

TOWARDS THE DESIGN OF EFFECTIVE SHORT CONTINUING
PROFESSIONAL EDUCATION PROGRAMS

By

PATRICIA LOUISE SEMENIUK

B.N., McGill University, 1972

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

In

THE FACULTY OF GRADUATE STUDIES
(Department of Administrative, Adult and Higher Education)

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

© July, 1984

Patricia Louise Semeniuk, 1984

AUTHORIZATION

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the Head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Towards the Design of Effective
Short Continuing Professional
Education Programs

ABSTRACT

The goal of continuing professional education is to improve the professional's practice in the work setting. In continuing education programs for nurses the ultimate goal is to improve the health status of clients. Few continuing professional education programs are ever evaluated beyond the level of soliciting participant feedback regarding general satisfaction with a program. While several factors account for this phenomenon, one of the greatest barriers is the lack of a unifying conceptual framework that could be applied to evaluate the impact of a program on participants' behaviour in the work setting. This research project is an attempt to identify factors which contribute to a program's effectiveness in changing work behaviour in the practice setting. Two questions are addressed: what behavioural changes are achievable in short continuing professional education programs and how can the experiences of effective programs be translated into principles for the planning of programs intended to impact on the nurses' practice in the work setting?

Based on a review of the evaluation frameworks published in

the adult education literature and synthesizing concepts from change theory and adoption theory variables which are believed to influence program impact on work behaviour are identified. An application of these variables to an analysis of research reports of effective continuing professional education programs results in the specification of more specific sub-variables which contribute to program impact on work behaviour. This analysis of effective programs reveals that the types of objectives achievable in short programs is limited primarily to the realm of specific psychomotor skills, regimes or procedures. The sub-variables identified in the effective programs are applied to a restrospective process analysis of a specific province-wide program developed by the Registered Nurses' Association of British Columbia.

Based on the results of the analysis of these programs seven principles are proposed as guidelines for the development of programs intended to impact on the work behaviour of participants. A research study is proposed to test out these program planning principles which are designed to assist nurses to link the knowledge gained in a program to action in the practice setting. Implications for further research are given.

TABLE OF CONTENTS

ABSTRACT.....	ii
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
CHAPTER I: INTRODUCTION.....	1
CHAPTER II: REVIEW OF THE LITERATURE.....	10
Role of Evaluation.....	11
Levels of Program Impact.....	12
Models of Planned Change.....	21
Cervero's Conceptual Framework for Evaluation	31
State-of-the-Art of Evaluation Research.....	44
Analysis of Effective Programs.....	46
Summary.....	58
CHAPTER III: ANALYSIS OF THE SAFETY TO PRACTICE CONFERENCES..	64
Program Characteristics.....	66
Characteristics of Participants.....	79
Characteristics of the Proposed Behavioural Changes.....	79
Characteristics of the Social System.....	82
Summary.....	83
CHAPTER IV: PLANNING EFFECTIVE SHORT NURSING PROGRAMS.....	88
Program Planning Principles.....	89
Summary.....	95

CHAPTER V: PROPOSAL FOR A RESEARCH DESIGN.....	97
Program Design.....	97
Evaluation Design.....	99
CHAPTER VI: SUMMARY AND IMPLICATIONS.....	107
REFERENCES.....	116
APPENDIX A: CONFERENCE OBJECTIVES.....	124

LIST OF TABLES

TABLE I:	PROGRAM CHARACTERISTICS RELATED TO BEHAVIOURAL CHANGE.....	62
TABLE II:	PARTICIPANT CHARACTERISTICS RELATED TO BEHAVIOURAL CHANGE.....	62
TABLE III:	CHARACTERISTICS OF OBJECTIVES RELATED TO BEHAVIOURAL CHANGE.....	63
TABLE IV:	SOCIAL SYSTEM CHARACTERISTICS RELATED TO BEHAVIOURAL CHANGE.....	63
TABLE V:	DESCRIPTIVE DATA SUMMARY OF SCORES.....	103
TABLE VI:	CORRELATION BETWEEN INDEPENDENT VARIABLES AND DEPENDENT VARIABLE.....	105

LIST OF FIGURES

FIGURE 1: CORBETT'S CONTINUUM OF IMPACT.....	15
FIGURE 2: MITSUNAGA AND SHORES' SPIRAL OF IMPACT.....	17
FIGURE 3: DIXON'S CAUSAL CHAIN OF RELATIONSHIPS.....	19
FIGURE 4: CERVERO'S FRAMEWORK OF IMPACT VARIABLES.....	32

CHAPTER I

INTRODUCTION

In 1980 the Board of Directors of the Registered Nurses' Association of British Columbia approved a proposal for the development and implemenatation of a series of four related educational conferences which were to to be called the "Safety to Practice Conferences" (RNABC News, May 1980). These conferences were intended to help Registered Nurses to consider how to deal with a selected number of issues related to the safe practice of nursing.

Between 1981 and 1984 more than one hundred of these conferences were held in British Columbia. Co-sponsors were RNABC Chapters and Interest Groups, educational institutions and health care agencies. Records of the exact number of participants who have attended these conferences are not available. Based on the 1981 and 1982 records of participation an estimate can be made that approxiamtely 2300 Registered Nurses in British Columbia have attended at least one of these

conferences since they were first offered in 1981. Because nurses rarely work independently it can be assumed that the average nurse interacts on a daily basis, with a minimum of three other nurses in her work setting. Hypothetically, the conference

content, if discussed with these co-workers, could have had a potential impact on approximately 7,000 nurses in the province. This represents approximately 36% of the 19,184 nurses registered and practicing in the field as of June 1983 (Roll Call, June 1983). Conferences in this series have also been bought by other provincial and territorial nursing associations for the purpose of making the contents available to their own memberships. Records of participation in these conferences outside British Columbia are not available.

The "Safety to Practice Conferences", as educational processes, were based on what Corbett (1979) calls a continuum of assumptions about the impact of continuing professional education. Impact can be defined as:

...the effect on or evidence of having made a difference; or being capable of having the potential for inducing an effect which as yet may not be documented but is reasonable to posit as possible.

(Cooper, et. al., 1982:6)

Continuing professional education is based on the premise that participants will learn the material, apply what is learned and thus improve their practice, which in turn will improve the health status of patients or clients. Continuing professional education programs consequently are expected, over the long term, to have a positive impact on the recipients of each participant's professional services.

This notion that continuing education can ensure the competency of professionals was particularly popular in the

United States in the 1970's when several states enacted legislation requiring mandatory continuing education as a condition for relicensure in many of the health professions. By 1980 nurses in nine states required evidence of having participated in continuing education as a condition for their relicensing (Cooper, et al., 1982). Although continuing education has been used in these States as a mechanism to assure quality of care, it is an educational system without the authority to assume disciplinary or regulatory functions related to a participant's professional practice subsequent to the continuing education program. The United States experience with the impact of mandatory continuing education on the health professional's competence has been so disappointing that between 1981 and 1982 no new legislation was enacted in any of the states to require mandatory continuing education in any profession (Cooper, et al.).

No provincial or territorial nursing association in Canada requires participation in continuing education as a condition for yearly relicensure. Instead, nurses in Alberta, Newfoundland, the Northwest Territories, Quebec and Prince Edward Island who have been out of practice for some time or who have practiced less than a specific number of days in the previous two to five years are required, by their provincial nursing associations, to successfully complete a refresher nursing program before they can become relicensed (Grice, 1983).

Despite the fact that mandatory continuing education has

existed in the United States for more than a decade and discussion continues regarding the impact of continuing professional education, there is a dearth of empirical evidence attesting to the impact of short continuing professional education programs beyond the level of increasing a participant's knowledge at the time of the educational activity. Even evidence of the persistence of this knowledge gain is lacking. For the purpose of this paper, short programs are defined as those equivalent in length to between eight and twenty-four hours of instruction.

The issue in the evaluation of the impact of any continuing professional education program is to assess the relationship between education and action. The concern is not what participants know at the end of the program but what they do in practice as a result of the program. The problem goes back to the fact that despite the existence of over ninety program planning models (Buskey and Sork, 1982), the relationship between these models and their effectiveness in impacting on participants' work behaviour remains untested.

Assessment of the evaluation studies reported in the literature is complicated by the fact that no unifying conceptual framework for evaluation exists. Consequently, it is difficult to identify patterns of relationships among variables. Most studies deal with only one or two independent variables and design compromises diminish the confidence that can be placed in the results.

Few empirical evaluation studies have been published in the field of continuing nursing education. Some empirical studies have been conducted in the field of continuing medical education. Bertram and Brooks-Bertram (1977), Corbett (1979), Knox (1979), Lloyd and Abrahamson (1979), and Stein (1981) have conducted reviews of evaluation studies of continuing medical education programs. In their analysis of impact studies, these reviewers, except for Stein (1981), found that formative evaluation appeared to be common while summative evaluation, when conducted, provided inconclusive evidence to support the contention that continuing professional education has any impact beyond the classroom. They found that the "evidence" of program impact cited in many studies frequently came from summaries of participant satisfaction and comments through end-of-program evaluation forms.

Bertram and Brooks-Bertram (1977), Corbett (1979), Lloyd and Abrahamson (1979) and adult educators such as Knowles (1981), Miller (1979), Mitsunaga and Shores (1977) and Sjogren (1979) have speculated as to the reasons why impact evaluation is such a neglected area in continuing education and why the small number of studies published provide insufficient evidence upon which to draw conclusions that would be of assistance in the design of new programs. The problems which these authors believe have hindered the implementation and analysis of the cause-and-effect relationships in short programs fall into several categories: dispositional and situational factors involving participants; unclear program goals; design problems involved in conducting

evaluations; and practical and political constraints.

This paper will attempt to determine whether the "Safety to Practice Conferences" could have been expected to have had an impact on participants' work behaviour. During the process of answering this question a position will be taken, based on the analysis of effective programs, as to which types of objectives seem to be achievable in short continuing professional education programs. Implications for the design of effective short continuing professional education programs will be drawn from analyses of the research studies of effective programs and the "Safety to Practice Conferences." These implications will be presented as a list of principles for the design of effective short continuing nursing education programs.

Several factors influenced this writer's decision to conduct a retrospective process analysis rather than an empirical evaluation study of these conferences. An initial attempt to conduct an empirical research study had to be abandoned for several pragmatic reasons. At the time of the writing of this paper it could not be predicted whether study samples would be available for one conference, let alone for the entire conference series. Registration deadlines of one to two weeks prior to each conference meant that a conference could be cancelled at a late date due to insufficient registration. Pre-and post-program interviewing would have been required to measure attitudinal and behavioural changes yet, of those conferences which did take place during the writing of this paper, most were outside the

Lower Mainland where personal contact would have been impossible. Few participants attended all four conferences and as the names of participants who attended the conferences after 1982 were not available, even a retrospective study of the participants' attitudinal and behavioural changes could not have been conducted. In an effort to further diffuse the conference content among the nursing population of British Columbia, health care agencies were given permission, in the latter part of 1983, to adapt the conferences to the specific needs of their social systems. Consequently, the objectives achieved in such a presentation might not always be the same as those intended for a conference as an entire package. Too little would have been known about the educational process in these instances to develop valid evaluation instruments.

Chapter II of this paper begins with a review of the evaluation frameworks developed in the adult education and training sectors, the continuing medical and nursing education sectors, and includes models of planned change. This review serves as an introduction to Cervero's (1982) conceptual framework for the evaluation of the impact of continuing professional education on behaviour. Finding a framework which could be applied with some confidence to predict a program's impact on a participant's work behaviour is a problem. Cervero's framework, which is relatively simple and easy to implement, seems to hold the most promise for program planners wanting to conduct evaluations of their programs. An adaptation of

Cervero's framework is applied to an analysis of effective programs for the purpose of identifying specific sub-variables which seem to influence program impact on participants' work behaviours.

The specific subvariables identified as influencing impact facilitate the process of reporting and analysing the "Safety to Practice Conferences" in Chapter III. These subvariables will be applied to a retrospective process analysis of the conferences. A fundamental assumption underlying this retrospective process analysis is that the process of program planning is directly related to the outcomes achieved by a continuing professional education program. The fact that this program was being designed for a potential audience of over 15,000 Registered Nurses in British Columbia influenced many programming decisions. Details of the limitations and constraints imposed upon the program design will be presented. Based on the analysis of these conferences a judgement will be made regarding the possible impact that any of these conferences may have had on participants' work behaviours.

A list of principles for the design of effective impact programs will be presented in Chapter IV. These principles are intended to serve as guidelines for program planners as they make decisions about the goals and the design of continuing professional education programs intended to impact on participants' work behaviours. They are intended to serve as an adjunct to existing adult education principles and selected

program planning models with similar philosophical perspectives.

Chapter V will propose a research design for a study to test whether these principles, if operationalized, would influence program impact. Each principle will not be tested as an independent variable. Rather, the principle diverging most from conventional program planning models will be selected as the one independent variable while the other principles will serve as the moderator or intervening variables. Finally, in Chapter VI, the results of this paper will be summarized and suggestions for further study will be made.

CHAPTER II

REVIEW OF THE LITERATURE

A brief review of the roles and goals of evaluation serve to introduce frameworks for the evaluation of continuing professional education. Evaluation frameworks developed in the adult education, adult training, continuing medical and nursing education sectors suggest that programs may have different levels of impact. Factors identified in these frameworks as positively influencing impact at the level of performance change or change in work behaviour will be discussed. Models of planned change which propose factors that may influence impact on behaviour will also be included.

The factors identified in these frameworks and models provide the foundation for a perspective of Cervero's (1982) conceptual framework for the evaluation of continuing professional education, itself somewhat of a synthesis of these variables. Cervero provides a framework for the examination of the interaction of factors involved in the relationship between continuing education and behavioural change. An adaptation of Cervero's framework which integrates Rogers' (1983) adoption variables will be applied to an analysis of effective continuing professional education programs. Subvariables identified as

influencing impact in these research studies are classified under Cervero's independent variables of program characteristics, characteristics of participants, characteristics of the proposed behavioural changes and characteristics of the social system. Limitations as to the judgements which can be made as a result of this analysis exist due to the fact that different evaluation frameworks were used in each of the studies and the methods of reporting also differed. For the purposes of this paper it is assumed that factors not mentioned in a report did not exist in a program.

A position will be taken at the end of this section as to which types of objectives seem to be achievable in short continuing professional education programs.

Role of Evaluation

During the development, implementation and termination stages of any educational program, evaluative information should be gathered to assist with decision making. Since there are many kinds of decisions to be made at these stages, numerous conceptual models have been published which categorize the nature of the decisions and propose a corollary evaluation process (Provus, 1969; Scriven, 1967; Stake, 1967; Stufflebeam, 1975; Tyler, 1949). Decision needs differ significantly according to the program stage.

According to Scriven (1967), evaluation consists of

measuring not only if the objectives or goals were achieved but judging whether these objectives were worthwhile. Evaluation, in this model, serves two roles: one is for decision making, the other for accountability. Both formative and/or summative evaluations can be conducted using this model with the evaluator reporting on the goals, design, process and product of the program.

Decision making and accountability are the role of evaluation in Stufflebeam's (1975) model. Evaluation, in this model is defined as a process of delineating, obtaining, and applying descriptive and judgemental information concerning a program's merit as revealed by its variables. These variables consist of context, input, process and product.

Levels Of Program Impact

More specific criteria other than those implied by the two aforementioned models, need to be established if the impact of a continuing professional education program is to be evaluated. From the fields of adult education (Groteleuschen, 1980; Schechter, 1974) adult training (Bennett, 1976; Kirkpatrick, 1967) continuing medical education (Corbett, 1979) and continuing nursing education (Dixon, 1978; Mitsunaga and Shores, 1977) come propositions and frameworks regarding different levels of impact. To determine what evidence needs to be collected and the standards for measurement an evaluator chooses a framework and

the level of impact to be evaluated. Each framework suggests general methods for collecting data at each level.

Adult Education Frameworks

Both Schechter (1974) and Groteleuschen (1980) share the proposition that there are two levels of outcomes that should be measured when evaluating the impact of a program. First-order on phase one outcomes are the participant's accomplishments resulting from the educational experience. These authors indicate that first order outcomes can be within the broad realm of knowledge, understanding or competence, the criteria for which are derived from the instructional objectives for a program. Competence, in this context, means end of program skills. Second-order outcomes are the participants' on-the-job performance and the effects on clients which are a consequence of the first-order program accomplishments. Schechter lists program characteristics, participant motivation and work environment as factors which may influence second-order outcomes.

Adult Training Frameworks

Kirkpatrick (1967) proposes four levels of impact: (1) reaction, (2) learning, (3) behaviour, and (4) results. In Bennett's (1976) chain-of-events hierarchy there are seven levels of impact, of which the highest four levels of: (1) reaction; (2) knowledge, skill and attitude change; (3) practice change or adoption; and (4) end results can be viewed as similar to

Kirkpatrick's hierarchy. These two frameworks suggest that to evaluate behavioural change, practice change, or adoption, information should be gathered systematically through questionnaires and pre- and post-program observations of each participant's work performance. The observations would be conducted by participants' supervisors, subordinates or peers.

