, suggesting alternative solutions, and so on.

Miss Adam has provided all of us with an opportunity to consider the purpose of *Nursing Papers* for ourselves as individuals and as faculty concerned with teaching and research in nursing.

What is your response to Miss Adam's questions? What do you see as the rationale or purpose of *Nursing Papers?*—M.A.

Comparison of Blood Pressure Readings

To the Editor:

In the article "A Comparison of Blood Pressure Readings Taken Simultaneously by Faculty and Students", *Nursing Papers,* Vol. 4, No. 1, July 1972, by Professor Sheila Creeggan, we have observed what we believe to be an important error in the findings.

One minor error is the inversion of the column totals in Table 1, page 39; the total for student diastolic blood pressure readings should be 1653 and the total for the deviations should be -119.

However, a much more significant error, we think, occurs in the computation of the t test for matched comparisons. We have followed the formula presented in Mueller, Schuessler and Costner *(Statistical Reasoning in Sociology,* second edition, New York: Houghton Mifflin Co., 1970: 416-419) which agrees with Blalock and Hayes. On the basis of this formula, the t for systolic readings should be 1.2566 with 19 df, ($\bar{X}$=2.6, S.D.=9.02) which is not significant at the .05 level or better. Similarly, the t for diastolic readings should be equal to -3.3832, which is also not significant. Our revised Table 3 follows:

REVISED TABLE 3
COMPARISON OF SIMULTANEOUSLY OBTAINED BLOOD PRESSURE READINGS TAKEN BY AUSCULTATION OF THE BRACHIAL ARTERY

	Systolic	Diastolic
Simultaneous Auscultation N = 20		
Mean difference	2.6	-5.95
Standard deviation	9.02	7.666
t-test	1.2566	-3.3832
sign test	p >.05	p >.05

We realize that the error may be ours rather than Professor Creeggan's, but we have checked our computations and we would like to know how she arrives at her t scores. If our calculations are correct, then it greatly changes the findings in the article from a report of a significant difference between student and faculty blood pressure readings to absence of a relationship.

We have checked the sources cited by Professor Creeggan and they generally use the analysis of variance technique (F-test) for determining whether or not there are significant differences between several groups. This technique, we believe, is more valuable than simple paired t comparisons.

Gloria Kay,
Hans Bakker,
Toronto,
August, 1972.

The author replies:

Mrs. Kay and Mr. Bakker have certainly done a detailed review of the method of analysis. Let us consider the questions raised.

1. *Table 1.* There is, as they noted, a printing error where the totals for columns 6 and 7 are reversed.

2. *Computation for the t test.* In part, the difficulty is the result of a problem in communication. The mean differences given in Table 3 are the means of the absolute differences rather than the means of the algebraic differences. This accounts for the disparity between mean differences and standard deviations reported in the article and figures calculated by the reviewers. This study attempted to look at differences between the blood pressure readings taken simultaneously by faculty and students. The decision was made to do the analysis on absolute values because a difference of +12 and one of -12 both indicate a variation of equal magnitude. This was the same procedure used to calculate mean differences in the study by Putt (1966) referred to in the article and to which findings were compared.

The questions raised by the reviewers resulted in the author's again checking with a number of texts and a consultant statistician in the mathematics department. This search pointed to the fact that after calculating means on absolute deviations one can no longer assume a t distribution. Therefore, results of the test and the level of significance of the difference between readings of faculty and students should be disregarded until a different method of analysis can be utilized. The statistical consultant and a graduate student in the mathematics department considered alternative methods of analysis, but were unable to suggest a satisfactory alternate construct.

The deviations presented in Table 2, the mean differences calculated on absolute differences, and the results of the sign test as presented in Table 3 continue to be supportive of the implications for nursing practice as stated in the article.

In relation to figures presented by the reviewers, a $t = -3.38$ for diastolic readings would be significant beyond the .01 level for a two-tailed test with 19 degrees of freedom (1).

3. *Analysis of variance is more valuable than a simple paired t comparison.* Because the present study had only two groups, we cannot understand the suggestion for use of the analysis of variance. Analysis of variance is the first step in the analysis of more complex designs. A discussion of when to use the F test instead of the z or t which might be helpful to readers is given by Isaac and Michael (2).

The investigator wishes to thank the reviewers for their critique which resulted in an interesting learning experience.

— Sheila Creeggan

References:

1. George A. Ferguson, *Statistical Analysis in Psychology and Education.* (New York: McGraw-Hill Book Company, 1959), pp. 165-66.

2. Stephen Isaac and William B. Michael, *Handbook in Research and Evaluation.* (San Diego: Robert R. Knapp, 1971), pp. 140-41.

A CONCEPT OF RESEARCH IN THE UNIVERSITY

A Submission by the

CANADIAN ASSOCIATION OF UNIVERSITY SCHOOLS OF NURSING

ASSOCIATION CANADIENNE DES ECOLES UNIVERSITAIRES DE NURSING

to the
Commission to Study
The Rationalization of University Research

JANUARY, 1972

A profession seeks knowledge to rationalize its practice. The question at issue is how the profession rationalizes the search for knowledge.

Historically, in the rationalization of practice, nursing drew first on knowledge of the simple needs of persons for care in illness. Later with the institutionalization of services, nursing responded to the dicta of the organization as the basis for practice. With the expansion of knowledge in the social sciences and the increasing demands for health care from the public, nursing began to draw upon the sciences to generate hypotheses for testing in the practice of nursing. Today, we can detect a movement away from the application of knowledge from related fields to a search for knowledge arising out of the practice of nursing itself.

The process of building knowledge in a field has been well documented in the sciences; this is the path which nursing must now take. Our first task is to gather as much information as possible on the variety of human situations, and of the results which accrue. From examination and an analysis of these data a picture of nursing will emerge, the concepts of which will require exploration and refinement and eventually development through the study of their relationships into a network of ideas, the hypostasis of nursing. At this stage, the process of testing and experimentation will lead to further clarification and eventually to bodies of knowledge, and possibly competing bodies, on which to build more effective and predictive practice.

