THE EFFECT OF MODULAR LEARNING ON THE ROLE OF THE

TEACHER IN ALLIED HEALTH EDUCATION

by

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The Effect Of Modular Learning On The Role Of The Teacher In

Allied Health Education

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ABSTRACT

Over the past ten years a number of allied health programs in
Community Colleges in Canada have implemented modular learning, as a
new instructional approach to health care education. Students are
given self-instructional packages with the intent that they will
interact with the instructional material rather than the teacher.

This study undertook to examine the teachers' reaction to the
changes in their teaching, experience and comfort level in the new
delivery system.

Fourteen faculty members familiar with and currently using
modules as the primary instructional mode in an allied health program
were the sources of data. Each faculty member was interviewed and
these interviews were transcribed. They were then analyzed and themes
developed.

Two themes represent key findings. First, student attendance at
class and the student-teacher interaction are related to the teacher's
comfort level in a new instructional mode. Second, the teaching
strategies used in the classroom frequently reflect the personal
cherished beliefs of the teacher rather than the philosophy of modular
learning described in the literature.

The data indicate that what allied health programs in community

colleges call modular learning does not match what the literature describes as modular learning. Although a change in the teacher's role was identified as taking place by the teachers as a result of the implementation of modular learning, the change was more illusionary than real.

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Introduction

Hospitals and community colleges offer allied health programs according to the needs of the students and the community while maintaining a standard of education recognized by the Canadian Medical Association. Each program is responsible for defining its own objectives which must include those of the national registering body. All allied health programs attempt to ensure that students acquire competence and an understanding of their roles in health care so that they may function responsibly and as empathetic members of the health care team.

The colleges provide theoretical instruction. It is intended that the theory will be reinforced during the students' clinical training which takes place in the hospital. As students progress through their program, they require supervision appropriate to their level of education. The supervision continues until they have mastered the performance of the procedures to the level required to pass the registration examinations.

The faculty members provide the technological expertise and training to the students in the programs. The courses are intensive and the work is demanding. Colleges are typically challenged to keep abreast of new technological training developments to meet the needs

of existing workers in the field and to respond to changing patterns in the work place.

Community colleges are currently experiencing external and internal problems. External problems include educational cutbacks, changes in enrolment patterns and a questioning of the fundamental mission of the colleges by the community they serve.[1] Within the college, teaching is problematic. Teachers in allied health programs are hired by the various colleges on the basis of their qualifications and expertise in their field of technology. Colleges have provided limited training in teaching usually of two to four weeks in length. Professional development for the teachers is seen to be mastery of new practices related to their technology. This is a high priority as the colleges are committed to providing state of the art training in rapidly changing career fields. In the report "Survival for Excellence in Community Colleges", Skolnik, Marcotte and Sharples (1985) identified mastery of new technology and developing pedagogical skills as the most important problem for teachers in community colleges. As they put it, "It is difficult for these teachers to find time and resources to develop and improve their teaching skills and to keep up with changes in technology" (p. 9). With this emphasis, it is not surprising to find teachers in allied health programs to be competent in their subject fields but lacking in pedagogical skills.

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[1]These factors are further discussed later in this chapter.

One of the apparent solutions offered by colleges has been adoption of modular learning where students are given self-instructional packages with the intent that the students will interact with the instructional material rather than with the teacher. The overall emphasis on the individual learner and the facilitation of learning rather than teaching was embodied in the approach to medical education founded by the Faculty of Medicine at McMaster University in 1966. The original concepts often referred to as "The McMaster Philosophy" included: "self-directed learning, problem based learning and small-group tutorial learning with an emphasis on the selective use of learning resources, and on integrated learning and educational planning" (Neufeld, 1974, p. 60). Students in the McMaster program were encouraged to take charge of their own learning and to develop problem solving skills. It was intended that an independent study program would foster self-directed learning in the students.

The introduction of modular learning by the allied health programs was an attempt to solve the problem of the learning needs of individual students not always being met in the lecture approach. It was intended that modular learning would encourage students to become independent learners through the use of learning resources. It was further intended that this instructional mode would meet the learning needs of individual students as the teacher's role shifted from a dispenser of information to a facilitator of learning.

In allied health programs, modular learning has many definitions

and many formats. However, two things are common. First, the
curriculum is presented in the form of a learning package and, second,
the student is expected to learn the material in the package
independently of the teacher.