Program is the primary variable influencing impact in these frameworks. Bennett implies that the level of the program objectives should be considered a variable determining at what level a program would be evaluated. Another potential variable he identifies is the participant's perceptions of the anticipated benefits and consequences of practice change, factors which would influence the decision to adopt a new behaviour or practice.

Continuing Medical Education Frameworks

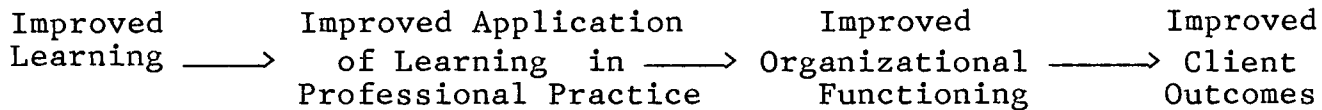
Corbett (1979) states that it is the responsibility of continuing professional education programs to go beyond attempts to remedy deficiencies to actually attempt to impact on the original problem. From this philosophical perspective she proposes a continuum of desired impact which is illustrated in Figure 1 (Page 15).

Evaluation of impact, according to Corbett, can occur at only one of three inter-related points at any one time. The first point of impact is on what can be termed either professional practice, work behaviour, or performance. Second, is the impact on organizational effectiveness and efficiency as a

result of professional performance. Finally, the ultimate or most desirable point of impact would be on client outcomes which would be the indication of successful professional and agency services.

Figure 1

CORBETT'S CONTINUUM OF IMPACT



Source: Corbett, T. The Impact of Continuing Medical Education on Quality of Care: Implications of the CME Evaluation Literature. In P.P. LeBreton, et al.(Eds.) Evaluation of Continuing Education for Professionals: A Systems View, Seattle: University of Washington, 1979, pp 369-393.

Corbett acknowledges the problem of confounding variables in the following statement:

At each juncture the effective role that evaluation can play in each outcome diminishes, and the number of factors that can influence outcome grows.

Corbett (1979:366)

In particular, it is the complexity of the environment in which the learning is to be applied where constraints, obstacles and barriers may influence a participant's behaviour and, implicitly, client outcomes.

Continuing Nursing Education Frameworks

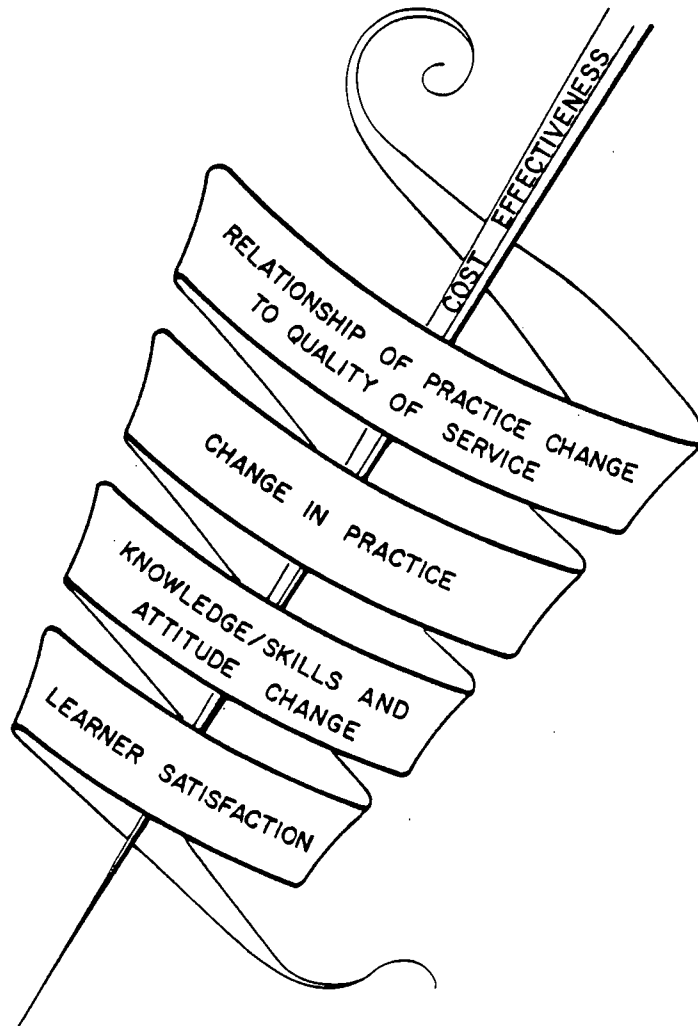
From the nursing sector Mitsunaga and Shores (1977) and Dixon (1978) propose criteria for evaluating the impact of continuing nursing education, criteria which essentially do not differ significantly from those hierarchies just discussed.

The Mitsunaga and Shores framework is presented schematically in Figure 2 (Page 17) as a spiral with four loops representing potentially increasing complexity in the evaluative process. These progress from learner satisfaction, to knowledge skills and attitude change, to change in practice, to the relationship of practice change, to the quality of service or patient outcomes. Recommendations as to how to collect data at each level in this framework provide no further insights than those provided in the earlier frameworks.

Within the Mitsunaga and Shores framework a direct relationship is assumed between one level and the next. Positive participant reaction to the learning experience coupled with the participant's perception that learning has taken place is seen as providing information that can be used for decision making. This is based on the authors' position that: (1) high learner satisfaction is directly related to the tendency to seek additional related learning experiences, (2) high learner satisfaction is related to actual learning, and (3) self-perception of having learned is directly related to actual learning. No research is cited in their article to support these statements.

Figure 2

MITSUMAGA AND SHORES' SPIRAL OF IMPACT



Source: Mitsunaga, B. and Shores, L. Evaluation of Continuing Education: Is It Practical? Journal of Continuing Education in Nursing, (1977), 8 (6), p.10.

Program is the one predominant factor affecting outcomes in this framework. Some reference is made to learner and course goal congruency as a potential factor influencing the impact of a program. A social system ready to incorporate change and a participant's position of influence sufficient to accomplish change are situational factors introduced in the article as potentially affecting impact both at the level of practice change and patient outcomes.

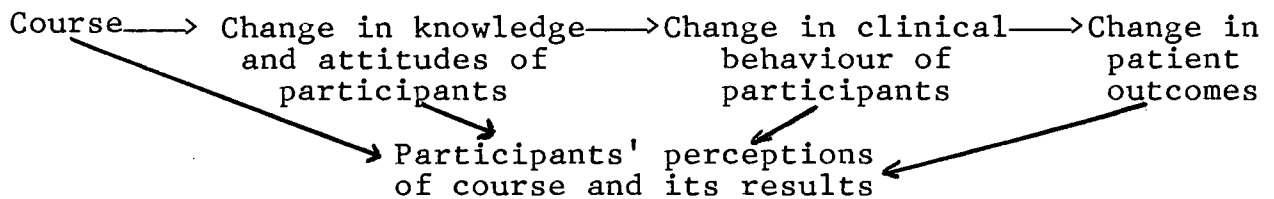
Dixon (1978) proposes a framework of levels of impact similar to those already reviewed. The relationships among the levels of impact are considered within the context of a chain-of-events (see Figure 3, p.19) progressing from: (1) participants' perceptions and opinions about the course, to (2) knowledge and attitude change, to (3) professional behaviour in the clinical setting, and finally to (4) impact of behaviour change on patient outcomes. Placement of participant perception data within this causal chain is complicated as perceptions can be influenced by any of the links in the chain.

Dixon clarifies the issue of the process-product variables of evaluation by illustrating that evaluation criteria may be conceptualized according to their frame of reference within the continuum. Within the process-product continuum any single intermediary point may represent a product in relation to some criteria and a process in relation to others. What is required, however, is the operationalization of the broad goal of any

educational program to allow for specification of where behaviour should be evaluated in this continuum. Dixon believes that positive summative evaluation findings at one level tend to validate the accuracy of the postulated chain-of-events to that point. Negative results at one level, on the other hand, would not provide information about levels of impact earlier in the chain.

Figure 3

DIXON'S CAUSAL CHAIN OF RELATIONSHIPS



Source: Dixon, J. Evaluation Criteria in Studies of Continuing Education in the Health Professions: A Critical Review and Suggested Strategy. Evaluation and the Health Professions, 1978, 1 (2), 52.

The factors identified in these frameworks as potentially influencing program impact on a participant's work behaviour include:

- (1) program design
(Bennett, Kirkpatrick, Mitsunaga and Shores, Schechter);
- (2) work environment or context of application
(Mitsunaga and Shores, Corbett, Schechter);
- (3) participant's motivation for participation and/or a participant's perceptions of anticipated benefits or con-

- sequences
(Bennett, Schechter);
(4) the nature and type of objectives or program goals
(Bennett, Dixon, Mitsunaga and Shores).

The higher the level of impact the more factors are believed to influence impact. To evaluate the higher levels of impact, the evaluator is not only faced with confounding variables but will require more sophisticated research designs than those which could be used to measure lower levels of impact. Because of the data needed to measure impact at the higher levels, the input of resources increases significantly with each level. Correspondingly, the evidence also becomes stronger.

Although the frameworks proposed by Schechter, Grotleuschen, Kirkpatrick, Bennett, Corbett, Mitsunaga and Shores, and Dixon, assume direct relationships between levels of impact, no empirical evaluative studies provide decisive evidence of the links between perceptions, attitudes, knowledge, clinical behaviour and patient outcomes. Cross criteria consistency, consequently, cannot be assumed. Continuing education is plagued by the lack of an essential tool for studying the relationships among these levels.

These untested frameworks, therefore, offer little guidance regarding the actual design of studies to evaluate the impact of a program on a participant's work behaviour. Probably the most promise for a unifying conceptual framework lies in Cervero's (1982) conceptual framework for the evaluation of continuing professional education. Cervero's framework attempts to synthesize existing adult education evaluation frameworks in an

adaptation of Rogers' and Shoemaker's (1971) adoption theory. Although not explicitly stated, some principles of change can also be seen in his framework. A discussion of change theory and of Rogers' (1983) updated adoption theory is warranted here to serve both as an introduction to, and an adjunct to, Cervero's framework.

Models of Planned Change

Change Theory

The educational task cannot be accomplished
merely by working on men's minds without
action that effects changes in institutions.

(Dewey, 1935:4)

Alteration of the forces acting on individual behaviour is the central concept in Lewin's (1947) three-stage change process of unfreezing, changing, and refreezing. The fundamental notion of change theory is that individual behaviour is influenced by the driving and restraining forces found in a person's environment. Change theory recognizes the importance of the non-cognitive determinants of behaviour as resistances or supporters to changing (Bennis, 1969). Values, attitudes and feelings at the personal level combined with norms and relationships at the social level are important considerations in change theory.

Application of these change theory concepts to continuing

professional education would require program planners to design programs that would impact on the social forces in the participant's environment as part of the strategy for changing individual behaviour. As a change agent, the program planner would need to conduct intensive on-site analysis of the social forces then follow-up the participants in the practice settings. Currently, networking between the providers of continuing nursing education and health care agencies is minimal in most cases. Practical and political factors are frequently cited for this apparent lack of cooperation and coordination between educators and administrators.

Participants must complete each of Lewin's three stages of the change process if behaviour is to change permanently. Lippitt (1978) describes these stages as motivation, acquisition and maintenance. During the first stage the need for and the possibility of, change must be recognized by the persons involved in the social system to open up the system to the idea of change. To solicit social system commitment at this stage potential participants and those within the work environment with the power and authority to support change would need to be involved in the design, implementation and evaluation of a program.

Behaviour and attitudes begin to change during the acquisition stage of the change process. Instructional strategies employed to encourage acquisition could include having participants work towards the development of action plans to be implemented upon their return to work. The goal during this

stage would be to nurture participants to develop a personal commitment to change. Anticipatory practice is required. Participants might begin the process of transferring the learning to their work settings but more planning would be needed to support this transfer of learning.

To assist participants to successfully maintain or refreeze new behaviours, programs would need to build in mechanisms for support and reinforcement in the work setting. Commitment of participants' superiors obtained in the first stage of the change process would now function to support and reinforce the participants' integration of the new behaviour into daily practice.

Strategies for change proposed by Bennis, Benne and Chin (1969) and Benne and Birnbaum (1969) provide some guidelines for the design of programs. Although antecedent conditions and strategic leverage points for effecting change are mentioned by these authors, it would be difficult for program planners to control these conditions. General approaches which have been suggested by these authors for improving the problem solving capabilities of social systems and releasing and fostering growth in the persons who make up the system to be changed, appear difficult to operationalize. Implementation of these strategies would require considerable input of resources for the design and evaluation of short continuing professional education programs.

In change theory, the focus is on management of the process, seemingly to guide change agents and the administrators in the

social system. Bennis, Benne and Chin and Benne and Birnbaum all suggest that the entire process benefits from the utilization of an outside, expert change agent whose role would be to assist in the analysis of the driving and restraining forces in the environment and to manage the process of change.

Judging from the lack of studies published, pure change theory has not been utilized as a conceptual framework for the evaluation of continuing professional education programs. Probably one of the factors influencing the dearth of research specifically relating change theory to program effectiveness lies in the basic philosophy underlying change theory; that is, to be effective, change must be generated from within the system itself where a need for and a willingness to change exist. According to change theory, change cannot be imposed from outside the social system.

Adoption Theory

Adoption theory integrates some principles of change theory as it isolates variables believed to influence the adoption of innovations. Innovations are new ideas, practices or objects perceived as new to an individual or an organization which present a new alternative or alternatives for problem solving (Rogers and Shoemaker).

Several biases which exist in the adoption research limit its application to continuing professional education programs. First, the focus of the research has been on the adoption of

technological innovations. Second, there is a tendency in the research to blame the individual for not adopting an innovation while the means by which the innovation was diffused is not evaluated. Third, individuals are studied rather than systems, separating and isolating the individuals from influences within the social system. Fourth, a pro-innovation bias is assumed and implied in the research literature, consequently, more is known about adoption than rejection and about continued use rather than discontinuance.

Based on a review of recent adoption research, Rogers (1983) has identified six variables that influence adoption. These are: (1) the innovative-decision process; (2) attributes of the innovation; (3) the type of innovation decision; (4) the nature of the communication channels; (5) the nature of the social system; and (6) the extent of the change agent's promotional efforts. Only the first two variables in this list are discussed in detail in his book.

The innovative-decision process is described as a:

...mental process through which an individual (or another decision making unit) passes from first knowledge of an innovation, to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.

(Rogers, 1983: 20)

During the first stage of the innovative-decision process, the knowledge stage, the individual seeks information about what the innovation is and how and why it works. Should there be

insufficient information at this stage to increase the individual's awareness of how and why an innovation works, the idea is likely to be rejected.

The next stage is the persuasion stage where the individual seeks information, particularly evaluative information from others, to decrease the uncertainty about the possible consequences of adopting the innovation. The individual wants to know the degree of risk associated with the innovation. Selective perception operates at this stage to influence the person's perception of the attributes of the innovation. The person tries out the new innovation vicariously by mentally applying the idea. The main outcome of this stage is the formation of a favourable or unfavourable attitude toward the innovation.

During the third stage, the decision stage, the person engages in activities that lead to a choice to adopt or reject the innovation. Most innovations can be tried out either by the individual or results can be seen when others demonstrate its use. Part or all of the innovation may consequently be adopted. Some innovations, however, cannot be tried out so the innovation has to be accepted or rejected in toto.

Should the decision be made to adopt an innovation the person progresses to the fourth stage, the implementation stage, where overt behavioural changes will take place. The final stage is confirmation. The implementation and confirmation stages are similar to the refreezing or maintenance stage of change theory.

During these stages the change agent helps in trying out and reinforcing the new behaviour assisting the individual to complete the innovative-decision process. The new behaviour may not persist if, as a result of changing behaviour, the individual receives conflicting messages in the work environment about the innovation. The individual in such a case may reverse a previous decision to adopt the innovation.

Rogers believes that a receiver's perceptions of the attributes of an innovation will influence adoption. The five attributes of innovations are: (1) relative advantage; (2) compatibility; (3) complexity; (4) observability; and (5) trialability. Few of the studies reviewed by Rogers found all five attributes were related to the adoption of a specific innovation but out of twelve studies, 67% cite relative advantage, 67% compatibility, 56% complexity, 78% observability and 69% trialability.

Despite these percentages, Rogers has taken the position that relative advantage, which indicates the strength of the reward or punishment that might result from adopting an innovation, is one of the best predictors of the "rate" of adoption. Subdimensions of this variable are identified as: (1) degree of economic profitability; (2) low initial cost; (3) decrease in comfort; (4) a savings in time and effort; and (5) immediacy of the reward. According to Rogers the need for immediacy of reward explains why preventative innovations have an especially low rate of adoption.

Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences and self-perceived needs of individuals. The more compatible or congruent an innovation the less change it represents to the individual. Studies conducted by Chickering and Havinghurst (1981), Gould (1972), McCoy (1977) and Sheehy (1976) imply that at various life phases and stages adults are more receptive to certain types of programming. This "readiness to learn" is one of the basic principles of adult education. When discussing this notion of developmental readiness, Knox (1979) predicts that influences within a participant's life can either nullify the effects of a program or can redouble its impact on behaviour. Therefore, compatibility or congruency of program goals with a participant's desired behaviour change would seem to be a strong factor that might contribute to program effectiveness.

Complexity refers to the degree to which the proposed change is perceived as simple to understand and use. Observability is the degree to which the behavioural changes are visible to others. Trialability refers to the degree to which a change can be experimented with on a limited basis. New ideas which can be experimented with on an installment plan generally are adopted more rapidly according to Rogers.

The third adoption variable, the type of innovation decision, refers to whether the decision to adopt can be made independently of others or requires the cooperation of others

either directly or indirectly. Innovations which have no potential consequences for others in the social system are easier to adopt.

The fifth and sixth variables of the nature of communication channels and the nature of the social system are only briefly discussed in this model. Mass media channels were found to be relatively more important at the knowledge stage while interpersonal channels were more important at the persuasion stage. The research studies reviewed by Rogers also revealed that norms within social systems could act as barriers to change.

Considerable weight is assigned to the sixth variable, the extent of the change agent's promotional efforts. Traditionally change agents in this adoption model were persons employed by a change agency to convince entrepreneurs to adopt technological innovations in agriculture. Considerable onus for successful adoption is put on the change agent:

His or her success in linking the change agency with his or her client system often lies at the heart of the diffusion process.

Rogers (1983:315)

Criteria are presented for the selection of professional change agents who would be homogenous with the client population. Rogers assigns these change agents seven roles which read like a problem solving contract with clients. Change agents begin by developing the client's need for change, then establish an information exchange relationship to diagnose the client's problem; then create an intent to change on the part of the

client; translate this intent into action; then stabilize the adoption and prevent discontinuance; and finally, terminate the relationship with the client.

In principle, this client-change agent relationship implies the individualization of needs and instruction. This seems to be incongruent and inconsistent with the basic concept upon which adoption theory is built, that is, the adoption of specific innovations. The diffusion of agricultural innovations would seem to be based on a response to the ascribed needs of clients and, might begin with a strategy aimed at convincing or persuading the client of his need for the innovation. It is not the intention of this writer to refute Rogers' focus on change agents. Rather, the purpose of this examination is to realize the limitations that would be imposed upon the change agent's scope of practice in situations where clients are employees in a hierarchy rather than entrepreneurs working relatively autonomously.

To attempt to function in a hierarchal social system in the manner described by Rogers, change agents who were employees of outside providers would also need to be employees in the participants' social systems. These change agents would need to gain the confidence of both the participants and their employers. Change agents selected from opinion leaders within the client system, would likely face considerable conflict between their dual roles as facilitator and employee, an issue recognized but not dealt with in Rogers' (1983) text.

Neither change theory nor adoption theory can stand alone as

conceptual frameworks for the design or evaluation of continuing professional education programs. The most important contribution that change theory has to make is the need to develop program design strategies that would secure the commitment of participants' social systems in diagnosing the need for behavioural change and in supporting and in reinforcing the change subsequent to the program. While all six variables proposed in Rogers' model are significant, details regarding the innovative-decision process and the attributes of innovations would provide conceptualizations that could be translated into frameworks for the design and evaluation of programs.

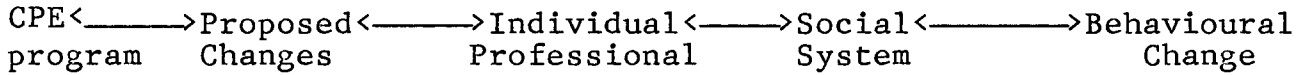
Cervero's Conceptual Framework For Evaluation

Cervero's (1982) conceptual framework for the evaluation of continuing professional education programs has been developed around the assumption that behavioural changes take place within the constraints and opportunities found in the individual's social system.

Four sets of variables are proposed in this framework: (1) program characteristics, (2) characteristics of the participants, (3) characteristics of the proposed behavioural changes, and (4) characteristics of the social system in which the professional practices. A schematic representation of the variables linking continuing professional education to behavioural change can be found in Figure 4.

Figure 4

CERVERO'S FRAMEWORK OF IMPACT VARIABLES



Source: Adapted from Cervero, R.M. Continuing Professional Education and Behavioural Change: A Proposed Framework. Paper presented at the Annual Adult Education Research Conference, Lincoln, Nebraska, April, 1982.

Although it is Cervero's belief that the individual's social system would be the strongest factor influencing impact, he proposes that variations in the four sets of independent variables would explain variations in the extent of behavioural change. Cervero's focus is on the analysis of the processes of continuing professional education as a means of projecting potential program impact on behaviour. He recognizes that without operational measures of the variables, the model is not yet empirically testable. The simplicity of the model, however, and the low cost of the resources required for its implementation should make this framework attractive to conscientious program planners wanting to conduct formative or summative evaluations of their programs.

Supporting evidence for the framework is drawn primarily from Rogers and Shoemaker's early work on the communication of innovations. Rogers new list of adoption variables does not appear to necessitate changes to Cervero's fundamental framework. The innovative-decision process, the nature of the communication

channels, and the change agent's promotional efforts can be subsumed under Cervero's program design characteristics. Attributes of the innovation and the type of innovation decision help to define the characteristics of a program's objectives. The nature of the social system can be subsumed under social system characteristics.

Program Characteristics

Within Cervero's framework, "program" refers to a set of processes which include the elements involved in the design and implementation of a program.

In their analysis of the descriptive and evaluative dimensions of ninety published program planning models, Buskey and Sork (1982) found that certain categories of models seemed to provide more detail of the processes than others. In descending order, these were the training models, general adult education models and continuing professional education models, respectively.

Some of the more popular program planning models are those proposed by Boyle (1981), Houle (1976) and Knowles (1981). Each presents a list of processes or elements all of which interact with each other. These processes generally include the: (1) identification of an educational need; (2) identification of program objectives; (3) identification of the resources required to develop and implement a program; (4) selection of a suitable

format for presentation; (5) selection of teaching techniques; (6) marketing the program; and (7) evaluation of the results. There is a dearth of research relating these program processes or elements to outcomes. While some information about these processes is available in the adult education literature, diligent program planners must often look to curriculum models for ideas, hoping that they are appropriate to the unique relationship intended to take place between program and participants in short continuing professional education programs.

Adult educators such as Bell (1978), Bowers (1974), Griffith (1978), Johnson (1967), Knowles (1981), Monette (1977,1979), and Popiel (1973), do provide copious information as to "how to" conduct needs assessments and "how to" decide whether or not an educational program would be appropriate to meet the need.

Rather than identifying how to identify program objectives, adult educators and curriculum developers such as Gronlund (1978), Kibbler, et al. (1974), Knowles (1981) and Szczypkowski (1980), describe and demonstrate how to write cognitive, psychomotor and affective objectives using the correct taxonomy. Formats for presentation of content are usually implied or specified in the general theory about the different types of objectives.

Tips regarding how to identify the resources needed to develop and implement a continuing education program are generally provided in the adult education program planning models.

Suggestions for teaching-learning techniques related to objectives are offered by Bergevin, et al. (1963), Gagne and Briggs (1974), Knowles (1981), Szczypkowski (1980) and Walter and Marks (1981). Walter and Marks provide theoretical guidelines as to what different techniques can be expected to achieve. To involve participants in program content they suggest the use of such learning activities as exercises. Process oriented, exercises can be used to guide participants step-by-step through a learning activity allowing group members to become familiar with information and to practice skills. They also serve both to generate feelings and reactions and to provide social support among the members of a learning group. Exercises thus provide both a context for application and a source of feedback and conditioning.

Another technique is large group interaction which can be used as a vehicle for discussing information presented through other methods. A discussion format can be used for any one of the following purposes:

1. To use resource members of the group;
2. To give students opportunities to formulate application of the principles;
3. To get prompt feedback on how well the leader's objectives are being attained;
4. To help students think in terms of the subject matter by giving them practice in thinking;
5. To help students learn to evaluate the logic of and evidence for their own and others' positions;

6. To help students become aware of and to formulate problems which necessitate information to be gained from reading or lectures;
7. To gain acceptance for information or theories counter to folklore or previous beliefs of students;
8. To develop motivation for learning.

(McKeachie 1969:37)

Walter and Marks suggest that participants be given clear discussion guidelines for the purpose of participant accountability. The results of their deliberations should also be incorporated formally into the learning experience. They also recommend that case studies be used to allow participants to project themselves into a hypothetical situation where they must consider facts and take appropriate actions. During group discussions, the leader acts as discussion leader, resource person, helpful expert and relator of case material to other content. These authors suggest that individuals benefitting most from this method are intrinsically motivated, highly disciplined self-starters. The case method, however, does not commit participants to action.

One of the most frequently used techniques is the lecture method. Odiorne (1977) describes it as a method that can be used to engage participants in creative listening and thinking processes when it is used to state problems and provides guidelines for their resolution. The lecturer must be seen to be credible, knowledgeable and committed to the material if the method is to

be successful.

Devices such as photographs, slides or films can serve as a stimulus to provoke thoughts and feelings or to generate discussion. Visual and/or auditory cues can be used to clarify or emphasize concepts and ideas to assist participants to understand, integrate and place into perspective their thoughts, feelings and behaviour.

In conventional program planning models marketing seems to be approached primarily from the perspective of attracting sufficient participants to cover program costs.

Finally, both formative and summative evaluation are proposed for the purpose of collecting information to improve an existing program or to be utilized in future program planning.

Most continuing education programs are designed to assist the participants to progress through three of the five stages of Rogers' innovation-decision process. Information is presented to increase the participant's knowledge and understanding of the innovation and how it might be implemented. Learning activities are generally structured to persuade participants of the value of the innovation. The advantages and disadvantages of application are generally reviewed to help participants vicariously apply the innovation. Discussion with peers about the utility of the skill or information, when built into a program, would provide reinforcement to assist in the persuasion process. Well respected opinion leaders as program leaders/change agents can also provide this reinforcement. When participants can practice

new skills or observe a demonstration of a skill in the instructional setting and see its consequences they are more likely to pass successfully through the decision stage of the process. Psychomotor skills lend themselves to tangible reinforcement during the instructional event. The decision to adopt abstract skills is more difficult as the complexities of the participant's work environment inevitably confound the application of the skill. Changes in problem solving behaviour which involve a high interaction component present more of a risk to participants than the implementation of a psychomotor skill.

Few continuing professional education programs are designed to assist participants through the implementation and confirmation stages of the adoption process. Only the occasional continuing professional education program employs project staff to follow-up participants in their practice settings.

Characteristics of Participants

Motivation to change must exist before any program can induce behavioural change. Motivation overlaps with participant-course goal congruency, one of the attributes of objectives identified by Rogers. Perceived need and motivation to change were positively related to behavioural change in programs studied by Wadell (1978) and Derby (1982).

Cervero does not refer to any studies which compare persons who changed their behaviour to those who did not change.

Instead, characteristics are attributed to participants according to their "rate" of adoption in concurrence with the Rogers' and Shoemaker's theory where participants' dominant attitudes toward their professional practice and the nature and extent of their education were believed to be correlated to the rate of adoption. Rogers' and Shoemaker's subvariables of participant characteristics are: (1) more education, (2) more specialized operations, (3) more favourable attitudes toward change, risk, education and science, (4) more information seeking, (5) higher knowledge of innovations, and (6) more opinion leadership.

Cervero suggests that the variables of participant characteristics can, with some difficulty, be manipulated if different strategies are used for different groups of participants. He does not refer to any specific literature relating strategies to the different classifications of adopters. Cervero's belief that this variable is manipulatable is likely based on the pro-innovation bias of adoption research.

Characteristics of the Proposed Behavioural Changes

Although Cervero defines this variable as the "type" of proposed change desired, perhaps the "nature" of the proposed change would more aptly capture the essence of this independent variable.

Change may be specific or broad and may deal with attitudes or behaviour (Walter and Marks). The acquisition of attitudes or

skills that are easily circumscribed can be termed specific changes. Broad changes refer to issues which are difficult to separate easily from a participant's total personality or behaviour and are consequently more difficult to measure.

Attitudes will influence program outcomes regarding participant reaction, learning, behavioural change, and consequences of practice change. Zimbardo (1970) sees attitudes as enduring predispositions operating as a fairly large class of evaluative responses. The evaluative component affects the direction of the attitude; that is, positive or negative, towards the proposed change. In writing about changing attitudes Zimbardo states that changes in attitude are not always accompanied by changes in behaviour. Attitudes are manifested in different ways, consequently programs aimed at changing attitudes may aim to achieve changes at any one of three levels: (1) affective, (2) cognitive or (3) behavioural. In the affective component a person's evaluation, liking of, or emotional response to some object or person can be measured by physiological responses or overall statements of like or dislike. At the cognitive level are beliefs and knowledge of an object, topic or person which can be measured by self-ratings of beliefs or by the amount of knowledge the person has about the object, topic or person. Finally, at the behavioural level is the overt behaviour which can be measured by directly observing behaviour in a specific situation.

Based on their own attitudes and perceptions, participants

will attribute to the proposed behavioural changes one or more of the following characteristics outlined by Rogers: (1) relative advantage, (2) compatibility, (3) complexity, (4) observability and (5) trialability.

Of the different types of behavioural objectives, the adoption of new psychomotor skills would seem to be the easiest for participants to implement. All five attributes could be assigned to new psychomotor skills. Little risk would be involved in experimenting with new psychomotor skills in the practice setting. Results of the new skills would provide quick feedback to allow for confirmation in the innovative-decision process. Should trial of the new behaviour result in negative consequences or no results at all, the person could easily reverse the decision to adopt the innovation.

Congruency, complexity and observability were the three attributes Knox (1979) found most relative to impact in his overview of the literature on impact evaluation. He found that programs which dealt directly with specific and achievable changes in performance which were important to the adult learner, amenable to educational influence, and could be readily documented were those that had a positive impact. To these he added the variable of reasonable intervention; that is, the type and amount of program appropriate to achieve the desired changes.

Just what percentage of participant/course goal congruency exists in every continuing professional education program is not known. Chambers (1976) found that only 5% of participants in a

continuing dental education program enrolled because they wanted to change their behaviour. The motives of 63% of the participants in this study were quite discrepant from those anticipated by the program planners. General interest was cited by participants as their major motive for enrolling in the program. No further studies were found to determine whether the Chambers study represents a typical example of how few participants enroll in short continuing professional education programs because they want to change their behaviour. That so many participants do not expect to change their behaviour might explain why so few programs are reported to be effective in changing participants' work behaviour.

Characteristics of the Social System

Programs aimed at changing work behaviour require that the changes take place in the work setting or organization, implying a change to the social system. Bobbitt, et al. (1978) define an organization as a group of people who work together to achieve a common goal. Because people working in the organization have more than one goal, membership implies compromise and influence. Conflict due to differences in values and goals is not uncommon. Each participant's perception of the organization and his or her personal influence provides the frame of reference for the adoption process. This is the participant's own context of application.

In their earlier work, Rogers and Shoemaker found that work

environments with certain characteristics were positively related to adoption. Work environments where there was a positive attitude toward the proposed changes, which had close interpersonal communications among members, and where the social system legitimizers were involved in the decision making process related to the innovations, seemed to support behavioural changes.

In an historical review of impact studies in nursing, Cooper, et al. (1982) cite the Farley (1979), Kuramoto (1979) and Mastrian (1979) studies as examples of where nursing supervisory support and peer group reinforcement of learning following a continuing education activity contributed to the application of the content.

In an evaluation study of ten continuing nursing education courses of varying scope and duration, Deets and Blume (1977) found that where there was no opportunity for practice of certain skills or tasks the reported frequencies of the participants' ability to perform the skills was not ranked as highly as those skills which had been practiced. Based on this finding, they concluded that practice appeared to enhance learning and retention of new behaviour.

Positive reinforcement of new behaviour either through practice, praise of others, support by supervisory staff and positive results seem to facilitate the adoption of changes in practice. Lack of the opportunity to practice and the absence of support and feedback would therefore be important barriers to the

adoption of an innovation.

Program characteristics, the characteristics of participants, the characteristics of the proposed behavioural changes and the characteristics of the social system have been proposed by Cervero (1982) as four independent variables which influence program impact on work behaviour. Theories which support or further clarify some of the components in each of the four major variables, have served to provide the framework with more depth. An analysis of research studies of effective programs would seem to be a necessary part of the discussion of Cervero's framework in order to examine which of the four major variables stand the test of consistency. Specific subvariables identified in the research studies will facilitate the application of this framework to the "Safety to Practice Conferences." A discussion of the state-of-the-art of evaluation research in continuing professional education is warranted here before the research studies of effective programs are analyzed.

State-of-the-Art of Evaluation Research

Bertram and Brooks-Bertram (1977), in a survey of the research published between 1969 and 1977, found that most of the studies were descriptive or explorative and provided divisive and seemingly unrelated results.