Research into the knowledge of practice reflects a profession's ethical commitment and concern for the public welfare in that the criteria for quality performance derive from the comparative benefits and positive consequences which accrue to the individual or community under varying conditions of professional practice.

1. To permit the development of nursing practice and to clarify its contribution within the health services two types of research are needed:
   a) The former objective implies the need for research oriented to the generation of knowledge which is pertinent to, and directs, the practice of nursing. Because such research requires field study it is likely to be both extended in time and expensive and owing to its complexity the results may be suggestive rather than conclusive. For this type of research to flourish criteria for funding need to be developed to permit and encourage these special characteristics.
   b) In addition, nursing needs to participate fully in collaboration with persons in other health sciences to describe, demonstrate and evaluate a variety of models or structures designed to permit a more efficient and effective health care delivery system.

   The initiation and development of both these types of research are dependent upon financial support during the initial phase when nursing is studied and examined to evolve a research design and when health service models are conceived and elaborated within a research framework.
2. Research in nursing will develop increased sophistication only if more nurses are prepared at the master's and doctoral levels. The attainment of this goal is dependent upon the development of a pool of potential candidates, in particular, from basic baccalaureate programs.

RESEARCH IN NURSING

This brief is respectfully submitted to the Commission on behalf of the twenty-two institutional members of the Canadian Association of University Schools of Nursing. It outlines briefly certain premises concerning university nursing education and research, identifies the current status with regard to the development of nursing research in universities and sets forth specific recommendations.

PREMISES REGARDING UNIVERSITY NURSING EDUCATION AND RESEARCH

Nursing is an integral part of the health professions within the university and within the system of health care delivery. The profession of nursing has an obligation to contribute effectively to research

legitimate to its own and related disciplines and to research designed to improve the delivery of health care.

A faculty of nursing can best achieve its three primary objectives of education, research, service, in close collaboration with other health professionals within a Health Sciences Division of a University. Such collaboration is enhanced by selected shared educational, research and service endeavors.

Nursing functions within a human framework, comprising a complex framework of diverse variables. It has a particular role in the provision of health care which is distinct from, but closely interlocked with that of other health professions. It is not possible, therefore, for nursing to adopt unmodified theory from other disciplines, to strictly follow many methodological tenets of these disciplines, nor to rely solely on experiential data, all of which have been used at times to achieve quick and simple, yet often ineffective answers to nursing problems. Nursing theory must both arise from nursing practice and direct its development. It must have a firm base in principles drawn from the physical, biological, social and behavioral sciences. Theory building requires sound descriptive research to yield fruitful hypotheses for subsequent testing through experimental designs. Identification of variables must also result from astute observation and assessment of practice. Methodological studies for the development of valid and reliable instruments are basic. Research in the delivery of health service requires freedom in experimentation with creative developmental projects for which precision in evaluation, particularly of impact, has yet to evolve. Those engaged in university research, education and practice must all contribute to the testing of existing principles and theory, the acquisition of knowledge and the continuous enrichment of practice through application of this knowledge. This makes mandatory the development of highly trained nurse clinician researchers.

The processes of nursing, research and education are closely linked. The ultimate focus to which student learning is directed comprises a variety of essential components. Foremost is the interaction between the nurse and the individual, family or community. Consideration of alternate courses of appropriate action by nurse and client alike is the outcome of scientific assessment of the client's position on the continuing of health and illness in conjunction with the factors determining that position. These bases of choice determine the design for health promotion, as well as for preventive, curative or rehabilitative care and assessment of its effectiveness. Of necessity, the teacher in nursing must possess the investigative and decision-making skills inherent in the process of nursing and must be competent to assist

students in the development of such skills. It is reasonable to expect the undergraduate student in nursing to develop an attitude of inquiry and to become an intelligent research consumer and collaborator. This requires nursing education which incorporates the scientific approach and a broad basis in the physical, biological, social and behavioral sciences. In graduate education, the student requires greater preparation for and more extensive experience in research, further study in general education and concentration in nursing theory and practice. From graduate programs must come our competent nurse researchers, university teachers and key personnel in nursing service.

DEVELOPMENT OF NURSING RESEARCH IN UNIVERSITIES

Tribute must be paid to those Canadian University Schools of Nursing which have pioneered graduate education in nursing and fostered research through their programs. Many projects undertaken by graduate students have provided valuable beginning experience in research, some have made a recognized contribution to nursing practice, education and administration. A few nurse researchers on some university faculties have been engaged in noteworthy projects, primarily in the field of education or the delivery of health services. There is a commendable increasing emphasis in undergraduate programs on formal preparation in the rudiments of research and statistics, the encouragement of a spirit of enquiry, the sharpening of assessment skills and the provision of a broad rigorous program of study as a firm foundation for graduate education. A climate conducive to research, both in the university and in the clinical field is crucial. It is encouraging to note that such a climate is developing in some centres.

Nevertheless, the current situation in Canadian University Schools of Nursing leaves much to be desired if any real progress is to be made in nursing research. There are approximately twenty-five nurses in Canada with earned doctorates, five hundred with master's degrees. There is great variation in the adequacy of the research component of master's programs which faculty have experienced. There is the emerging occasional planned program of ongoing education in research for faculty. On some campuses short intensive courses in research, statistics and computer science are offered which are useful to the few faculty finding time to take advantage of them. The ready accessibility and sharing of human and material resources for the encouragement and facilitation of nursing research varies with individual universities, as does dissemination of information on research funding and findings.

With few exceptions, those nurses on university faculties holding doctoral or master's degrees are almost exclusively engaged in administration and/or teaching. The nature of nursing education demands a small faculty/student ratio, yet budgets in nursing faculties rarely make adequate provision for this, nor do they extend to meeting the heavy committee and administrative demands crucial to ongoing curriculum development and implementation. The faculty member who is a nascent or experienced researcher often faces a schedule which precludes development of research designs, let alone their implementation. In addition, unallocated funds for research in nursing have rarely been available. As a result, faculty have found it impossible to develop a well-defined extensive and long-term program of research, segments of which could offer excellent experience to graduate students. Graduate student projects tend, therefore, to be isolated beginning investigations in circumscribed areas, using small samples and leading to little extension or replication. The picture has been further confounded by the few channels available in Canada for publication of nursing research reports.