Lloyd and Abrahamson (1979) in their review of two hundred and seventeen published studies found that objective methods were

seldom used to evaluate the results of a program. They looked for evidence of program impact at three levels: physician competence or knowledge, work performance, and patient health status. Few of the studies they reviewed were replicable. Lloyd and Abrahamson (1979) concluded that the probability of continuing medical education impacting on any one of the three levels was approximately .50.

Stein (1981), on the other hand, was able to find eight scientifically conducted evaluation studies published between 1973 and 1979. Studies conducted by Caplan (1973); Inui (1976); Kattwinkel, et al. (1979); Laxdal and associates (1978); Manhan, et al. (1978); Rubenstein (1973); Talley (1978); and Wang and co-workers (1979), reported that the programs they evaluated had effectively changed physician performance. Each of these programs met Stein's (1981) criteria for sound evidence of positive program impact. First, each study or report described the learning program and the educational intervention undertaken. Second, the methodology used for the analysis of data displayed face validity and statistically significant objective data. Third, a clinically important change in performance was reported. Finally, the reported change persisted for at least six months. Based on his review, Stein concluded that well-planned continuing medical education programs which utilized sound educational principles could change physicians' performance and presumably might impact on patient care and outcomes.

Forni and Overman (1974) surveyed sixty-eight providers of

continuing nursing education in the United States. State nursing associations, college nursing programs, and junior college nursing programs indicated that the transmission of information was the most frequent purpose of their educational programs, followed by the development of attitudes, with acquisition of skills last. According to Forni and Overman, most of the objectives outlined in the course syllabuses for these programs were unclear.

Analysis of Effective Programs

Evaluation reviews and studies of effective short continuing professional education programs conducted by Stein (1981), Cox and Baker (1981), Heick (1981), Peterson (1982), Penn (1978), and Scott (1980), will now be analysed utilizing Cervero's (1982) conceptual framework for the evaluation of continuing professional education programs.

Program Characteristics

In the evaluation studies analysed by Stein, each program had a specific small target audience and potential learners were involved both in the diagnosis of the need and the entire program planning process. "Need" was interpreted to be a deficiency state. Each program focused on changing performance. The teaching techniques and methods utilized were self-assessment exercises, self-study packages, small group discussions, individual and group learning activities, and assistance in the

practice setting where tutorials and consultations were used. The emphasis in these programs was on performance, reinforcement and feedback in the practice setting. Follow-up reinforcement and feedback by project staff, who could be interpreted as change agents, was built into each program. These interpersonal channels would have facilitated each participant's progress through the last stages of the innovative-decision process. Each program had established a pre-program baseline then used more than one method to collect information about post-program performance in order to validate information used for evaluation.

In an evaluation study of a continuing nursing education program Cox and Baker utilized a quasi-experimental research design. Pre- and post-testing and chart audits of an experimental group and an untreated control group were conducted to gather data. The test group was found to have significantly increased their knowledge base at the end of the program and demonstrated clinical application of the skills taught in the program as late as six months after the program. The program was developed by a health care agency for a specific small audience of its community health nurses. Both potential participants and their supervisors had agreed upon the need for the program. The "need" was a deficiency state. Educators, practitioners and administrators who had an interest in seeing the course content applied to the clinical setting participated in the planning of the program. Follow-up clinical practice, supervised and evaluated by project staff who could be interpreted as change agents in this instance,

was an integral part of the program design. Educational materials were developed specifically for the program. The teaching methods and techniques utilized were lectures, rounds in the clinical setting, self-practice, and clinical sessions. It would seem that this program was designed to take participants through all of the steps of the innovative-decision process. Interpersonal channels of communication were used effectively to assist participants to apply the new skills in the practice setting.

Heick utilized a less rigorous evaluation design to study the impact of twelve one-day professional development sessions for a specific audience of county community health nurses. Information was gathered from participants and their supervisors in a follow-up questionnaire sent two months after participants had completed the program. The same supervisors were surveyed eight months after the program. No pre-testing was done nor was any control group used in this study. The instruments used to collect data appeared to lack reliability or validity as they involved open-ended questions and checking off whether certain activities had been performed. Despite the soft evidence Heick (1981:23) concluded from her findings that the program "...achieved success in having a positive impact on maternal health services in Iowa." Criteria for determining the impact were broad. The provider of the program was the State Department of Health, the employer of the nurses. Involvement of the potential participants in the program planning process is not

specified in the report. A nursing supervisor, a medical director and faculty with expertise in the content areas, participated in the design of the program. The learning needs of the target audience were ascribed to them by their supervisors. No apparent follow-up practice and reinforcement in the practice setting seemed to have been built into the program design. Whether the evaluation design, which required feedback from the supervisors to the provider, had the effect of reinforcing the new behaviour in the practice setting is not discussed in the report. Because these programs were judged by the evaluator to be effective it might be assumed that the program did succeed in getting supervisory commitment and support in the work setting, thus participants were assisted through the last stages of the innovative-decision process.

Petersen evaluated a three-day continuing education program for dieticians which was intended to educate the dieticians about teaching methods and materials in order to increase their efficiency as diabetes educators. A quasi-experimental evaluation design was used in this study to measure knowledge gain and behavioural change. Pre- and post- tests of knowledge were administered and a six month follow-up questionnaire was sent to participants who, rated, on a five-point scale, the frequency with which they performed the targeted behaviours. Without a control group or an objective evaluation of the participants' post-program performance, generalizations cannot really be made from the results of this study. Because of the

dearth of studies of programs having had a positive impact on work behaviour, however, an analysis of the scant details about this program might provide some insight into the possible factors which contributed to a statistically significant change in the behaviour of the dieticians who attended the program. Development of this course was based upon an educational needs assessment of 496 registered dieticians in New England. The report does not indicate whether the potential audience was involved in the program planning process. Insufficient information is provided about the design of the program to analyse whether the program took participants through all of the stages of the innovative-decision process. Criteria for the evaluation of successful impact on behaviour were not specified in the study. The data gathered does not immediately translate to efficiency as diabetes educators, the goal of the program. Other variables, not discussed in the study, would influence their efficiency.

Penn administered an open-ended questionnaire to rehabilitation professionals three to thirty months after they participated in a three-day workshop. The goal of the workshop had been to teach the diverse participants the use of behaviour management procedures. Scant information is provided by the evaluator as to the program design. Only the teaching techniques used in the program are discussed. Lectures, videotaping, interviewing, role playing and practice sessions during the instructional event were used. Whether the program was designed to take participants through all of the stages of the

innovative-decision process is not known. It must be assumed that no interpersonal communication channels nor change agents were utilized in the work setting.

Scott conducted an evaluation study of an in-service program for occupational and physio therapists which was aimed at changing their record-keeping behaviour. The purpose of her study was to contribute to the understanding of the change process in occupational settings. To do this she examined the factors that influenced employees to change their performance of a task. Tools used to collect the data, pre-program and at one and three-month post-program, included paper and pencil tests of knowledge; chart audits of record-keeping behaviour; and attitude surveys measuring motivation to change, and perceptions of performance standards, resources and reinforcers. At the level of performance change Scott found that recording behaviour increased significantly during the first month and significantly decreased during the next three months. An in-depth discussion of the program planning process is not provided by Scott. Although a pre-performance charting baseline would have been known because of the design of this study, Scott does not indicate whether this information was taken into account during the program planning process. What is stated, however, is that the supervisors of the participants had made the decision to adopt the new record-keeping system, demonstrating a willingness and a commitment to change. Whether or not the participants were involved in this decision or any of the program planning is not

discussed. Supervisory reinforcement and feedback following the educational event was not built into the program. This program, therefore, appears to have been designed to take participants through the knowledge, persuasion and decision stages only. No interpersonal channels of communication in the work setting were used in the design. Participants did not have the support of change agents who could have contributed to the endurance of the new behaviour, hence, the behaviour change did not persist over time.

Characteristics of Participants

In the studies of the programs just reviewed insufficient information is provided to allow for an analysis of the characteristics of participants. Comparisons of participants who changed their behaviour with those who may not have changed in the test samples are not provided.

Perceived need and motivation to change existed in those participants who changed their work behaviour in the studies analysed by Stein and in the programs evaluated by Cox and Baker and Scott.

Participants in the programs evaluated by Heick had been selected because they had a specific need which they themselves acknowledged and the programs had been developed to meet these needs. Whether the participants in these programs were motivated to change is not specified.

Participants in the program studies analyzed by Stein and

the programs evaluated by Cox and Baker and Heick, all worked fairly independently of direct immediate supervision in their daily practice. This finding will be discussed later in the analysis of the social system characteristics associated with these programs.

Characteristics of the Proposed Behavioural Changes

The objectives in each of these effective programs all had at least one common attribute: observability. To some extent, this might explain why these programs were chosen to be evaluated in the first place.

Both in the program studies analysed by Stein and the program evaluated by Cox and Baker (1981) the proposed objectives possessed all five attributes. The proposed behavioural changes in the program evaluations analysed by Stein were very specific and easy to understand and use. They included: (1) psychomotor skills, (2) specific prescriptive regimes, and (3) procedures for dealing with patient problems. The proposed changes in the program evaluated by Cox and Baker were in the realm of specific psychomotor skills.

The objectives for the program evaluated by Heick possessed four attributes: (1) relative advantage, (2) participant/course goal congruency, (3) observability and (4) trialability. Objectives in the programs evaluated by Petersen, Penn and Scott each possessed three to four attributes each.

Generally, in these programs the decision to adopt the new

behaviour could be made independently. Only in the Penn (1978) program was the cooperation of others required in the process of adopting the new behaviour.

Characteristics of the Social System

It is worth noting who the participants were in these programs. Their influence in the social system and the amount of autonomy they had in decision making would seem to be related to the success of the programs.

Participants in the eight studies analyzed by Stein were physicians. The programs evaluated by Cox and Baker and Heick were for community health nurses. Participants in the Petersen, Penn and Scott programs were other health professionals employed in large health care institutions.

Looking at these studies it would seem that continuing professional education programs for physicians are more successful than programs for other groups. Possible reasons which could be postulated for this apparent phenomenon include: the substantial input of resources into planning programs for physicians, more resources available to evaluate continuing medical education, the types of terminal objectives for physicians' programs, and the amount of power and control physicians have in their social system. In most health care agencies physicians are generally considered the head of the health team. Not considered employees, they are accountable primarily to their patients. At the top of the decision making

hierarchy regarding patient care, they are in a position of power to influence and control their social system and are able to manipulate the forces in favour of change.

Other professional workers in health care institutions are employees operating within a hierarchy. We see from the results of the evaluation studies analysed here that continuing professional education programs have less impact on the work behaviour of those employees who have less influence in their social systems. The reality of functioning within an institutional hierarchy may also explain why no positive impact studies were found of programs which were offered to nurses employed and functioning within large health care institutions. Only programs developed for community health nurses had any incidence of success. Nurses in this type of practice make their daily decisions fairly autonomously without the constraints that might be imposed within an institutional hierarchy. The point being made here is that the autonomy of physicians and community health nurses may account, to some extent, for their ability to change their performance in their practice settings subsequent to participation in a continuing professional education program.

In the program studies analysed by Stein reinforcement in the clinical setting was an integral part of the instructional event. Follow-up social system support may not operate as a variable in a physician's application of new psychomotor skills, or the prescribing of new medication regimes, or the use of new diagnostic equipment. Structural support, of course, would be

required in the form of the availability of the medications and the equipment but presumably the physicians would have substantial control in this area.

Participants in the program evaluated by Cox and Baker had supervised practice both during and after participation in the program. Evaluation of the new skills was also a form of follow-up feedback and reinforcement but as it was conducted by the project staff, it can be classified as a program design variable. Supervisory support and commitment had been obtained during the program planning stage as the supervisors had agreed upon the new standards of practice which were to be adopted by the participants. It could be assumed that adoption of the new behaviours was an expectation both of the participants and their supervisors. In addition to the teaching staff acting as change agents doing follow-up reinforcement and evaluation, the supervisors would also have been influential in the implementation and confirmation stages of the innovative-decision process.

Some degree of supervisory reinforcement may be assumed in the program evaluated by Heick although it may have operated more as a program variable than a social system variable. Supervisors participated with participants in a one-day follow-up educational session regarding implementation of the skills. The reason for this follow-up, according to Heick (1981:19) was to "...identify how enrollees were applying course content and to provide guidance in problem areas." The reader must assume that the

overall rationale for this was to encourage social system reinforcement from the participants' supervisors although the supervisors did not seem to have been directly involved in the educational process prior to this one-day meeting. Without this prior commitment from the same supervisors the value of the meeting could be questioned.

Social system support had not been built into the program planning process in the program evaluated by Petersen. Upon returning to work participants reported that they had encountered structural constraints in the form of insufficient time, staff, and budgets. Factors which facilitated the implementation of some of the new skills are not discussed in the study.

Because participants in the program evaluated by Penn were inter-disciplinary, some peer group reinforcement in the trial and application of new skills might be assumed. Social system follow-up reinforcement is not a variable specifically discussed in this study.

Although supervisors had been part of the program planning process in Scott's study, participants in the program felt that the situational factors of performance standards, insufficient resources and lack of reinforcers accounted for their failure to maintain the behaviour changes.

Summary

Tables I through IV (p.62-63) represent matrices of the subvariables identified in the research studies as positively influencing program impact on work behaviour. The subvariables of program characteristics included:

- (1) a specific small homogeneous target audience,
- (2) a specific educational need which could be classified as a deficiency state,
- (3) cooperation and coordination of educators, practitioners and administrators in the program planning process which assured administrative commitment to the change,
- (4) use of a variety of individual and group teaching and learning techniques,
- (5) clinical follow-up and feedback by project staff, and
- (6) an internal provider able to exert influence within the social system.

Three significant participant characteristics were: (1) perceived need, (2) motivation to change and, (3) degree of the practice autonomy of the professional.

Proposed behavioural changes which possessed: (1) Rogers' attributes of relative advantage, participant/course goal congruency, comprehensibility, simplicity, observability, and trialability, and (2) were in the realm of specific psychomotor skills, regimes and procedures, and (3) did not require the

co-operation of others to implement, were positively related to impact. Goals that were explicit seemed to be positively related to impact. Explicit outcome standards can clarify program aims for participants, serve as post-program performance guidelines for both participants and their supervisors, and facilitate the feedback and evaluation process between supervisors and participants. Programs which demonstrated the most evidence of successful impact were those of which the aim was to teach new psychomotor skills or technical procedures or regimes where the cooperation of others was not required for their implementation. Psychomotor skills and the learning of technical procedures or regimes, when described behaviourally, could easily possess all five of Rogers' attributes of innovations. None of the effective programs had aimed to change the risk-taking behaviour of participants.

The social system subvariables identified in the research studies included: (1) the professional's autonomy in decision making, (2) the opportunity to practice, (3) peer group reinforcement, and (4) supervisory commitment obtained prior to the implementation of the program. Being self-employed, or if an employee, working outside a large institution, plus relative freedom in decision-making related to daily practice seems to contribute to a participant's ability to adopt the new behaviour learned. Examples of this were the physicians and community health nurses who participated in the programs analysed. The fourth subvariable in this list is significant in that it is

meant to illustrate that there is a difference between gaining commitment during the early stages of program planning and gaining acceptance once a program has been developed. Input by the social system into the development process seems to signify that the social system has a positive attitude toward the proposed changes while it also legitimizes the program and creates the expectation of change. Presumably it also creates the opportunity for participants to practice in the work settings and to get constructive feedback.

Based on this analysis, no unequivocal answer can be given as to whether short continuing professional education programs can be effective. The research suggests that programs which aim at changing behaviour in the psychomotor realm can be successful. Subvariables related to a program's impact have been identified in the analysis of the research studies yet it is the interaction of these subvariables which really seems to determine whether a program achieves its desired impact on participants' work behaviour.

While program planners have substantial control over the program and behavioural change characteristics, manipulation of participant and social system characteristics would be more tenuous, particularly for short programs. Short programs rarely set entry standards for registration. Demonstration of need, motivation and intention to apply the content in practice is rarely a pre-requisite for participation. Manipulation of social system support and reinforcement should exist as part of the

design of a program, thus qualifiable as a program characteristic. What is known about enhancing support and reinforcement in the practice setting should be incorporated into the program design. As a means of altering forces in participants' work environments, it might be more effective to allocate limited resources to the development and reinforcement of the supportive aspects of social systems rather than to the reduction of blocks in the same system.

TABLE I

PROGRAM CHARACTERISTICS RELATED TO BEHAVIOURAL CHANGE

Subvariables	STUDIES					
	Stein (1981)	Cox (1981)	Heick (1981)	Petersen (1982)	Penn (1978)	Scott (1980)
-specific, small homogeneous target audience	x	x	x	x		x
-"need" a deficiency state	x	x	x			x
-cooperation, coordination in program planning process by educators, practitioners, and administrators	x	x				
-variety of individual and group teaching/learning techniques	x	x			x	
-clinical follow-up by project staff	x	x				
-internal provider		x	x			x

TABLE II

PARTICIPANT CHARACTERISTICS RELATED TO BEHAVIOURAL CHANGE

Subvariables	STUDIES					
	Stein (1981)	Cox (1981)	Heick (1981)	Petersen (1982)	Penn (1978)	Scott (1980)
-perceived need	x	x	x			x
-motivation to change	x	x				x
-practice autonomy	x	x	x			

TABLE III

CHARACTERISTICS OF OBJECTIVES RELATED TO BEHAVIOURAL CHANGE

Subvariables	STUDIES					
	Stein (1981)	Cox (1981)	Heick (1981)	Petersen (1982)	Penn (1978)	Scott (1980)
-relative advantage	x	x	x	x	x	x
-participant/course goal congruency	x	x	x			
-simplicity	x	x		x		x
-observability	x	x	x	x	x	x
-trialability	x	x	x	x	x	
-psychomotor skills, regimes, procedures	x	x	x	x		x
-cooperation of others not required for adoption	x	x	x	x	x	

TABLE IV

SOCIAL SYSTEM CHARACTERISTICS RELATED TO BEHAVIOURAL CHANGE

Subvariables	STUDIES					
	Stein (1981)	Cox (1981)	Heick (1981)	Petersen (1982)	Penn (1978)	Scott (1980)
-professional autonomy	x	x	x			
-opportunity to practice	x	x	x	x	x	x
-peer group reinforcement					x	
-commitment of superiors obtained prior to program implementation		x				x

CHAPTER III

ANALYSIS OF THE SAFETY TO PRACTICE CONFERENCES

The "Safety to Practice Conferences" were designed to have an impact on participants on two levels: awareness and behaviour. Each of the four conferences in this series was equivalent to one day in length. The behavioural changes implied by the objectives were in the realm of improving participants' problem solving behaviour. The results of the analysis conducted in Chapter II reveal that, as a rule, the behavioural changes achievable in short continuing professional education programs are those where participants perform new psychomotor skills or follow new procedures in their practice.

Where program objectives are oriented towards problem solving and risk management, success is more allusive. The objectives for these programs, while being less tangible, are none-the-less important as the response to a program itself demonstrates an awareness of a perceived need on the part of the participants.

The subvariables identified in the analysis of the research studies of effective programs will now be applied to a retrospective analysis of the "Safety to Practice Conferences". Considering that these conferences were concerned with the scope

and environment of nursing practice rather than specific skills, the conclusions of the foregoing analysis are somewhat predictable given the conclusions of the analysis of the research studies. Never-the-less, insights valuable for future programming can be derived from this exercise.

The title of the four conferences were as follows:

- #1 Safety to Practice: The Basics
- #2 Safety to Practice: Taking Charge of Your Own Practice
- #3 Safety to Practice: Evaluating Nursing Practice
- #4 Safety to Practice: Influencing Patient Care

Conditions

The first conference in this series was designed as an introductory conference. The purpose of this conference was to assist participants to develop an awareness of the issues affecting their safe practice and to increase their confidence in their own ability to deal with these issues. Participants in this conference were to develop a sense of responsibility for changing as well as a feeling of readiness and potency to do something about it. Conferences #2, 3, and 4, called the follow-up conferences, were intended to further develop the different skills and strategies outlined in the first conference. By providing learning activities within an educational setting which allowed participants to practice new skills and strategies in the follow-up conferences, it was felt that participants would transfer to their own practice setting those strategies which

they felt to be most relevant. The numbering of the follow-up conferences suggests that sequential participation would facilitate the learning and application of the content. In fact, this was not necessary as the numbering system was meant primarily to communicate to participants that there were four conferences in the series addressing the basic issues of autonomy, self-regulation and power. For the purpose of facilitating participation and program accessibility a decision had been made prior to the development of the program that participation in the introductory conference was not mandatory for participation in any of the follow-up conferences.

Program Characteristics

Audience and Need

With approximately 25,000 nurses registered in British Columbia these conferences were developed for practicing members who were involved directly or indirectly with patient care. About 80% of the membership would fall into this category representing a diverse group of participants in terms of educational backgrounds, work experiences, areas of practice, positions, ages, attitudes and expectations of themselves, the profession and their professional association.

The origins of any continuing professional education program provide the context for the development of a program. Program objectives are derived from these foundations. Analysis of the "Safety to Practice Conferences" consequently must begin from

within this context. In 1977, a "Safety to Practice Program" had been approved by the Board of Directors of the Registered Nurses' Association of British Columbia (RNABC. Committee on Assessment of Safety to Practice, 1976). One of the purposes of this "Program" was to provide support services and resources to the membership regarding commonly encountered issues of safe practice. The Board made a five year commitment to develop specific tools and services that would assist nurses to make decisions and take action for their own safe practice of nursing.

By 1980 the "Program" was well underway. The Board then decided to communicate to the membership information about these tools and services. It was decided that the most appropriate method of transferring this information would be through a series of conferences where the tools and services would be discussed in the context of the issues they were intended to address (RNABC News, May 1980). A project plan was proposed and approved (RNABC, STP Conferences Project Plan, 1980). This writer was hired in August 1980 to develop the instructional and administrative plans for these conferences. It was originally intended that once developed, the conferences would be offered for a period of approximately two years.

Coincidentally, at approximately the same time as the decision was made to develop these conferences, a survey of membership attitudes about their professional association was being conducted (Canadian Facts, 1980). Although intended for other purposes, some of the findings reinforced the need for the conferences. Average practicing nurses were finding their jobs

very stressful and were having difficulty identifying what action or actions could be taken to reduce this stress. Heavy workload was a problem identified as stressful. Although nurses were not specifically asked to comment further on the problem it could be assumed that these nurses were concerned that this stress had implications regarding their safe practice of nursing. The nurses seemed to feel that they were powerless, had no decision making autonomy and could not change their work conditions. They felt that "others" were and should be, responsible for reducing the stress and changing the conditions in their work environments. "Others" were: (1) the Registered Nurses' Association, (2) their union, and (3) their employers. Most of the nurses surveyed had limited contact or involvement with the Association. The conclusions drawn by the researchers (Canadian Facts, 1980) were that nurses in British Columbia: (1) had limited awareness of the services offered by their professional association, (2) had limited awareness and were confused about the activities and responsibilities of the Association, (3) perceived that the activities of the Association were not relevant to most nurses, and (4) that the Association was elitist and suffered from self-interest (RNABC News, November-December, 1980).

The series of four "Safety to Practice Conferences" was to involve the membership in interacting with the "Safety to Practice Program" objectives and support tools and resources. The goals, format for presentation, content outline, implementation and evaluation guidelines, administrative objectives and budget were all outlined in the six-page project plan drawn up by a

planning committee (RNABC, STP Conferences Project Plan 1980).

The conferences were to translate to the participants the different strategies nurses might use when faced with some issues commonly encountered in nursing practice. Participants would be assisted to perceive that the tools and services of the Association could be a relevant and available source of help.

The basic premise upon which the conference series was developed was that, as professionals, Registered Nurses possess specific privileges which carry attendant obligations. The three fundamental privileges identified were: (1) autonomy, (2) self-regulation, and (3) power.

In the Project Plan (1980:1) professional "autonomy" was described as

...self-direction with responsibility for
controlling the nature and continuing
development of one's practice.

Lewis and Batey (1982) and Little (1981) describe autonomy as the freedom to decide and to act independently within the scope of nursing practice. The exercise of critical judgement is required in the decision making and action. These authors indicated that the critical factors associated with the exercise of a nurse's autonomy were the functional attitudes and the work environment. Attitudinal autonomy exists when nurses are expected, in the context of their work, to use judgement in the provision of patient services (Batey and Lewis, 1982). More detail about attitudinal and structural constraints will be discussed in the analysis of characteristics of the social systems in which nurses work.

"Self-regulation", for the purposes of these conferences, was defined in the Project Plan (1980:1) as "...responsibility for peer and self-evaluation." Again, self-direction is implied. The setting and meeting of standards in nursing practice is implicit in this definition.

"Power" was defined in the Project Plan (1980:1) as "...power to influence patient care conditions, with responsibility for using this in patient's interests." Rights and power are words frequently used to define authority. Peplau (1971), in a study of nurses working in specialized areas, found that knowledge and expertise were strong indicators of power. Increased knowledge and expertise increased the power base of the nurses in her study.

All four conferences were to deal with operationalizing these concepts as rights and responsibilities. Nurses were to be shown that they can influence and have the power to influence what happens to them, and are responsible as individuals for taking action to prevent something or to make something happen.

Intergroup Cooperation, Coordination and Commitment

Attempts to gain social system support had been sought more than a year prior to the development of these conferences. Top level administrators from health care agencies throughout the province had been invited to attend a one-day conference where details about the Safety to Practice Program and its goals and purposes has been discussed. During the conference the administrators were informed of the tentative plans to

disseminate the same type of information to staff nurses through the series of "Safety to Practice Conferences". During the actual development and field testing of the conferences' series for nurses, staff members took every opportunity in their meetings with administrators to keep them informed regarding the purposes of these conferences. These strategies were intended for the administrators' awareness about the Safety to Practice Program and Conferences and to gain their support, in principle, for the conferences.

During the planning and field testing of the "Safety to Practice Conferences" practitioners and administrators were represented by nurses who sat first on the Planning Committee and then on the Steering Committee. Members of the Steering Committee consisted of the Director of Nursing of a large hospital in the lower mainland; a Head Nurse of an Intensive Care Unit in a large hospital in the B.C. Interior who was a Board member; a staff nurse from a hospital on Vancouver Island, also a Board member; a staff nurse in a rural hospital who was representing the nurses' union; and two ex-officio staff members. These three primary responsibilities assigned to this Committee were to:

- (1) review draft materials and conference activities to ensure their acceptability and relevance to various segments of the nursing community and to the "Safety to Practice Program;
- (2) give general direction to development of plans for program evaluation; and
- (3) advise on matters of project administration.

(Project Plan, 1980:5)

Because of the size of the potential audience, a centralized diffusion system was adopted and the conferences were pre-packaged for presentation. The aim of the pre-packaging was to make the conferences accessible to nurses throughout the province for the lowest possible cost.

The sponsorship process for these conferences sought the involvement of local nursing leaders. Intended to involve opinion leaders directly in the conferences, local leaders were to be chosen as Conference Leaders to lead the group through the conference materials. Guidelines for the selection of Conference Leaders were designed to help groups to identify opinion leaders who would also be good group leaders. Local nursing administrators and educators could be involved directly or indirectly through sponsoring activities. Individualization of the content to local conditions could not be built into the packages. Although the option of changing the learning activities within each conference was not specified in the Conference Leader's Manuals, innovative Conference Leaders could adapt the learning activities to local experiences.

Specialty groups who sponsored these conferences during 1981 were involved in the design of learning activities particularly relevant to their area of practice. Frequently, it was the higher echelons among the specialty group hierarchy who made the decision to sponsor and lead a conference. Administrative participation at that level of the nursing hierarchy may have resulted in their commitment to the changes proposed in the

conferences. However, this was never evaluated. Similar cooperative efforts between local sponsors and the RNABC were not possible after June, 1982 when the funding for the program planner/coordinator position was terminated, as planned.

As the conferences were pre-packaged presentations, Conference Leaders were not required to be content experts. Under these circumstances they could not have been expected to formally follow-up or reinforce, in their practice setting, the changes proposed in the conferences. Reinforcement by Conference Leaders and peers may have occurred incidentally in smaller communities where participants, although in temporary groups for the conferences, worked together in the same practice settings.

Instructional Techniques

The decision to offer the conferences in a pre-packaged format had been made prior to the hiring of a program planner and an appropriate budget allocated to their development. It was felt that this would be the most cost-effective method of ensuring the accessibility of the conferences to nurses throughout the province. The instructional strategies used were those believed to be most effective for the general staff nurse, the target of the conferences.

The introductory conference was pre-packaged for oral presentation by a Resource Person while the three follow-up conferences were audio-visual packages which participants were led through by a Conference Leader. Resource Persons were

distinguished from Conference Leaders as having more direct familiarity with the operations of the Registered Nurses' Association. This often meant that Resource Persons were present or past Board members, committee members or Chapter presidents. Resource Persons were expected to draw upon their knowledge of the Association when discussion of the support tools and services took place in the conference. Enrollment in the introductory conference was limited to forty participants. Due to the audio-visual nature of the follow-up conferences enrollment was restricted to twenty participants to facilitate group interaction which was felt to be a critical component of the teaching-learning transaction.

The criteria for the selection of Conference Leaders were that he or she be seen in the community as a role model and innovator in nursing practice. In addition, leaders were to be familiar with the content concepts, likely to have applied some of the strategies to their practice and be competent group leaders. Comparatively speaking, as the follow-up conferences aimed at changing work behaviour, it was the Conference Leaders who had the most difficult task yet they were generally less experienced than the Resource Persons. Rather than using the interpersonal network to induce change the follow-up conferences depended primarily on the audio-visual media. More financial resources had been allocated to the development and implementation of the introductory conference which aimed at developing participant awareness and a willingness or desire to

change and a receptivity to help. Fewer resources had been allocated to the follow-up conferences which aimed at changing behaviour. It is possible that the audio-visual media might have been fairly effective in increasing awareness while the interpersonal presentation may have been more appropriate for the follow-up conferences.

Materials for the introductory conference consisted of: (1) a Resource Person's Manual with the entire conference content including learning activities and guidelines for group discussions, plus supporting audio-visual aids, and suggestions for summarizing discussions; (2) a Participant's Workbook; and (3) a Sponsor's Planning Guide. Each of the follow-up conferences consisted of: (1) a Conference Leader's Manual; (2) a Participant's Workbook; and (3) a Sponsor's Planning Guide. The Conference Leader's Manual came complete with synchronized slide-tapes, videotapes, the narrative for the tapes, learning activities with guidelines for discussion and suggestions for summarizing and relating the discussions to the conference objectives.

The Participant's Workbook for each conference included:

- (1) an outline of the the overall purpose of the conference;
- (2) the role of the Resource Person or Conference Leader;
- (3) the role of the participants;
- (4) the general objectives and specific objectives for each unit;
- (5) directions for the learning activities;

- (6) a bibliography;
- (7) a list and description of the RNABC resources available;
- (8) copies of selected RNABC publications; and finally,
- (9) a participant reaction evaluation form.

Sequencing of the conference content and learning activities followed the same rationale in each of the conferences. Presentation of an overview of the conference content was followed by a non-threatening learning activity intended to have participants reflect upon relevant past experiences. The overview and the discussion of the participants' experiential base was to facilitate the apprehending phase of learning, attempting to create a bridge between new and existing knowledge. It was expected that some participants, due to unpleasant previous experiences, would hold negative attitudes about some of the issues that were to be addressed in the conferences. Small group discussions were utilized for the purpose of revealing the different perspectives that could be associated with each issue.

As each conference progressed participants were required to apply conference content to problem solve hypothetical situations meant to be similar to those encountered in their daily practice. In each of the follow-up conferences small group activities aimed at having participants apply the strategies presented in the conference to case studies. Participants were to consider a range of possible solutions and the potential consequences of each alternative solution. These activities were meant to be the equivalent of skill practice situations. Application of the

conference content was expected to play a large part in each group's selection of a solution which would be an image of how things should or could be.

Final exercises in the follow-up conferences were to direct participants to translate the insights gained into action plans for change in their practice settings. No means of ensuring commitment to these plans, however, was built into the conference design.

Application of the innovative-decision process to the analysis of the teaching-learning transactions reveals that participants were taken through the knowledge and persuasion stages only. Because these conferences aimed at having participants adopt proactive rather than reactive behaviours it would have been difficult for many participants to progress to the last stages of the innovative-decision process. The consequences of adopting the behaviour proposed, definitely presented risks to each participant. Demonstration of the behaviour was built into the conferences but only at the level of role playing or acting on a videotape.

Follow-up Feedback

Follow-up feedback in the participant's practice setting was not a component of the design of this program. However, throughout each of the conferences participants were given the message to contact the RNABC Practice Consultants for further information regarding resources or services or for moral support in implemen-

ting the new behaviour. Between 1981 and 1983 and again in 1984 members have been able to call the Association toll free from any area in the province. Many of the calls Practice Consultants receive about safety to practice issues are from nurses who either have attended one of the conferences or were referred to a consultant by someone who was a participant (Carroll, 1984).

Follow-up support and feedback to all participants in each of the conferences had been deemed, from the inception of the conferences, impractical and too costly. The compromise had been to have participants seek follow-up consultation and reinforcement from the Association.

Internal Provider

The primary purpose of the RNABC is to ensure the safe practice of nursing in British Columbia. Although two of its functions, required by law (Nurses' Act, 1979), are the setting of nursing standards and the discipline of the membership for unethical or incompetent behaviour it has no power or authority to control the work settings in which members practice. The Association can only enter the work setting as a representative of a member or members when called in by that member or members. Being relatively distant from each nurse's practice setting, therefore, does not qualify the Association as an internal provider. Essentially, in these conferences, the Association was teaching participants from a distance and offering long distance follow-up support.