Faculties of nursing, either individually or collectively, can partially rectify some of the aforementioned difficulties. Greater interdisciplinary colleague encouragement and cooperation is needed in other instances. For three key problems, new measures and extended support are required. These problems are: sufficient numbers of well-qualified nurse researchers to conduct research and supervise graduate students; sufficient time for them to exercise their expertise; sufficient funds and accessibility to supporting services and personnel to facilitate their undertakings. This situation prompts the following recommendations.

RECOMMENDATIONS

1. That substantial support be given to promote improved initial and ongoing education of nurse researchers, field investigators and research assistants.
2. That there be budgetary provision for faculties of nursing to contribute effectively to the accepted teaching, research and service objectives of the health sciences divisions of the university.
3. That unallocated funds be made available to Deans and Directors of Nursing in universities where there are competent nurse researchers, adequate supporting services and an appropriate milieu for research, such funds to be used for proposal development, pilot testing and maintenance of supporting staffs between grants.
4. That granting agencies apportion reasonable amounts of money for annual allocation to nursing research in recognition of its current stage of development.

5. That there be equitable access by all researchers within a university to supporting services essential to the conduct of research.
6. That channels for more extensive intra and inter-university collaboration and sharing of relevant human and material resources pertinent to several disciplines be fostered.
7. That Health Sciences Research Centres be established in a few selected universities to provide well trained staff to conduct interdisciplinary research, provide graduate and post-doctoral instruction and experience in health sciences research, disseminate findings with regard to substantive research and methodology, develop procedures for the interpretation and application of research findings.
8. That means be established for wider continuing communication regarding researchers with particular common interests and areas of current investigation.
9. That criteria for the assessment of the various kinds of projects submitted for funding be under continuing review and differentiation made in these criteria for particular kinds of projects if indicated.

Professeur demandé pour juillet 1973.
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HEALTH CARE EVALUATION SEMINAR

A seminar for health professionals, administrators and others concerned with evaluating health care is being sponsored by the School of Nursing, McGill University, in June, 1973. The seminar is one in a series being held across Canada with the support of the National Health Grant.

Topics of concern include the measurement of health and health care needs, measurement and evaluation of health care, and tools and techniques of evaluation, including economic and operations research methods, alternate strategies to evaluation, and suggestions on organizing and financing an evaluation project.

Applicants are asked to submit a proposal for health care evaluation. This proposal will serve as a focus for their activities during the one week program, when they will participate in individual tutorial sessions, group discussions and seminars, and consult with experts in health care evaluation. It is anticipated that most participants will have developed a detailed evaluation design by the conclusion of the seminar. Some scholarships and travel awards are available.

Information and application forms for the Health Care Evaluation Seminar to be held at McGill University next June may be obtained from Moyra Allen, Project Director, School of Nursing, McGill University, 3506 University Street, Montreal 112.

SEMINAR ON RESEARCH IN FAMILY PRACTICE

Dr. John Last of the Faculty of Medicine at the University of Ottawa plans to hold a seminar on research in family practice at Ottawa, February 4-9, 1973. The format will be similar to that of seminars on health care evaluation methods already held at McMaster University, the University of Saskatchewan, and Université de Sherbrooke with the aid of funds provided by the National Health Grant.

Participants will work in closed conference with opportunities for consultation with experts on research in epidemiology, family medicine and related disciplines, and will be able to use a variety of educational resources developed for the earlier health care evaluation seminars. Further information and requests for application forms may be obtained from Dr. Last at the Department of Epidemiology and Community Medicine, Royal Ottawa Hospital, 1145 Carling Avenue, Ottawa, Ontario, K1Z 7K4.

LEARNING TO TAKE RESPONSIBILITY

by

MARY REIDY

Lecturer in Nursing, McGill University

THE more experienced nurse often feels that young students no longer learn responsibility. The hospital-trained nurse fears that the non-hospital-educated nurse is unable to learn responsibility. Faculties from both hospital and collegial schools of nursing, with great divergence in curricula, believe they teach responsibility. Students and young graduates of either type of program claim they are responsible nurses. What is the source of contradiction in these conflicting feelings and opinions? Are one or more of these fallacious? Or, does the difficulty lie, rather, in a lack of clarity and precision in understanding what each means when she talks of "responsibility"?

While the professionalization of nursing entails the assuming of responsibility by the individual nurse, the heaviest burden would seem to fall on the nursing instructor, who is charged not only with being responsible herself, but also with helping initiates to the profession "learn to take responsibility". She must first comprehend the meaning of the concept, and then include measures to teach the concept as she plans her curriculum. This comprehension enables her to differentiate between the processes involved in "learning to be responsible" and those in professionally "learning to take responsibility."

This paper is directed toward furthering this comprehension and also toward assisting in the teaching of "learning to take responsibility". The first part of the paper attempts to provide conceptual clarity, and the second part presents research based on such conceptual considerations. The final part consists, in turn, of a discussion of the educational implications of the first two sections of the paper.

A. THEORETICAL CONSIDERATIONS

The process, "learning to be responsible", can be used as a synonym for conscience, or indicate a sub-part of the super-ego, and this process is usually seen as a function of personality. "Learning to take responsibility" is to a greater extent a function of the social role and so is more immediate to the formal educational process(1,2). As such, the former is part of a maturational process which may be helped or

hindered by planned intervention; the latter lies at the core of professional education and can only be effected through a carefully planned and executed educational experience.

The nurse-educator comes into contact with students during the period of young adulthood (18 to 20 years). At this age there is a sharp increase in ego-function and an ascendancy of the individual's controlling mechanisms. In other words, as part of the maturational process, the individual is developing a sense of responsibility. He or she tends to be idealistic, somewhat authoritarian, and at the same time to be striving for refinement of thought and action(3).