Characteristics of Participants

Little information is available about the participants in these conferences. A narrative report written in 1982 indicates that 21.4% of the participants attending the early conferences were in management level positions (RNABC. STP Evaluation Report, 1982). Whether the same percentage of management level nurses were attending conferences offered later is a matter for speculation, particularly as these conferences were developed with staff nurses as the target audience. The earlier patterns of participation could have represented what Rogers and Shoemaker call the early adopters while later adopters could have been attending the conferences held two and three years after the program commenced. There is no data to indicate if, in fact, this has been the pattern. No hard data is available to permit an analysis of the characteristics of the participants who attended these conferences.

Characteristics of the Proposed Behavioural Changes

The overall goal of the conferences series was to have nurses who participated in any one of the conferences:

...demonstrate personal responsibility for the safe care of patients by using one or more of the services/tools which the Board of Directors is developing through the Safety to Practice Program.

(Project Plan, 1980:1)

Two objectives are implied by this goal: (1) personal responsibility and (2) the use of the RNABC services or tools. Although the goal attempted to specify how the "personal responsibility" was to be demonstrated it still represents a broad spectrum of possible behavioural manifestations. Each of the four conferences aimed at discussing possible behavioural manifestations of "personal responsibility."

Recognizing the limitations as to what any one-day program could achieve, none of the conferences in the series specifically stated in their objectives that participants would change their behaviour or performance in the work setting solely as a result of participation. The overall purposes of the follow-up conferences were as follows:

#2 Safety to Practice: Taking Charge of Your Own Practice

The purpose of this one-day conference on "Safety to Practice: Taking Charge of Your Own Practice" is to assist Registered Nurses to consider strategies that can be used to take charge of their own practice.

#3 Safety to Practice: Evaluating Nursing Practice

The purpose of this one-day conference on "Safety to Practice: Evaluating Nursing Practice" is to assist Registered Nurses to develop strategies for evaluating their own nursing practice, in their practice setting, with the end goal of improved nursing skills and better patient care.

#4 Safety to Practice: Influencing Patient Care Conditions

The purpose of this one-day conference on "Safety to Practice: Influencing Patient Care Conditions" is to assist Registered Nurses to consider actions they can take when conditions of practice affect their ability to maintain a safe standard of nursing care.

The key behavioural words here are "to consider" and "to develop." Under these overall purposes, five to six specific objectives for each conference were listed, all of which were in the cognitive and affective domain of behavioural change (see Appendix A). Practice changes are not specified yet an impact on participant behaviour is implied for each conference. Because of the diverse audience one of the assumptions underlying each conference was that participants would filter the content to determine what was not relevant to them, then adopt those strategies which they perceived as relevant to the issues they encountered or anticipated encountering in their own practice.

Application of Rogers' list of attributes of innovations to these objectives reveals that few of the proposed changes possessed any of the attributes associated with adoption. These are less tangible than psychomotor objectives. None of the subdimensions of the attribute of relative advantage can be found in these objectives. Insufficient information is available about participants to permit analysis of participant/course goal congruency. Field testing results indicated that participants were attending for a variety of reasons. Either they wanted the information, or the information was of general interest, or they thought that the information might be relevant to them in their present role. Although the objectives were simple to understand in their cognitive form they were infinitely more complex to apply in the practice setting where, to some extent, the cooperation of others was needed. Implementation of the

objectives, even on a trial basis, required participants to assert themselves and also presented some risk as to the consequences of their action. Many participants may have anticipated difficulties and rejected partial adoption. Others may have experienced some discomfort and encountered opposition in attempts to try to implement what they had learned.

Characteristics of the Social System

No studies were found by this writer explicitly analysing the environments in which nurses in British Columbia work. Nurses' roles are typically described as being independent, interdependent and dependent. Hospital training programs, which were the predominant mode of basic nursing preparation until the late 1960's, did not socialize nurses to act autonomously. Hospital policies encouraged and reinforced nurses deferring decisions to physicians. Hierarchical structures then and now prescribe their interpersonal relationships, formal lines of communication and prescribed leaders. Although nursing education was transferred to the community colleges and universities in the 1960's, the transition to professional autonomy has not been easy. Structural constraints still persist and act as barriers to the development of autonomous nurses. As both Batey and Lewis (1982) and Little (1981) noted, autonomy in nursing will and can occur only if the social systems allow it and the individual nurses are willing to exercise it.

In a study of a continuing nursing education program, Keltner (1983) found that most respondents did not perceive that they had an opportunity to apply what they had learned in a program to their practice settings. Only 48% of the nurses in her study felt supported in their attempts to apply their new knowledge. Carlley (1980) concluded from her study of a continuing nursing education program that nurses are not encouraged or expected to disseminate information gained through continuing education classes. Nurses do not seem to perceive their employers as supportive of their efforts to apply knowledge gained from continuing education programs.

Although some work environments are favourable to change it must be assumed from the above that for the average nurse in British Columbia the work environment is slow to encourage change. Changes such as those proposed in these conferences, which could have the potential of changing the structure of social systems, would likely have been discouraged by institutions comfortable with the status quo.

Summary

This analysis revealed that few of the subvariables identified in the research studies as positively influencing program impact on work behaviour were present in these conferences. These conferences attempted to unfreeze and move participants to new levels of behaviour. While an informal

process of soliciting social system support was utilized prior to and during the development of these conferences it is questionable that it would have been adequate for refreezing of the new behaviour. Using the subvariables from the research studies as the criteria for effective programming, the conclusion must be drawn that it is not probable that any of the conferences had a lasting impact on the work behaviour of participants. Even if a participant attended all four conferences over a period of time, given the design of the program and the nature of the objectives, the conferences would not likely have had a cumulative impact on the work behaviour of that participant. Changes in participant behaviour, if they occurred after attendance at any one or all four of the conferences, would have likely been due to highly motivated participants who possessed the characteristics identified in the research studies and who worked in social systems supportive of the proposed changes.

Several mitigating factors can be summarized as having impeded the successful impact of these conferences. First, designing a packaged program for such a large, geographically dispersed, diverse audience made it impractical to seek the input of practitioners and administrators throughout the province in the program planning process. Although input was required at the local level for sponsorship there was no formal plan to solicit the support of the local health care agency administrators in endorsing the changes proposed at the time that a conference was being held. Even if local practitioners and administrators had

cooperated in the sponsorship of a conference their input into the conference as a packaged product would have been minimal and would have been inadequate to guarantee social system support of the planned changes.

Second, the behavioural changes were in the realm of preventative behaviours. Rogers' review of the adoption research literature revealed that preventative innovations are rarely adopted. The conference objectives aimed at developing the self-directed behaviour of participants, yet to implement the proposed behaviours required participants to be self-directed.

Third, the proposed behavioural changes may have posed a threat to the status quo of the social systems in which the participants were employed. Expecting participants to adopt behaviour that would challenge existing policies and practices within their social systems represented a considerable risk for the participants. Support and reinforcement of the new behaviour would not occur in social systems wanting to resist these changes.

Finally, the networking of the Association was at too great a distance from participants to allow on-site follow-up support and reinforcement of the behavioural changes. Consultations with the RNABC Practice Consultants had the potential of providing support and reinforcement at a distance. The relationship between long distance support and reinforcement and post-program behavioural changes has not been reported on in the research literature.

If participants' attitudes changed about their ability to change what happens to them, then, to some extent, the conferences could be judged successful according to the spirit of their intention. To clarify this point, it was stated earlier in this paper that it was the intention of the conferences to increase awareness; to show nurses that they could influence, had the power to influence what happens to them and that they were responsible as individuals for taking action to prevent something or to make something happen. Should participants have perceived, after attending one or more of the conferences, that their professional association could contribute to achieving those outcomes, then the goal of attitudinal change was achieved. No baseline of attitudes is known nor was any formal follow-up evaluation conducted to determine whether nurses' awareness or attitudes changed as a consequence of attending any of the conferences.

Because these conferences represented a unique phenomenon unparalleled in the past, comparisons of teaching strategies and outcomes are difficult to make. In the future, programs of such magnitude may not occur because the cost of resources that would be required to ensure that the presence of subvariables identified in the effective programs would be too great for a short program.

No income was generated by these conferences; they represented an expenditure in which there was no way of measuring cost-effectiveness. Just their existence manifested an act of faith

of nurses in themselves and in the self-directiveness of the membership; a trait that was to be nurtured and encouraged within the context of each of the conferences. Educational or health care institutions are not likely to attempt to duplicate this type of effort, primarily because of financial reasons.

Principles for the development of impact programs can be derived from the results of the subvariables identified in the analysis of the effective programs and from the analysis of this conference series. Chapter IV will present a list and a discussion of these proposed principles.

CHAPTER IV

PLANNING EFFECTIVE SHORT NURSING PROGRAMS

Seven principles for the development of continuing nursing education impact programs will be proposed here. General adult education principles would still be applied in the program planning process but are not mentioned here for purposes of brevity.

These seven principles are meant to act as guidelines for the development of effective impact programs and would need to be tested before being adopted. They are presented within the context of the limited types of objectives achievable as evidenced in the analysis of effective programs and take into account the typical resources allocated to the development of short continuing nursing education programs. Some of the principles are congruent with general strategies for change while others are similar to elements found in conventional program planning models. The principles would seem to be most compatible with Boyle's (1981) program planning model. Boyle's model is one of the few models that suggests steps for integrating learners and influential persons from participants' social systems into the program planning process.

Programs may be designed to take participants through the

innovative-decision process but personal and situational factors, often outside the planner's control, can impede progress through the process. Rather than having a program operate from outside the participant's social system these principles provide suggestions for integrating the social systems into the program design.

In addressing one of the issues in program planning, the bridging of educational programs to work environments, these principles require the existence of three fundamental conditions if they are to be applicable. First, the conference content must have immediate relevancy to the participants' practice. Second, mastery of the content is required as a pre-requisite for the application of content to practice and as such must be tested if behavioural changes are to be evaluated. Thirdly, motivation to change is also a prerequisite for change in work behaviour.

Program Planning Principles

1. Programs should be developed for specific small homogenous audiences.

The less diverse the audience and the more that is known about them the easier it would be to match the program to their needs, baseline behaviours, learning styles, previous experiences, areas of practice and positions while integrating the content into the context of their work environments.

2. The learning need for any program should be one identified

by practitioners, educators, and administrators as a deficiency state which is directly related to patient care.

Underlying this principle is the congruency between participant goals and course goals which is necessary to motivate participants to change. Deficiency states are more likely to be observable, provide a baseline of the performance, and allow for the development of a clear definition of the problem and the performance standards to be achieved by a program. Projections of the desired state provide a post-program standard for comparison.

The provision of a standard of safe patient care is a goal common to nursing practitioners, educators and administrators. With safe patient care as the underlying goal, agreement among these groups is more likely and may encourage reinforcement of behavioural changes in the practice setting. At least, negative sanctions are unlikely to be imposed on participants wanting to implement new behaviours to improve patient care.

3. Liason between educators, practitioners and administrators from the participants' social systems is required throughout the entire program planning process.

Program planners have been urged by Griffith (1981) and Del Bueno (1977) to work more closely with the agencies in which participants are employed if their programs are to succeed in impacting on participants' work behaviour and patient outcomes.

Commitment of administrators and practitioners to change cannot be achieved through their token representation on planning

committees. Partnership throughout the program planning process is required to gain acceptance of the desired program outcomes by those involved in making the changes and those affected by it. Involving the social system in the program planning process will also help, according to Griffith, to identify the situational factors which would influence application; thus involving those with authority to restructure the work environment who, in turn, could encourage, support, reinforce and reward behavioural changes. This would constitute the legitimization and support required from the formal power structure of the social system. Planning teams may consist solely of employees of the participants' employing agencies or may include inside and outside members. Outside members would likely be the program planner/change agent.

The more committed the power structure is to the proposed behavioural changes, the more likely they will facilitate a participant's progress through the innovative-decision process. Brown (1980) has stated that social systems have rights and responsibilities regarding their employees who participate in continuing education programs. While employers have the right to expect participants to change their behaviour subsequent to participation they also have the responsibility for reinforcing and supporting the changes in participant behaviour.

4. Programs should be scheduled and sequenced to allow for independent study and practice between sessions.

Grabowski (1983) terms this "multiphase programming". The sequencing of instructional sessions to allow for independent practice sessions is a fundamental approach employed in formal education programs. Short continuing professional education programs have traditionally been offered in one, two or three day consecutive full day sessions. Several different factors could be at the root of this tradition. Program planners may believe that scheduling longer sessions over fewer days facilitates attendance and persistence in a program. Also, because continuing education is frequently a marginal activity of educational institutions it may sometimes be cheaper and logistically simpler to schedule a small number of longer sessions than several short sessions.

The cost to outside providers of sending project workers into the work setting for follow-up support and reinforcement of participants' behavioural changes would add substantially to the fees charged for continuing professional education programs. The question then arises as to how refreezing can be ensured. Certainly management commitment to change would contribute to refreezing. Other support systems are possible when programs are scheduled to allow participants time to go back to their work setting to try out the new skills.

Participants make decisions and operate as individuals in their practice settings. Individual exercises designed to encourage the development of action plans to be implemented in the work setting would seem to be desirable. The aim would be to

link plans to action. The opportunity for practice can help to take participants to the implementation stage of the innovative-decision process. Requiring participants to practice in their work settings during the intervals between classroom sessions encourages commitment to action plans. Support can be provided in the classroom setting prior to practice while feedback and reinforcement of the new skills could be an integral component of the next session. This type of feedback mechanism would provide classroom support for risk-taking behaviour. The experience of all the participants experimenting with the new behaviour in their practice settings should also have a reinforcing effect.

Individual study and practice between instructional sessions should contribute to consolidation and would be the compromise for not having project workers do an on-site follow-up of participants.

5. Team attendance should be encouraged.

When two or more participants from any clinical area attend a program mutual reinforcement and feedback in the practice setting is possible as they try out their new skills between classroom sessions. This peer support and reinforcement may persist following the completion of the program.

6. Flexibility must be built into any program, particularly in the learning activities which can be adapted to ensure

appropriateness to participants.

Many continuing nursing education programs are offered to more than one group of nurses over a period of time. Potential participants and nursing administrators from the agencies initially requesting the program may be involved in the development of the program. Frequently the program format, content and learning activities are not changed or adapted to new groups after the first offering. Programs, even if they consist predominantly of teacher-learner interaction, in a sense, become packaged products.

It is generally known during program development that a program may be suitable for several groups of nurses in diverse fields of practice. Practitioners and administrators from these areas of practice should be involved initially in the program planning process. However, should new audiences arise, liaison and input from these members affected by the program should take place and the program should be adjusted to their needs and environments. Sometimes only a small portion of the content would need changing and new learning activities could be developed or selected from those originally developed for the program.

Developing a selection of case studies during the initial program development phase which could be appropriate to a diverse group of participants would contribute to the flexibility of a program.

7. Objectives should be limited to the realm of psychomotor

skills, specific nursing assessment skills or protocols, nursing techniques or procedures.

These objectives focus on individual change not requiring the cooperation of others to implement. The relative advantage of the new behaviours should be related to patient care and should be demonstrable to participants. Participants need to be able to interpret participant/course goal congruency in their self-selection to attend a program. Clear, explicit objectives facilitate a participant's comprehension of a program's goals and allow matching of needs to goals.

Objectives, in addition to being simple to understand, must be relatively easy to implement with positive results observable to participants in the short term. Objectives should also allow for trial without full commitment.

Summary

Several key concepts appear in these principles. Congruency, liason, commitment, involvement, practice, feedback, reinforcement, support and flexibility are the concepts to be applied to the design of programs intending to impact on a participant's work behaviour.

Most adult education program planning models list sequential and over-lapping processes for the design of programs. Integration of a model's philosophical basis into these processes is not always obvious in the lists of steps. Responsible and accountable program planners must be cognizant of the philosophies underlying the

program planning model they intend to use. Compatibility between a model's philosophical basis and a program's goals is necessary if programs are to be effective. The principles proposed in this paper, although they primarily represent concepts, have attempted to illustrate a relationship between the concepts and decision steps.

These principles are intended as a supplement to existing program planning models. Because they attempt to integrate some principles of planned change these principles would seem to be most compatible with Boyle's (1981) institutional framework for program development and the fifteen concepts he lists as "important" for program development. Features in the above principles distinctive from Boyle's institutional framework for program development are: (1) the definition of need, (2) specification of the types of objectives achievable in short continuing professional education programs, and (3) the scheduling of instructional sessions to allow for independent practice in the work setting.

Empirical testing of the validity of each of these principles as independent variables influencing outcome would be difficult. Considering the importance of practice, support, feedback and reinforcement to refreezing of behavioural changes it would be worth testing the effect of sequencing as the independent variable influencing impact.

CHAPTER V

PROPOSAL FOR A RESEARCH DESIGN

Although the principles proposed in Chapter IV would represent a unique interaction of variables, the study proposed here would test the impact of one principle only, the scheduling of program sessions to allow for independent clinical practice between sessions.

The Cox and Baker (1981) and Heick (1981) studies along with the Kattwinkel (1979), Ruebenstein (1981), Inui (1976), and Laxdal, et al. (1978), studies analyzed by Stein (1981) involved multiphase programming with supervised practice between sessions. Evaluation studies of multiphase programming without supervised practice could not be found in the literature.

Participant and course goal congruency contributed to program impact in the programs evaluated by Cox and Baker and Heick and in the program studies analyzed by Stein. Derby (1982) suggests that scheduling courses to allow time for reflection and the opportunity to apply content in the practice setting might contribute to participant/course goal congruency.

Program Design

A background for a hypothetical continuing nursing education

program titled "Developing Hospital Policies for Safe Patient Care" is proposed here. The purpose of the program would be to assist nurses to develop and improve their policy making skills. The program would focus on: (1) general policies needed in acute care facilities, (2) factors to consider when evaluating current policies, (3) renewing current policies, (4) diagnosing the need for new policies and (5) guidelines for the development and evaluation of new policies.

The need for this program was first recognized by several members of a policy making committee in an acute care agency who felt that their lack of specific training and experience was interfering with the expediency with which they could review and renew existing policies and develop new policies for the safe care of patients. Nurses on other policy making committees in the same agency experienced similar problems as they had no systematic method of approaching the work expected of these committees. Nurses on these committees were at the level of staff nurses, head nurses, clinicians and supervisors. Two representatives from these committees held a meeting with the nursing management of the agency to communicate the need for an educational program to correct this deficiency. The nursing management agreed with the need and made a commitment to seek out or develop an appropriate educational program. Discussion of this need in a meeting with nursing managers from other acute care facilities resulted in two other agencies agreeing that nurses in their respective agencies had the same need. These two

agencies verified the need with their own policy committees.

A task force was subsequently set up with representation from management and potential participants. Nurses sitting on policy committees in these agencies were surveyed by the task force for the purpose of identifying specific problems. Once identified the problems were classified and relationships between staff position, committee, and problems were noted.

A provider with content expertise was subsequently contacted by the task force and agreed to design a program to address these problems. Members of the task force then became members of the program planning committee. Specific behavioural objectives were outlined and program content was developed. The specific learning objectives were behaviours that nurses would be expected to demonstrate in their clinical settings upon completion of the program. A variety of learning experiences in the form of case studies and situations specific to problems encountered by subgroups were developed.

Evaluation Design

The question to be answered by the study would be: Does mulitphase programming with independent practice between sessions contribute to the impact of a program on a nurse's work behaviour?

Two levels of program impact would be measured in this study: (1) knowledge gain at the time of course participation; and (2) behavioural changes in the practice setting two months

following the program.

A quasi-experimental research design would be employed. Pre- and post-program knowledge tests would be administered. Pre-and post-program data on participants' work behaviour would also be gathered.

Independent Variable

Multiphase programming with independent practice in the intervals between sessions versus sequencing of program content with no interval for practice. The multiphase program would be four three-hour sessions at two week intervals.

Dependent Variables

Knowledge gain immediately after participation in the program and adoption of the changes proposed in the program's objectives. Content experts would help to operationalize these objectives into specific behaviour which could be observed.

Method

Study Group. Two distinct groups would complete the program within four months: an experimental group and a control group. Long range recruitment due to contracting between the provider and the participating agencies would make it possible to assign participants to the two groups. The second program would serve as a control for the first. Because participants would be tested within two months of completion of the program, maturation would

not be a significant factor that would affect results.

Team leader, assistant head nurse, head nurse and clinician members of policy making committees in the participating agencies who indicated on their registration forms the need to develop or improve their policy making skills would be accepted into the program. As more than one member from any given committee could choose to attend, random assignment to groups would not be possible as it could result in one member being in the experimental group while another member from the same committee could be in the control group. Some control would be possible if participants were all assigned numbers. When teams of two or more from the same committee registered they would be assigned the same number. Numbers would then be chosen randomly and assigned to the experimental group. While the effect of team participation could be tested the design would be compromised to some extent. Groups would not be equivalent according to their pre-test scores and more participants would be in the experimental group than in the control group.

The experimental group would attend four bi-weekly three-hour sessions where they would be expected, between sessions, to attempt to apply the content to their practice settings. The study would assume that this scheduling would allow the experimental group to attempt to apply the content.

The control group would attend the same program over two consecutive days where independent practice sessions would not be part of the program. Program content would be the same for all

instructional groups regardless of the interval between sessions.

Data Collection. Pre- and post- program knowledge testing plus pre-program and follow-up questionnaires would be administered to each of the participants in the two groups. Pre- and post-program data on participants' behaviour would also be obtained from participants' supervisors. Each participant would select a supervisor whom they believed to already possess policy making skills. Participants and supervisors would be asked to sign a contract to agree to participate in the follow-up study.

Content experts would devise forty questions to test knowledge. To minimize the testing effect on the results, these questions would be randomly assigned to the pre- and post-tests.

Based on the data collected in the needs survey conducted by the task force the pre-program questionnaire would ask each participant to complete: (1) a personal profile, (2) a self-rating of the frequency of their performance of the targeted behaviour, (3) a self-rating of their skills in performing the stated behaviours, and (4) a rating of the opportunities they might have to implement the targeted behaviours.

Supervisors would be asked in the pre-program and follow-up questionnaires to rate the participants': (1) frequency of performance of the targeted behaviours, (2) level of skill in the performance of these behaviours and (3) opportunities available for performance of these behaviours.

In a follow-up questionnaire participants would be asked to complete: (1) a self-rating of the frequency of their

performance of the targeted behaviours following completion of the program, (2) a self-rating of their skills in performing the targeted behaviours, and (3) an inventory of the opportunities they had to perform these targeted behaviours. In addition, participants would be asked to comment on why they thought their behaviours had or had not changed.

To increase the reliability of the instruments, field tests would be conducted with nurses sitting on similar committees in non-participating agencies.

Data Analysis. A "t" test of the experimental group's pre- and post-program knowledge scores would be conducted to establish whether there was a statistically significant gain in knowledge. Comparisons would be made between the mean, standard deviation and range of pre- and post-program scores of the experimental and the control group to examine statistical significance (see Table V, below).

Table V
Descriptive Data Summary of Scores Resulting
from
Pre- and Post-testing of E and C Groups

	Pre-Test		Post-Test	
	E	C	E	C
Mean				
S.D.				
Range				

Comparison of the experimental group's pre-program and

follow-up self-ratings of performances would indicate if any significant changes in behaviour occurred. Comparisons between the self-ratings of both groups would be made using "t" tests.

Supervisors' pre-program and follow-up ratings of participants' behaviour would also be analysed to determine if significant differences occurred within groups and between groups. Comparison of supervisory ratings with participant self-ratings would be made.

Tables of the frequency with which the selected behaviours were performed prior to and two months subsequent to participation in the program would be provided. In this table, t-values and the significance of the experimental group's frequency of performance would be compared with the control group's performance.

The strength of the relationship between the several independent variables and the dependent variable would be analyzed using multiple linear regression. For example, relationships between behavioural changes and: (1) age, (2) education, (3) years in nursing practice, (4) position, (5) area of practice, (6) type of committee, (7) opportunity to implement, (8) supervisory support, (9) team attendance and (10) perception of obstacles, will be explored. Table VI (Page 105) provides an example of how these results might be illustrated.

Generalizations from this study would be limited to the nursing population studied and the specific situation and the

procedures employed in the design of the program. One study would not be sufficient to prove or disprove the impact of the independent variable. Further evaluation studies would need to be conducted of programs which attempted to apply the principles proposed in this thesis to the design of continuing nursing education programs.

Table VI

**Correlation Between Independent and Dependent
Variables in Experimental Group**

Independent Variables	Dependent Variables		
	Change Score	Self- Rating	Supervisory Rating
Age			
Education			
Years in nursing practice			
Position			
Area of practice			
Type of committee			
Opportunity to implement			
Supervisory support			
Team attendance			
Perception of obstacles			

At the conceptual level, however, the results of this proposed research study could be applicable to other continuing professional education programs where participants are highly motivated, have both the time and the opportunity to practice in their clinical settings between sessions, and where there is a mechanism for discussion and feedback regarding each participant's intervening clinical experiences of applying the

program content in the work setting. This mechanism should assist participants through the innovative-decision process. Maintenance of the changed behaviour would not be ensured by application of these principles to the program design. Continuing education programs alone cannot continue to bombard participants with reinforcement, support or incentives to maintain new behaviours once a program has been completed. This responsibility must be transferred to the participant and the employer at this stage. Educators need to explore methods of assuring that this follow-up occurs.

CHAPTER VI

SUMMARY AND IMPLICATIONS

Basic nursing education programs can never produce a finished product. To maintain their competence in a field that is constantly changing nurses must be lifelong learners. Some nurses maintain their knowledge and skills through self-directed learning while many others look to participation in continuing nursing education programs as one means of maintaining their professional competence. Nurses placement of such confidence in continuing education is not unrealistic but makes imperative the need for the development of quality continuing nursing education programs and the means to validate their effectiveness.

Gulino (1983) presents a convincing argument regarding the potential cost-effectiveness of program evaluation from which insights could be translated into the development of effective continuing nursing education programs. She refers to a study by Spitzer and Grace (1983) where they state that because nursing services account for approximately 40% of the operational budget of the average hospital, there is a need to validate the benefits of nursing service in relation to the provision of that service. Guilino speculates that if costs per unit of nursing service were correlated to outcomes, the significance of nursing

might become more visible and hence the value of updating nurses' knowledge and skills through continuing education might become more salient to practice.

Continuing nursing education programs are expensive. Costs include the registration fees paid by the participants and the costs borne by the health care agencies which provide the nurses with the time off to attend these programs. The health care agency subsequently passes on the cost to the third party, the health care consumer. Nurses, their employers, and health care consumers obviously all have a stake in the effectiveness of any continuing nursing education program.

Despite the fact that no empirical model exists for the evaluation of continuing nursing education, providers must begin to demonstrate attempts to evaluate the effectiveness of their programs. Of the evaluation frameworks and models reviewed in this paper, Cervero's (1982) conceptual framework, while not empirically testable, has the potential of being adapted by program planners who want to conduct process evaluations of their programs. Cervero has proposed that four independent variables influence program impact on work behaviour. While most program planners find that they can manipulate only two of these variables: program characteristics and the proposed behavioural changes; they do have some control over the participants' social system if it is integrated into the program planning process at the inception of the program.

Few empirical evaluation studies of continuing professional

education programs have been published. Only eleven studies were able to demonstrate that the programs they evaluated had a positive impact on participants' work behaviours. Two possible reasons for this phenomenon can be postulated. First are the problems encountered in the evaluation of continuing professional education programs. Second, few continuing professional education programs seem to be effective in changing work behaviour.

In the first category, problems which are believed to affect the implementation and analysis of cause-and-effect relationships fall into several categories: (1) dispositional factors, (2) situational factors, (3) unclear program goals, (4) design problems, (5) practical constraints, and (6) political restraints. Dispositional factors include the diversity of learners in terms of education, experiences, motives and interests. The situational factors are the diverse work environments of the participants. Unclear program goals occur when the real purpose of the program is unclear, not stated, or generally not evident. Design problems are several: inadequate sample size; self-selected biased samples; difficulty in obtaining control groups; difficulty gaining access to clinical settings for follow-up of participants; unreliable, inappropriate or invalid measurement tools; and costs in terms of the time, personnel and financial resources needed to conduct methodologically sound evaluations. Practical constraints are related to the short term nature of continuing professional

education programs and the outcomes that can realistically be expected. Politically, sponsors may be satisfied with the evidence that participants enjoyed the learning experience and may not want to deal with any further data.

In the second category, there may be a multitude of factors whose absence or presence may interfere with the effectiveness of any program. There is always the possibility that short continuing professional education programs cannot realistically be expected to achieve, with any consistency, impact beyond increasing participants' awareness. It could be argued that if it was accepted that short programs could not change behaviour then resources which might have been spent on the shorter programs could be transferred to the longer programs. But the analysis conducted in this paper of the research studies of programs which did have a positive impact on work behaviour revealed that length and outcome have no magical correlation. Instead, length and its appropriateness to the learning objectives were found to be related to impact on work behaviour. Short programs can be effective in changing behaviour!

Program planners could benefit from reviewing Tables I through IV (see pages 62 and 63) where the subvariables identified in the analysis of the effective programs are summarized. These subvariables have implications for the design of effective impact programs. Each of the subvariables identified under program characteristics are mutually enhancing and seem to have a cumulative total effect. The involvement of

potential participants and their managers in program planning links the groups to be affected directly and indirectly by the proposed behavioural changes. It also begins the process of administrative support for the proposed changes. These factors should facilitate the opportunity for participants to practice and should contribute to the development of a feedback mechanism within the work environment regarding the performance of the new skills.

The types of behavioural changes achieved in the effective programs analysed were those in the realm of specific psychomotor skills, regimes or procedures. These were changes which involved minimal risk to participants, did not require the participation or cooperation of others to implement and were easy to observe.

The participant and social system characteristics outlined in Cervero's conceptual framework cannot easily be manipulated by program planners. In the analysis of the effective programs the subvariables in these two categories were significantly different than those proposed by Cervero. Participants in the successful programs understood their need to change, were motivated to change and practiced outside large institutions. The social system subvariables identified in these same programs as professional autonomy, supervisory commitment to the proposed changes, the opportunity to practice, and peer group reinforcement over-lapped with the other categories of independent variables in Cervero's framework. Separating these subvariables from the other categories would seem to serve to

maintain the present distance that exists between education and practice. It is this author's belief that obtaining front-end commitment from the nursing management hierarchy in the potential participants' employing agencies would have more positive effects than attempting to obtain it after the program has been developed.

An application of these subvariables to the analysis of the "Safety to Practice Conferences" revealed that few of the subvariables were consistently present in the program. In retrospect, any pre-packaged program for such a large, diverse, and geographically dispersed audience would have difficulty providing follow-up and reinforcement of behavioural changes in the practice setting. Consequently, such programs cannot change work behaviours. It is quite possible, however, based on the observations and perceptions of the RNABC Practice Consultants, that the awareness of many of the participants did increase. There is also a feeling that this awareness had somewhat of a ripple effect in the nursing communities where conferences were held. Further studies are needed to confirm this speculation. To the extent that these conferences succeeded in changing awareness they can be judged as successfully having had some impact on participants.

Based on the analysis of the research studies of effective programs and the "Safety to Practice Conferences", principles for the development of programs aimed at changing the practice behaviour of nurses were developed. Seven principles were

proposed as guidelines for program planners followed by an experimental design to test out these principles. Most of the principles proposed have been addressed by a number of other authors as general principles of adult education. Gross (1984) reported that a set of standards consisting of eighteen principles was endorsed at an annual meeting of professionals in continuing education and training which was held in Wisconsin. Meant to serve as program planning guidelines, these principles covered the quality of course content, student performance, marketing, administration, learning experiences, and other topics. Adult education principles generally remain untested and therefore cannot be put forward as standards for adult education.

What is unique about the principles proposed in this paper is their combination within a single continuing nursing education program. Multiphase programming with planned independent, clinical practice with feedback at subsequent instructional sessions is a critical variable in the list of principles. The need for practice is not disputed in the literature, however, studies to test the variable of planned independent practice have not been conducted. Because cost is an important issue in continuing professional education while practice seems to be such a critical factor, planned independent practice should keep costs reasonable while contributing to program effectiveness.

Where the intention of a continuing nursing education program is to impact on work behaviour, the program planner must attempt to evaluate the results. Certainly, a unifying

conceptual framework for evaluation would facilitate the implementation of evaluation designs as well as standardize the reporting of the results. More research needs to be conducted in the field of evaluation of continuing professional education. Also, the cost of evaluating continuing nursing education must be weighed against the cost of ineffective programs using up limited resources that do not maximize effectiveness. Analysis of more research studies of effective impact programs needs to be conducted to determine whether the subvariables identified in this paper appear with any consistency.

Enough information about effective continuing professional education programs is available to permit action to be taken to improve the present program planning process. Of top priority is the linking of providers to the practice settings for the purpose of cooperative and coordinative efforts to develop programs that succeed in changing behaviour. Objectives for these programs must be related to problems perceived by practitioners and amenable to change through education. Only if educators, practitioners, administrators and researchers work together can effective, accountable continuing nursing education programs be developed and implemented. Strategies to achieve this liaison need to be explored. Further studies analysing nursing management's perceptions of program impact may shed more light on why practitioners perceive that their social systems do not support behavioural changes. Nurses, educators and administrators can then work at eliminating the factors that

compromise the effectiveness of continuing nursing education. New strategies that would support and reinforce behavioural change could then be developed.

A goal common to all continuing nursing education programs should be better patient care. Programs with this aim in mind with specific measurable objectives which apply all the principles proposed in this paper should be able to demonstrate their impact on participants' work behaviours.