> He is ready to concentrate upon his relations with the external world, to improve his understanding of that world and to find a place in it.(4)

The student who enters nursing at this stage in her development is imbued with idealism and ready for commitment. The teacher at this time does not *teach* a sense of responsibility. Rather, she is involved through the teaching-learning process with students whose personality structures can and will reflect the value orientation they experience. The student, however, looks at this time for socially worthwhile values which will serve the interests or goals of her chosen profession(5). She is disillusioned if the value system or student-teacher relationships serve first the needs of the teachers, staff or institution. While still vulnerable, students in this age group flourish when they are given realistic analysis of their performance, accompanied by thoughtful guidance(6). Enlightenment of conscience or the development of a sense of responsibility is a function of personality, in part guided by the student's relationships with the teaching staff but developed primarily by the student in her own maturation process.

However, it is in "learning to take responsibility" as compared with "learning to be responsible" that one finds a problem immediate to the role of nurse as nurse, and so to the nursing education program. The concept "taking responsibility" may be seen as having two components: "accountability" and "reliability". While these components are not, strictly speaking, mutually exclusive, a distinction between the two may clarify the different modalities of "learning to take responsibility" and so may permit the integration of the proper learning opportunity into a practical curriculum. First we will analyze the concept of "accountability" and second, the concept of "reliability". Finally, we try to apply the result of these analyses to curricular practice.

"Accountability" or "being liable to be called to account" is a two-dimensional concept. Its two dimensions are indicated by the fact that we sometimes say "accountable *to*" and sometimes, "accountable *for*".

Being accountable *for* entails a knowledge of the sphere of competence proper to the nurse and the ability to perform safely and effectively in this sphere. To be held accountable *for* thus implies that the nurse should know the role functions of nursing, possess the skills and abilities to accomplish these, have mastered the theoretical background, and have developed the judgment required to make the decisions necessary to this role. On the other hand, to be "accountable *to*" implies that the nurse knows there is a line of authoritative communication and that she uses it; that, while operating with integrity and ingenuity, she knows how far her role allows her decision making to go, that she knows to whom to report and whose decision supercedes her own. These two dimensions of the concept "accountability", the *to* and the *for,* indicate therefore, two areas of nursing problems and so two areas of curricular concern.

The second component of responsibility, "reliability" may be thought of as "professional style", the composite of norms, attitudes, values, ways of doing things, subtle structuring of relationships, modes of reaction to environment, types of reward expected and all else that becomes actively internalized and integrated by the profession in becoming a professional. The reliable individual responds as expected in given situations — within a specified range of behaviors — and possesses guidelines for acceptable behavior even in unexpected situations. The responsible nurse, then, can be *relied* on to act in accordance with the well-being of the patients within a framework of professional expectations. "Reliability" therefore recommends itself as a second area of curricular concern in "learning to take responsibility".

Responsibility becomes a problem of the nursing curriculum, then, both indirectly and directly. Indirectly the nursing educator is involved in the development of the student's personal sense of responsibility. Directly the nursing educator attempts to promote the nursing student's "learning to take responsibility." As such, learning responsibility actually entails two distinguishable areas of curricular concern, first, learning to be accountable *"for"* her actions and/or *"to"* the lines of authoritative communication, and second, learning to be professionally reliable.

B. CONSEQUENT INVESTIGATION

Since the concept of responsibility is essential to the definition of any profession, and the practice of responsibility is essential to its performance, research which evaluates professional preparation warrants the inclusion of an instrument designed to assess "taking responsibility". Such an instrument, based on the theoretical consi-

deration discussed earlier, was constructed as part of a larger study of a collegial school of nursing(7,8). A large collection of specific examples of responsible behavior were first examined with the "accountable to"/"accountable for" dichotomy in mind. Through further refinement the former was redefined as "being subject to direction and authority" and the latter, as "a rational approach to problem solving". Further, while each of the items fell within one or the other "accountability" category, it was found that they could be also cross-classified under dual "reliability" headings. These, "focus on self nursing a patient" and "focus on team, unit, institution or other persons", include the norms, attitudes, modes of reaction and expectations central to the "reliability" component of responsibility. Such a cross-classification allows the use of a two-directional matrix with sub-dimensions along each axis as follows(9):

Responsibility Matrix

Reliability	*Accountability For* (A rational approach to problem solving)	*Accountability To* (Being subject to direction and authority)
Focus on self nursing a patient		
Focus on team, unit, institution or other person		

A group of twenty-two items, each representing one of the four cells of the matrix, was validated and retained as the final instrument, which was administered in three different forms. First, it was given to the head nurses of the wards on which the collegial graduate worked, to have them evaluate her responsibility as compared with that of the average young hospital graduate. Next, it was used in testing the faculties of the collegial and comparison schools, to determine which aspects of responsibility they considered most important in teaching nursing(10). Finally, it was given to the staff in the hospitals where the collegial students practised nursing, to ascertain which aspects of responsibility they saw as most important in giving nursing care.

Briefly, the results of this investigation were as follows. First, both the collegial and the hospital school graduates are seen as responsible nurses. However, in terms of accountability, the young collegial graduate is rated higher on the rational approach to problem solving; the young hospital graduate, on being subject to direction and authority. Further, when the "reliability" components on the vertical axis of the matrix are examined, the collegial graduate is seen as focusing more directly on "self nursing a patient"; the hospital graduate, on "team, unit, institution or other person"(11).

These conclusions about the two types of graduates are not unexpected when considered in the light of some other results. When the faculties were asked which aspects of responsibility they stressed in teaching nursing, those at the collegial and the autonomous school indicated that they stressed responsibility through problem solving, particularly that directed toward the individual patient. However, those at the two hospital schools placed their emphasis on "accountable to" behaviors, especially those relating to team, unit, institution or other persons(12).

On comparing the opinions of this collegial nursing faculty with those of head nurses, supervisors and graduate nurses working in the clinical situation, it was found that one of the major concerns of both was that the profession continue to prepare responsible nurses. However, the latter felt that taking responsibility through responding to direction and authority was more important in giving nursing care; the former felt it was more important to develop a problem solving approach in response to the individual patient.