REFERENCES

- Batey, M.V. and Lewis, F.M. Clarifying Autonomy and Accountability in Nursing Service: Part 1. Journal of Nursing Administration, 1982, 12 (9), 13-15.
- Bell, D.F. Assessing Educational Needs: Advantages and Disadvantages of Eighteen Techniques. Nurse Educator, September-October 1978, 15-21.
- Benne, K.D. and Birnbaum, M. Principles of Changing. In W.C. Bennis, K.D. Benne and R. Chin (Eds.) The Planning of Change. 2nd edition. New York: Holt, Rinehart and Winston, 1969, 328-335.
- Bennett, C.F. Analyzing Impacts of Extension Programs. United States Department of Agriculture, April 1976.
- Bennis, W.G., Benne, K.D. and Chin, R. The Planning of Change. New York: Holt, Rinehart and Winston, 1969.
- Bergevin, P., Morris, D. and Smith, R.M. Adult Education Procedures. New York: The Seabury Press, 1963.
- Bertram, D.A. and Brooks-Bertram, P. The Evaluation of Continuing Medical Education: A Literature Review. Health Education Monographs, 1977, 7 (4), 330-362.
- Bobbitt, H.R., Reinholt, R.H., Doktor, R.H. and McNaul, J.P. Organizational Behaviour: Understanding and Prediction. 2nd edition. Englewood Cliffs, New Jersey: Prentice-Hall, 1978.
- Bowers and Associates. A Guide to Needs Assessment in Community Education. Washington: United States Department of Health, Education and Welfare, 1974.
- Boyle, P.G. Planning Better Programs. New York: McGraw Hill, 1981.
- Brown, S.J. Proposition: Continuing Education Must Impact on Practice. Journal of Continuing Education in Nursing, 1980, 11 (1), 8-14.
- Buskey, J.H. and Sork, T.J. From Chaos to Order in Program Planning: A System for Selecting Models and Ordering Research. Paper presented at the Annual Adult Education Research Conference, Lincoln, Nebraska, April, 1982.

- Canadian Facts. An Evaluation of the Attitudes of Members Toward the Registered Nurses' Association of British Columbia and the Nursing Profession. Volume 1: General Summary of Results, Cross-Section of Membership Study. Vancouver, B.C., 1980.
- Caplan, R.M. Measuring the Effectiveness of Continuing Medical Education. Journal of Medical Education, 1973, 48, 1150-1152.
- Carlley, C.A. Comparison of Nurses' and Their Employers' Expectations About Dissemination of Knowledge Acquired Through Continuing Nursing Education. Unpublished Doctoral Dissertation. Indiana University, Indiana, 1980.
- Carroll, E. RNABC Nursing Practice Consultant. Interview, 24 April, 1984.
- Cervero, R.M. Continuing Professional Education and Behavioral Change: A Proposed Framework. Paper presented at the Annual Adult Education Research Conference, Lincoln, Nebraska, April, 1982.
- Chambers, D.W. How Can Learning Experiences in Continuing Dental Education be Evaluated in Relation to Patient Benefit? Journal of American College of Dentists, 1976, 43, 238-248.
- Chickering, A.W. and Havinghurst, R.J. The Life Cycle. In A.W. Chickering and Associates (Eds.) The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society. San Francisco: Jossey-Bass, 1981.
- Cooper, S.S. Popiel, E.S. and Yoder Wise, P.S., Eds. Special Issue on The Impact of Continuing Education on the Nursing Profession. Journal of Continuing Education in Nursing, 1982, 13 (6).
- Corbett, T.C. The Impact of Continuing Medical Education on Quality of Care: Implications of the CME Evaluation Literature. In P.P. LeBreton, et al (Eds.) The Evaluation of Continuing Education for Professionals: A Systems View. Seattle, Washington: University of Washington, 1979, 369-393.
- Cox, C.L. and Baker, M.G. Evaluation: The Key to Accountability in Continuing Education. Journal of Continuing Education in Nursing, 1981, 12 (1), 11-19.

- Deets, C. and Blume, D. Evaluating the Effectiveness of Selected Continuing Education Offerings. Journal of Continuing Education in Nursing, 1977, 8 (3), 63-71.
- Del Bueno, D.J. Continuing Education: Spinach and Other Good Things. Journal of Nursing Administration, 1977, 7, 32-34.
- Derby, V.L. Learners and Course Goal Congruence: Impact on Learning Outcomes. Journal of Continuing Education in Nursing, 1982, 13 (4), 16-25.
- Dewey, J. Liberalism and Social Action. New York: G.P. Putnam's Sons, 1935.
- Dixon, J. Evaluation Criteria in Studies of Continuing Education in the Health Professions: A Critical Review and Suggested Strategy. Evaluation and the Health Professions, 1978, 1 (2), 47-65.
- Farley, J. Effectiveness of a Continuing Education Program Entitled "Nursing Process." American Nurses' Association Council on Continuing Education, unpublished data, August 1979.
- Forni, P.R. and Overman, R.T. Does Continuing Education Have an Effect on the Practice of Nursing? A Survey. Journal of Continuing Education in Nursing, 1974, 5 (4), 44-51.
- Gagne, R.M. and Briggs, L.J. Principles of Instructional Design. 2nd edition. New York: Holt, Rinehart and Winston, 1974.
- Gould, R. The Phases of Adult Life: A Study in Developmental Psychology. American Journal of Psychiatry, 1972, 129 (5), 521-531.
- Grabowski, S.M. How Educators and Trainers Can Ensure On-the-Job Performance. In S.M. Grabowski (Ed.) New Directions for Continuing Education, 1983, 18, 5-10.
- Grice, Helen. RNABC Registrar. Telephone Interview on 15 February 1983.
- Griffith, W. Developing a Valid Data Base for Continuing Education in the Health Sciences. Mobius, 1981, 1 (2), 83-91.
- Griffith, W. Educational Needs: Definition, Assessment and Utilization. School Review, 1978, 86 (3), 382-394.

- Gronlund, N.E. Stating Objectives for Classroom Instruction. 2nd edition. New York: Macmillan Publishing, 1978.
- Gross, R. New Set of Principles for Adult Education. New York Times Spring Education Supplement, April 15, 1984, 63-64.
- Groteleuschen, A.D. Program Evaluation. In A.B. Knox and Associates (Eds.) Developing, Administering, and Evaluating Adult Education. San Francisco: Jossey-Bass, 1980, 75-123.
- Gulino, C. Commentary on "The Perceived Impact of Continuing Education on the Practice of Nurses Working in Acute Care Facilities" by N.L. Keltner, Western Journal of Nursing Research, 1983, 5 (1), 21-40.
- Heick, M.A. Continuing Education Impact Evaluation. Journal of Continuing Education in Nursing, 1981, 12 (4), 15-23.
- Houle, C.O. The Design of Education. San Francisco: Jossey-Bass, 1976.
- Inui, T.S., Yourtee, E.L. and Williamson, J.W. Improved Outcomes in Hypertension After Physician Tutorials. Annals of Internal Medicine, 1976, 84 (6), 646-651.
- Johnson, R.B. Determining Training Needs. Training and Development Handbook of the American Society for Training and Development, New York: McGraw-Hill, 1967.
- Kattwinkel, J., Cook, L.J., Nowacek, G.A., Ivey, H.H. and Short, J.G. Improved Perinatal Knowledge and Care in a Community Hospital Through a Program of Self-Instruction. Pediatrics, 1979, 64, 451-458.
- Keltner, N.L. The Perceived Impact of Continuing Education on the Practice of Nurses Working in Acute Care Facilities. Western Journal of Nursing Research, 1983, 5 (1), 21-40.
- Kibbler, R.J., Gegala, D.J., Miles, D.T. and Barker, L.L. Objectives for Instruction and Evaluation. Boston: Allyn and Bacon, 1974.
- Kirkpatrick, D.L. Evaluation of Training. In R. Craig and L. Brittel (Eds.) Training and Development Handbook. New York: McGraw-Hill, 1967, 87-112.
- Knowles, M.S. The Modern Practice of Adult Education. 2nd edition, New York: Association Press, 1981.

- Knox, A.B. Impact Evaluation: What Difference Does It Make?
New Directions for Continuing Education, 1979, 3, 1-28.
- Knox, A.B. and Associates. Developing, Administering, and
Evaluating Adult Education. San Francisco:
Jossey-Bass, 1980.
- Kuramoto, A. Initiative in Quality Assurance: A Workshop for
Maternal-Child Nurse Practitioners in Primary Care
Settings. Amercian Nurses' Association Council in
Continuing Education, unpublished data, June 1979.
- Laxdal, O.E., Jennet, P.A., Wilson, T.W. and Salisbury, G.M.
Improving Physician Performance by Continuing Medical
Education. Canadian Medical Association, 1978,
118, 1051-1058.
- Lewin, K. Sociometry Monographs #17. Research Centre for Group
Dynamics. New York: Deacon House, 1947.
- Lewis, F.M. and Batey, M.J. Clarifying Autonomy and Account-
ability in Nursing Service: Part 2. Journal of
Nursing Administration, 1982, 12 (10), 10-15.
- Lippitt, R., Hooyman, C., Sashkin, M. and Karian, J. Resource-
book for Planned Change. Ann Arbor, Michigan: Human
Resource Development Associates of Ann Arbor, 1978.
- Little, D.E. A Formula for Professional Nursing Care.
Rehabilitation Nursing, February 1981, 19-22.
- Lloyd, J.S. and Abrahamson, S. Effectiveness of Continuing
Medical Education: A Review of the Evidence.
Evaluation and the Health Professions, 1979, 2 (3),
251-280.
- Manhan, J.M., Philips, B. and Constanzi, J. Patient Referrals:
A Behavioural Outcome of Continuing Medical Education.
Journal of Medical Education, 1978, 53, 201-211.
- Mastrian, K. The Effect of a Decubitus Ulcer Prevention
Education Program on the Incidence and Severity of
Decubitus Ulcers. American Nurses' Association Council
on Continuing Education, unpublished data, June 1979.
- McCoy, V.R. Adult Life Cycle Changes: How Does Growth Affect
Our Education Need? Lifelong Learning: The Adult
Years, October, 1977, 14-18, 31.
- McKeachie, W.J. Teaching Tips: A Guidebook for the Beginning
College Teacher. Lexington, Ma.: Heath, 1969.

- Miller, E. Evaluation of Long-Term Career Education for Professionals Public Managers. In P.B. LeBreton, et. al. (Eds.) The Evaluation of Continuing Education for Professionals: A Systems View. Seattle: University of Washington, 1979, 394-403.
- Mitsunaga, B. and Shores, L. Evaluation of Continuing Education. Is It Practical? Journal of Continuing Education in Nursing, 1977, 8 (6), 7-14.
- Monette, M.L. Needs Assessment: A Critique of Philosophical Assumptions. Adult Education, 1979, 29 (2), 83-95.
- Monette, M.L. The Concept of Educational Need: An Analysis of Selected Literature. Adult Education, 1977, 27 (2), 116-127.
- Nurses' Act. Government of British Columbia, 1979.
- Odiorne, G.S. The Role of the Lecture in Teaching Organizational Behavior. Exchange: The Organizational Behavior Teaching Journal, 1977, 2 (3), 7-14.
- Penn, P.D. Project BORN FREE. Evaluation of the 1978 BORN FREE National Institute. ED. #193595. 1978.
- Peplau, H. Responsibility, Authority, Evaluation and Accountability of Nursing in Patient Care. Michigan Nurse, 1971, 7, 5-7, 20-23.
- Petersen, C.B. An Evaluation of the Impact of a Continuing Education Course in Diabetes. Evaluation and the Health Professions, 1982, 5 (3), 259-271.
- Popiel, E.J. Nursing and the Process of Continuing Education. St. Louis: C.V. Mosby, 1973.
- Provus, J. Evaluation of Ongoing Programs in the Public School System. In R.W. Tyler (Ed.) Educational Evaluation: New Roles, New Means. Part 2. Sixty-eighth Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press, 1969, 242-283.
- RNABC. Committee on Assessment of Safety to Practice. Report to the Board of Directors, November 1976.
- RNABC News. STP Conference for RNABC Members. May 1980, 7.
- RNABC News. Workshop Considers Survey Issues. November-December 1980, 8-9.
- RNABC. STP Conferences Project Plan, March 1980.

- RNABC. STP Evaluation Report. Unpublished report, June, 1982.
- RNABC. #1 STP: The Basics. Conference Leader's Manual. June 1982.
- RNABC. #2 STP: Taking Charge of Your Own Practice. Conference Leader's Manual. August 1982.
- RNABC. #3 STP: Evaluating Nursing Practice. Conference Leader's Manual. June 1982.
- RNABC. #4 STP: Influencing Patient Care Conditions. Conference Leader's Manual. June 1982.
- Rogers, E.M. and Shoemaker, F.F. Communicating Innovations. New York: Free Press, 1971.
- Rogers, E.M. The Diffusion of Innovations. 3rd edition. New York: The Free Press, 1983.
- Roll Call. Division of Health Services Research and Development University of British Columbia, June 1983.
- Rubenstein, E. Continuing Education at Stanford: The Back-to-Medical School Program. Journal of Medical Education, 1973, 48, 911-918.
- Schechter, D.S. Agenda for Continuing Education: A Challenge to Health Care Institutions. Chicago: Hospital Research and Educational Trust, 1974.
- Scott, A. Implementing Performance Change Among Health Care Professionals. Unpublished Doctoral Thesis. University of British Columbia, Vancouver, British Columbia, 1980.
- Scriven, M. The Methodology of Evaluation. In R.W. Tyler (Ed.) Perspectives of Curriculum Evaluation. Chicago: Rand McNally, 1967, 39-83.
- Sheehy, G. Passages: Predictable Crises of Adult Life. New York: Dutton, 1976.
- Sjogren, D.D. Issues in Assessing Educational Impact. New Directions for Continuing Education, 1979. 3, 109-115.
- Spitzer, R.B. and Grace, H.K. Cost Containment: Impact on Nursing Service and Nursing Education. The Impact of Changing Resources on Health Policy. American Academy of Nursing, 1981, 65-87.

- Stake, R.E. The Countenance of Educational Evaluation. Teachers College Record, 1967, 68, 492-501.
- Stein, L.S. The Effectiveness of Continuing Medical Education: Eight Research Reports. Journal of Medical Education, 1981, 56 (2), 103-110.
- Stufflebeam, D.L. Evaluation as a Community Education Process. Community Education Journal, March/April 1975, 9-12, 19.
- Szczypkowski, R. Objectives and Activities. In A.B. Knox and Associates (Eds.) Developing, Administering, and Evaluating Adult Education. San Francisco: Jossey-Bass, 1980, 37-74.
- Talley, R.C. Effects of Continuing Medical Education on Practice Problems. Journal of Medical Education, 1978, 53, 602-603.
- Tyler, Ralph. Basic Principles of Curriculum and Instruction. Chicago: University of Chicago Press, 1949.
- Waddell, W. Profile #2. Continuing Medical Education - Data for Modeling. Background Paper for AAMC Modeling Project, 1978.
- Walter, G.A. and Marks, S.E. Experiential Learning and Change. New York: John Wiley and Sons, 1981.
- Wang, V.L., Flynn, J.W., Green, L.W. Evaluation of Continuing Medical Education for Chronic Obstructive Lung Diseases. Journal of Medical Education, 1979, 54 (10), 803-811.
- Woog, P and Hyman, R.B. Evaluating Continuing Education. Evaluation and the Health Professions, 1980, 3 (2), 171-190.
- Zimbardo, P. and Ebbesen, E.B. Influencing Attitudes and Changing Behavior. Menlo Park, California: Addison-Wesley, 1977.

APPENDIX A

CONFERENCE OBJECTIVES

#1 STP: THE BASICS

At the end of this conference participants should be able to:

- define the term "safe practice of nursing"
- discuss the rights and responsibilities of RN's for safe practice
- identify actions each nurse should take to control own safe practice
- discuss the general requirements for evaluation of nursing practice
- identify actions a nurse can take when encountering unsafe nursing behaviours
- describe a general approach that could be taken when a nurse feels that conditions of practice are unsafe.

#2 STP: TAKING CHARGE OF YOUR OWN SAFE PRACTICE

At the end of this conference participants should be able to:

- discuss why RN's must take charge of their own safe practice
- describe the scope of nursing practice in own practice setting
- discuss how to communicate own skills and limitations relative to the functions of a job
- identify the factors to be considered in making decisions about the transfer of medical functions to nurses
- propose actions for taking charge of one or more aspects of own nursing practice

#3 STP: EVALUATING NURSING PRACTICE

At the end of this conference participants would be able to:

- discuss each RN's responsibility for evaluating nursing practice
- describe how nurses identify a focus for evaluation
- discuss how standards for process, outcome and structure can be used to plan nursing care
- discuss two methods that can be used to collect information systematically about your own practice
- identify how to analyse information collected about nursing practice so that actions for improvement can be taken
- discuss examples of evaluation of nursing practice conducted by health care agencies, the profession and society

#4 STP: INFLUENCING PATIENT CARE CONDITIONS

At the end of this conference participants should be able to:

- identify the responsibility members of the health care team share for providing safe patient care
- identify the responsibility of RN's individually and collectively for influencing patient care conditions
- describe how nurses identify unsafe patient care conditions
- demonstrate the documentation of a nursing practice concern about patient care conditions
- explain the purpose of the RNABC Protocol
- describe the steps involved in submitting the RNABC Protocol form