In terms of these results, it may be concluded that the emphasis within the teaching of nursing and in the giving of nursing care may be influenced by the limits and characteristics of the type of institution which accommodates the practice and the teaching of nursing. Schools housed outside hospitals would seem to espouse one approach, those within hospitals, another. They are both concerned with the learning and teaching of professional responsibility. However, they do not necessarily mean the same thing when they talk about responsibility.

C. EDUCATIONAL INTERPRETATION

The nursing educator is faced with the task of providing the conditions whereby the student will "learn to take responsibility". Prerequisite, however, to a specific plan for a curriculum with the necessary goal of learning to take responsibility, is a clear understanding of the developmental stage of the student and a working concept of the professional role, in this case, the role of the nurse. Such an understanding defines the limits of learning-teaching within the profession, for the students' developmental level indicates where the process can begin; and the definition of the professional role clarifies the scope and nature of the function toward which it is directed.

Different types of teaching programs seem to suffer from different innate problems. For example, the university, independent, or collegial school can anticipate difficulties in the areas of "being accountable to" and of "focus on team, unit, institution or other person."(14) The former may be problematic because the student is not

consistently part of the institution in which she practices nursing. Not always being conscious of the lines of communication and authority, she may make unwarranted decisions on her own, a fault which the teacher might even unwittingly encourage by filling too well the role of liaison between agency staff and student, thereby blocking the student's participation in the institutional organization.

In the case of "focus on team, unit, institution or other person" the student may have difficulty mastering the intricate system of expectancies, norms and values which are to a great extent passed along informally in the institutional setting. She may well seem not too "reliable" to the hospital's nursing staff if she has not had the opportunity to learn the subtleties of the nurse's role. The nurse teacher in such schools often feels obliged to compensate for the fact that the student has not been socialized in the nursing profession's more usual way. In response to this problem, particular effort must be devoted, firstly, to having students work as part of the ward group. Secondly, during this experience the teacher must be careful not to block communication between her student and the institutional staff by being overly protective of the student. Thirdly, more effort must be directed toward increasing the student's understanding of group process and change.

For the hospital school, the area requiring greater emphasis appears to be that of being "accountable *for*". Competence of this sort requires well-prepared teachers who can teach in a student-centered program. If the needs of the institution for service are placed before the needs of the student for individual guidance and evaluation, or if the instructor does not understand the various complexities necessary to appropriate and effective nursing judgment, then the curriculum plans will fail to prepare the student to be "accountable *for*". The teacher in a hospital program must plan particularly for students to make professional decisions and to evaluate the effects of their decisions. The teacher needs time to help the student integrate and utilize background theory in giving nursing care, through a planned and individualized evaluation program.

In conclusion, the student comes to nursing with a sense of responsibility which must be fostered. Concurrently, the curriculum must be structured to teach "taking responsibility" in a professional sense. This entails the student's learning the role of the nurse and mastering her sphere of competence, a process through which she can learn to take responsibility in its complex and multi-dimensional sense.

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10. The collegial school, Ryerson, was compared and contrasted with three other schools: one autonomous and two hospital schools.
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12. *Ibid.,* pp. 161-162 for tables and more extensive explanations.
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THE DEVELOPMENT OF CLINICAL NURSING SITUATIONS ON VIDEOTAPE FOR USE VIA CLOSED-CIRCUIT TV IN THE TEACHING OF NURSING*

NATIONAL HEALTH GRANT PROJECT NO. 604-7-667

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We elected originally in this research project to develop videotapes depicting clinical situations in nursing and to assess their effectiveness in the teaching of nursing. To accomplish these ends we chose to film on videotape the everyday, real-life situations that persons and their families experience in various parts of our health delivery system. We focused on the recipient, — professionals and others were incidental and were taped as they entered and participated within the situation we were taping. We taped persons and their families in hospital, clinic and home; at critical points and throughout their illnesses; of differing ages — the infant to the aged; and, in addition, persons in contact with various professionals.

We have discovered within our videotapes a means to revolutionize the system of nursing education. Before, nurses in the teaching situation have rarely had the opportunity to examine a nursing situation as it occurs and develops; to study the whole situation of a patient and his family through the various phases of his health problem within the short time period of a videotape; to re-experience and re-examine a situation over and over again, to pick up cues and observations which one becomes aware of through recurrent experiences with the same situation. One does not have the opportunity in real life to view a situation a second time, to validate one's impressions or to reject them. In fact, our videotapes provide the same opportunity as the "replays" in televised hockey, a greatly enhanced and expanded opportunity for learning; but in the case of nursing, of highly complex situations. Students must learn *how to learn* from real-life situations on videotape. It has been our experience that in

* *Further information and a copy of the report may be obtained from the author.*

viewing videotapes, nurses tend to place value on actions based on the standards of a "textbook picture" of either the nurse or the patient and, therefore, fail to see or to respond to the situation as it exists.

RESEARCH REPORT

Rationale — Schools of nursing encounter difficulties in obtaining the amount and type of clinical experience which they require to prepare nurses. If we are able to provide effective clinical experiences on videotape, we shall have greater command over the number of nurses who can be educated. Furthermore, the known content of taped situations permits the educator greater control over what is learned and ultimately over the quality of nursing education.

Taping — Emphasis shifted from taping the nursing of patients to taping the patients themselves, their families and whatever professional personnel entered into the situation during the taping process. This modification enabled us to utilize the tapes for the original purposes: observation and assessment of the patient situation by the individual student or group of students. It was discovered in the first year of the research proper in tapes focusing on the nurse, that an audience evaluated the nurse in a type of *a priori* fashion without much consideration of the patient. Such an approach tends to parallel the textbook presentation of nursing and therefore is already available to us. By focusing on the patient, we were able to direct the audience's observation to the patient situation, — to observe, analyze and discuss the nature and requirements of it. The patient over time in many settings and under many conditions with varying professionals is not available in any medium — not even from the patient himself. One is not with him for such long periods nor can experiences with patients be restudied, reassessed and, in a sense, rediscovered.

Validation — Validation sessions were held to gain a consensus on the content of the tapes by experts in various aspects of nursing from across Canada. Validators were asked to view a tape and to answer specific questions which were subsequently analyzed for nursing content.

The major finding from the validation sessions was that experts from across the country view nursing differently. *The nature of observations, the needs of patients, the characteristics of effective nursing and of the successful delivery of health services varied a good deal from one person to another.* Validity could only be established at a general level of content. Therefore, it is premature to consider any final validation of the content of the tapes at this time. Rather, we must assist nurses (and others) to study the tapes to add

to their pool of experiential data — material which, heretofore, has been lacking. *If the potential of these tapes can be exploited, nurses can be made aware of a new realm of reality in the situations with which they deal.* Undoubtedly, a similar phenomenon exists when we consider the evaluation of health care, for our findings suggest that professionals within one field vary in their observations and assessments and in the criteria they utilize for evaluating care and services.

EXPERIMENT TO EVALUATE THE EFFECTIVENESS OF VIDEOTAPES IN THE TEACHING OF NURSING

An experiment was designed to evaluate the effectiveness of videotapes in the teaching of nursing. Senior students in two hospital schools of nursing were used as the test groups and the experiment focused on the nursing of aged persons.

INTRODUCTION

Students have experiences in nursing aged persons throughout their educational program, such as the relevant aspects of a number of courses; nursing elderly patients; individual and group discussions with instructors, nursing staff, students, and other health professionals; plus a variety of extracurricular experiences. The nursing of aged persons is, in particular, an emphasis of some senior experiences in medical-surgical nursing, when the student is expected to respond to the varying forces and influences of a patient situation by making a nursing judgment and plan of care. At the same time students may be given the opportunity to act as team leader with a group of staff to provide care for a larger number of patients, many of whom are older persons.

The experiment in teaching was directed toward answering the following question:

> To what extent does the introduction of videotapes portraying the response of elderly persons to illness, hospitalization and treatment and the response of nurses in caring for these patients, augment the student's potential to nurse aged persons?

*THEORY**

A Continuum — Process of Aging

Dealing actively with life situations	→	Losing some functional ability cognitive interpersonal physiological	→	Withdrawing from life — dying

Throughout life individuals develop notions of their personal freedom and independence in activities of living. In old age, persons

* *A point of view based on the analysis of a number of videotapes along with study of the rapidly increasing bibliography on the subject.*

continue to maintain these notions while coping with the phases of the aging process. Elderly persons who become ill are placed in a position of dependency and their reaction to this state varies in view of their past experience and stage of aging. Thus a person still dealing actively with life may exhibit a high degree of dependency in so doing; while another person may demonstrate much autonomy of self in approaching death. In other words, aging is reflected in the varying stages of disengagement of the individual from life, and to some extent, independently of this disengagement, individuals perceive their ability to control what happens to them, the decisions they make, and the choices or alternatives that are available to them.

In addition to the perceptions and status of the individual person, the nurse has a method for making decisions about a person's needs, areas of autonomy, the types and number of choices, etc. Her approach to this problem may be established *a priori* for the varying phases of aging and disengagement or, on the other hand, she may respond to the individual and assist him to make his perceptions and ideas of living operative for him within the hospital or other community setting. Thus we have differential responses of nursing to aging persons and to their lifestyle.

DESIGN

Experimental designs were developed to fit in with the actual teaching programs in process in the latter half of the third year of the two hospital schools; in other words, an experimental design in natural laboratory settings. The following plan outlines the experimental designs followed for Schools A and B, in which O stands for *pre* or *post test* and X for *experimental variable.*

SCHOOL A

	Pre test	Experimental Variable	Post test
Group 1			0_2
Group 2	0_1		0_2
Group 3	0_1	X_1 X_2	0_2

The post test for Group 1 assesses the student's potential to nurse aged persons toward the end of the last instructional experience in the school of nursing and, therefore, provides information on the effectiveness of the usual teaching methods. The pre and post tests in Group 2 identify the difference in potential at the beginning of

the instructional experience and at the end of the usual instruction which students receive. The pre and post tests in Group 3 identify the effectiveness of the videotape in augmenting the potential of students to nurse aged persons. It was hypothesized that:

1. The difference between pre and post test scores in Group 3 is greater than the difference in Group 2.
2. The post test scores in Group 3 are higher than those in Groups 1 and 2.

VALIDITY AND RELIABILITY

The three groups were tested in subsequent months. The groups were relatively separate during the three months because of the experiences planned; however, some opportunity existed for Group 2 to gain knowledge from Group 1, and Group 3 from both Groups 1 and 2; hence the rationale for introducing the experimental variable in Group 3, the last group chronologically. The decision to introduce the experimental variable in Group 3 protects the experimental variable in that the problem of contamination from the experimental to the control groups is eliminated. However, the decision theoretically favors the hypotheses, in that any information which is passed on from Groups 1 and 2 to Group 3 may lead to a greater initial potential for nursing aged patients in Group 3. Pre test scores for Groups 2 and 3 should help to assess this problem: Are pre test scores for Group 3 higher than those in Group 2?

It is unfortunate that there were not four natural groups so that an experimental group without pre testing might have been assessed. It is expected that the pre test exercise alerts respondents so that post test scores will be somewhat higher given no instruction at all. However, the extent of the problem can be assessed from the scores of Groups 1 and 2. The decision to pre test the experimental group was made to provide information on the problem described in the previous paragraph as well as to assess the equivalence of the experimental group with at least one other group.

SCHOOL B

	Pre test	Experimental Variable	Post test
Group 1	0_1		0_2
Group 2			0_2
Group 3	0_1	X_1 X_2	0_2
Group 4		X_1 X_2	0_2

In addition to the control and experimental groups in School A, School B in Group 4 provides information on the effectiveness of the experimental variable (the post test) minus the interaction of effects due to pre testing. As will be noted later, this is a critical condition for this particular experiment. It was hypothesized that:

1. The difference between pre and post test scores in Group 3 is greater than the difference in Group 1.
2. The post test score in Groups 3 and 4 are higher than those in Groups 1 and 2.

The situation in School B allowed for four natural groups so that an experimental group without pre testing could be assessed.

THE EXPERIMENTAL VARIABLE

Selections from videotapes made during 1971 of nurses caring for elderly people (real-life situations) were made on the basis of variation in sex, age, type of illness, degree and type of disengagement, and degree of independence or autonomy on the part of the patient, and variation in the nurses' responses to these patients. Disengagement and independence in the patient and type of response in the nurse had been validated to some extent by a small number of judges who were able to view and study the tapes *over time.*

At a convenient time during the second-third weeks of the instructional program for Group 3 of School A and in February for Groups 3 and 4 of School B, two sessions were held a few days apart in which the videotapes were shown to the groups of students. Post viewing discussions were held with the whole group focusing on their observations of the aged person and the nurse's response. Instructions to the group were as follows:

> The videotape you will see shows the response of a number of aged persons to (Session 1) and one person through the stages of (Session 2) illness, hospitalization and treatment as well as the nursing of these persons. After the tape there will be an opportunity to discuss your observations with others in the class and to consider their meaning to you in nursing aged persons.

The discussion session was led by the project director. She introduced the discussion asking for their observations and continued throughout by clarifying and summarizing the group's response periodically. At no time did the discussion leader introduce content on aging or nursing the aged nor did she introduce her observations of the tape. Each discussion lasted from 20-45 minutes.

THE TEST PROCEDURE

It was expected that the videotapes depicting the nursing of aged persons in hospital would sensitize the viewers to variation in needs and responses of older people and to the approaches which nurses use and the problems they experience in caring for the aged. Given this expectation it was assumed that the viewers of the videotapes, i.e. the experimental group, should have greater potential for nursing elderly persons. *Nursing potential* is described as a combination of *variation* and *specificity*, terms which are defined in the following section. To determine whether the expectation was justified data were collected from students by asking them to respond in a test situation. The construction of the test and the analysis of the responses were based on the theoretical approach to aging described earlier, i.e. disengagement and the patient's and nurse's responses.

TEST QUESTIONS (PRE AND POST TESTS)

A content analysis of the respondent's answers was carried out to determine the number, variation and specificity of ideas relating to the elderly patient and to the nurse.

Quantity— Number of ideas relating to elderly patient and to nurse, per response.

Specificity — Description of particular, discrete or specific needs as contrasted with general or global statements: a characteristic of each idea.

Variation — Differences in types of needs and aspects of needs and differences in kinds of response to illness, indicating awareness of a variety of psychological, physiological and sociological factors.

Theoretically the Potential for Nursing Aged Persons was determined in the following manner:

Quantitative Index	X	Qualitative Index
(No. of ideas)		(Variation X Specificity)
Nursing Potential	=	N(VS)

ANALYSIS OF FINDINGS

The mean test scores for each group in Schools A and B follow:

Mean[1] — Assumes the four test scores to be of interval variables.

Mean[2] — Assumes the scores of Questions 2 and 4 to be of interval variables.

SCHOOL A

	Pre test	Experimental Variable		Post test
Group 1				0_2 (Jan. 27) (N = 28) $M^1 = 12.9$ $M^2 = 9.0$
Group 2	0_1 (Feb. 4) (N = 33) $M^1 = 11.9$ $M^2 = 8.4$			0_2 (Feb. 25) (N = 24) $M^1 = 10.2$ $M^2 = 7.4$
Group 3	0_1 (Mar. 2) (N = 33) $M^1 = 11.93$ $M^2 = 8.1$	X_1 (Mar. 13)	X_2 (Mar. 20)	0_2 (Mar. 24) (6 =12) $M^1 = 11.8$ $M^2 = 8.6$

SCHOOL B

	Pretest	Experimental Variable		Post test
Group 1	0_1 (Jan. 25) (N = 12) $M^1 = 11.3$ $M^2 = 7.6$			0_2 (Feb. 7) (N = 12) $M^1 = 11.5$ $M^2 = 7.2$
Group 2				0_2 (Feb. 7) (N = 6) $M^1 = 11.3$ $M^2 = 7.7$
Group 3	0_1 (Feb. 7) (N = 9) $M^1 = 11.9$ $M^2 = 7.7$	X_1 (Feb. 11)	X_2 (Feb. 15)	0_2 (Feb. 18) (N = 7) $M^1 = 11.6$ $M^2 = 6.9$
Group 4		X_1 (Feb. 11)	X_2 (Feb. 15)	0_2 (Feb. 18) (N = 9) $M^1 = 12.3$ $M^2 = 8.4$

We note that the first hypothesis has not been upheld, post test scores are higher than pre test scores in only two instances: a difference of 0.5 points for Mean^2, Group 3 of School A and 0.2 points for Mean^1, Group 1 of School B (differences insignificant). In fact, post test scores are lower than pre test scores, both in control and experimental groups. The second hypothesis has not been upheld, post test scores are not higher for the experimental groups than for the control groups, with the exception of Group 4 of School B (difference insignificant).

How can one account for the failure to uphold the hypotheses? Many factors came to light during the process of the experiment; one

notes immediately the mortality between the pre and post test groups, particularly in School A where the numbers are larger. The mortality in Group 3 of School A was almost 66.6%.

PROBLEMS WITH EXPERIMENT

Choice of Groups

The senior classes in two hospital schools of nursing were selected as the test groups. According to the schedule of each school, the class was divided into groupings for the purposes of learning to nurse in different clinical experiences and to participate in the accompanying instruction. These natural groupings could readily be divided into control and experimental groups for purposes of the experiment. The situation seemed ideal. These two groups were among a number of last classes to graduate from hospital schools in Quebec and, as the CEGEP system of nursing education was new, it did not seem reasonable to inflict experimentation upon them at such an early date.

It became clear as the experiment proceeded that these students had learned to nurse and, at the point of graduation, did not feel the need to learn more about nursing. The method of handling the experimental variable, i.e. the introduction of videotapes, would have to have been approached quite differently if the experiment were to have had a reasonable opportunity of success.

Videotapes of reality situations

Students had learned ways of responding to older people and they found it difficult to focus on a situation of an older person and expect that they would find anything different. Comments such as the following were made by the respondents:

"We know about older people, we know how to nurse them."

"We are sick of older people, we've had too many to care for."

"We know about meeting the needs of the older person and treating the person as an individual."

Having used these same videotapes with the validators and also with students in the baccalaureate and master's program in the university, it has become increasingly clear that students (as well as teachers) have to learn *how to learn* from these real life situations. They are being asked to observe and assess on the basis of the data or information provided from the situation and not to bring to the situation an *a priori* or preplanned statement of what the patient needs and what should be done for him.

As the nursing profession wishes at this time to move from prescriptive nursing to observation and the gathering of information as the basis for assessment, the value of the reality situation on videotapes has increased tremendously.

Effects of Pre testing

With the exception of Group 1 in School B, pre testing was associated with lower post test scores. The same test was used in both pre and post test situations. Students felt that they would answer the second time as the first, so frequently in the post test students referred the reader to their first answer or made only a brief response.

A post test containing different questions from the pre test had been considered earlier, but rejected on the basis of problems of validity and reliability. The other possibility of a multiple choice type test was not feasible given the time span of the experiment. To attempt to validate items and standardize a test when no criterial base existed for selecting the best answer would have been sheer expediency and at best have demonstrated the truth of the self-fulfilling hypothesis.

The high mortality rate, particularly in the experimental group in School A, coupled with the slight differences in pre and post test scores lead us to regard the results of the experiment as inconclusive and certainly provides no firm evidence for either the acceptance or rejection of the hypotheses. However, a number of interesting bits of information may be gleaned from the results.

It is fortunate that one experimental group was carried without pre testing (Group 4, School B). It may be noted that this group has the highest post test score of all the groups in School B, leading us to wonder whether the experimental variable (videotapes) had been instrumental in augmenting student learning. It is unfortunate that in the whole experiment only one of the three experimental groups was not pre tested.

The factor of time seems to have had a different result in School A as compared with School B. In School A the scores seemed to decline from one group to the next, that is, from the end of January to the end of March, whereas in School B the scores tend to increase from one group to the next. In School B, one might infer a maturation or learning factor to account for the increase, however contamination of the successive groups is an acceptable alternative to explain this situation. In fact, the latter alternative may help to explain this phenomenon in School A, in that contamination of successive groups may have resulted in loss of interest and rejection of the experiment.

CONCLUSIONS AND RECOMMENDATIONS

Owing to the inconclusive results of the experiment, it is suggested that a second experimental situation be devised to evaluate the effectiveness of videotapes in the teaching of nursing. To enhance the

probability of this experiment being successful and the hypothesis being upheld, the following changes would be required.

a) Introduce the experimental variable (videotape) near the beginning of a nursing program before students have learned a *way of learning* about nursing and before they have actually learned to nurse. It became clear in reflecting on the original plan and on how people learn, that there is more opportunity to influence learning when students are changing and learning a great deal (the beginning of a nursing program) as compared with the end when the rate of learning has decelerated and students feel they know how to nurse.

b) Maintain the experimental variable in contact with the group over a sufficient period of time for it to be effective. We learned that videotapes, which present reality, demand a new approach to the teaching of nursing, resulting in the learning of different content, i.e. way of nursing. For this reason, it would be necessary to introduce the experimental variable, videotapes, for a whole course, i.e. a semester course.

c) If (a) and (b) were acted upon, then students would learn a good deal in the course and would feel themselves that their response to the post test would differ considerably from that of the pre test. In the experiment just completed, students expressed frustration in responding to the post test as they felt their response would be the same as to the pre test.

ABSTRACT: A LEARNING TOOL FOR NURSING: THE MULTIPLE STUDENT ASSIGNMENT METHOD

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Two major questions related to teaching in the clinical areas are recognized as fundamental to meaningful learning. The first, what is a satisfactory teacher: student ratio, and the second, how can the clinical resources be used effectively? In planning the curriculum, the faculty at Red Deer College felt a need to try out different approaches to teaching in the clinical areas.

The multiple student assignment method was selected as an approach for learning to nurse with patients. This meant that more than one student was assigned to one patient or a group of patients. Each student had a different role — participant, conferee, information gatherer, or observer — caring for the patient or patients as a team. All students rotated through the four roles cyclically, in the order described above.

Pre-clinical conferences were held to discuss the objectives for the day and students used this period to begin to prepare their written nursing care plans. Each team of students was instructed to meet mid-morning to pool their resources. Each instructor met with her total group of students (15) at the end of each clinical laboratory to discuss the learning experiences in relation to the objectives.

A study was designed which provided for a variety of multiple student assignment methods to be used in the clinical settings throughout the two-year programme. This study covered two classes which had completed the program and one which had completed half of it. Two hospitals were used for clinical experience, a 250-bed general hospital and a 100-bed long term care and convalescent auxiliary hospital.

The purposes for the study were identified as:

1. to determine the level of achievement of a student group in the clinical areas with the multiple student assignment method,

2. to establish how larger numbers of students could be enrolled without increasing the number of nurse-faculty members,
3. to determine whether large numbers of students could make use of existing clinical facilities with the multiple student assignment approach.

In order to test for relationships between student experience in the various roles and student achievement, the frequency with which each student was a participant, an observer, and information-gatherer was recorded for each course in nursing. The data were collected on role experiences in ten courses. Records of student grades in school tests for each of these courses were used as the measure of student performance.

The findings of the study revealed that there is a positive relationship between the frequency of assignment to each role and performance as measured by the grade achieved; experience in all three roles contributes to the knowledge necessary for achieving the objectives as measured by the test.

The study indicated that a higher ratio of students to instructors was possible using the multiple student assignment method for certain periods of the year. However, there was a need for added teacher assistance for a period of eight weeks in the first year when student practice focused on the development of manual skills.

—Marguerite E. Schumacher, *A Learning Tool for Nursing: Monograph I,* published by Red Deer College, Red Deer, Alberta, 1971.