Three reasons have been identified as to why allied health
programs have adopted this delivery system. First, some say it was an
administrative decision made to accommodate a high student to faculty
ratio. This view is supported by Ainsworth (1976):

> Self-instruction is a technology which for a large
> number of teaching objectives, allows a radical
> departure from the campus norms for the student to
> faculty ratio. By developing a technology which allows
> for a high student-to-faculty ratio for some courses,
> an institution is free to maintain a small student-to-
> faculty ratio for others. (p. 23)

Second, others say that modular learning was a "grass roots"
movement introduced by the faculty. In 1979 Griffin described the
appeal of individualized program instruction to the teacher:

> The appeal of this approach to many people (especially
> the educators) is its clarity and certainty, its
> accountability, its yield of immediate success
> experience for learners, and its avoidance of open
> ended negotiations with learners. It is neat, orderly
> and preset. (p. 28)

A third reason was that many faculty members and administrators
in community colleges were impatient with the group-lecture mode of
instruction where everything, information dissemination, test-taking

and failure diagnosis was done according to a schedule, in a group mode, with one explanation serving a large number of students, and where individual assistance was reserved for exceptional cases. Whatever the reasons behind the adoption of modular learning, we now find the practice prevalent in many colleges. Yet, little is known about the impact of these changes on the teaching within the college.

The aim of this study is to examine the introduction of modular learning within colleges and to see how the teachers have adapted to the new delivery system in an educational sense. How allied health programs adapt to change in the face of pressures from society is also examined.

Problem Defined

French and Bell (1984) describe the goals of organization development as making the organization more effective, and better able to achieve both the goals of the organization as an entity and the goals of the individuals within the organization. To develop or to improve an organization is to change it. French and Bell caution:

> Much in the life, culture, and dynamics of organizations can be improved and should be changed, however, many things need not be changed. Organizational development means examining organizational culture and keeping the good things modifying some and eliminating others. (p. 16)

French and Bell describe the way an organization goes about diagnosing and making decisions about the opportunities and challenges of its environment as a problem-solving process. Organizational development has added a new dimension to managerial functions of planning, organizing, motivating, directing and controlling. Today's manager also needs to be able to manage the process of change in the organization.

It is my observation that administrators in organizations frequently plan change by moving immediately from a superficial diagnosis of an environmental problem to initiation of the change. Frequently, this immediate implementation of change causes stress in the organization which may have been avoided if a more thorough diagnosis had been made of all the aspects of the problem. When an analysis of the possibilities and limitations of a solution are not analyzed, members of the system often perceive the changes as imposed by administrative decree. This in turn often results in the members of the system actively or passively resisting the change because they are not aware of the problem that the change is intended to resolve. By contrast, involvement of system members in the total process of diagnosing the problem, planning alternative solutions, and implementing a choice is more likely to produce solutions that will be acceptable to the members of the system.

Even when the solution is acceptable to the members of the system the implementation of the planned change is an important and often

difficult part of the change process. Because the solution is new to the system members, the change agent must be able to match strategies with situations as they are revealed in the process. The change process requires continuous evaluation and replanning as the change effort progresses.

In the 1980s community colleges are faced with challenges that has created a need for colleges to implement effective change. In a 1982 paper presented to the National Policy Conference on urban community colleges in transition, Godbold stated: "Community colleges face significant challenges posed by a period of financial austerity, educational cutbacks and a questioning of the fundamental mission of the colleges" (p. 1)

At the same time that the provincial operating grants have been reduced, the colleges have been under enormous pressure to increase efficiency. As a result, colleges compete for students. This results in often inappropriately large classes and labs. Increase in class size has been a principal change in affecting teacher workload and is inconsistent with the claim of colleges to meet the individual learning needs of adult students.

The increase in class size and extension of teaching assignments into ten months require that faculty schedule professional development on their own time. Many faculty do not have sufficient time and resources for professional development, for developing and improving teaching skills, and for keeping up with changes in technology.

Changing external forces such as technological change in the market place, reduced funding and a new target student population have created a need for colleges to develop new organizational goals that will meet the needs of both the communities they serve and the individual learning needs of the adult student.

In community colleges the mode of delivery has been managed along the lines of an industrial production model. Colleges have put in place systems of education which reflect the industrial social context and they have provided access to students in terms of the industrial factory: raw material in, conversion through application of specialized processing, finished product out.

In the 1985 report "Survival for Excellence in Community College", Skolnik, Marcotte and Sharples (1985) confirmed that the industrial model is still prevalent in community colleges:

> Many of the concerns expressed by faculty are about the manner in which the college is managed; the industrial production model employed by most if not all colleges: the lack of consultation; the insensitivity to factors that are not quantified; and what faculty view as a clear lack of educational leadership on part of administration. (p. 7)

This model causes the faculty to feel often that their efforts are not appreciated and that their expertise and judgement on educational matters is not respected. This results in faculty with a low morale and in turn makes one wonder about the colleges' genuine commitment to high quality education.

Some of the difficulties in implementing change in the community college are outlined in the paper presented by Jim Hammons in 1978 at the Annual Meeting of the National Council of Staff, Program and Organizational Development in Dallas, Texas.

> To promote organization-wide changes, managers must diagnose current organizational problems, assign them a priority, and propose, implement, and evaluate alternative strategies for their solution. The implementation of such a process may be impeded by: failure to admit the problem exists; conflicts between currently employed management styles and the problem-solving, participative approach of organizational development; the resistance of managers to outside intervention; the lack of tools appropriate for the community college level; costs; and the lack of sufficiently trained persons. (Hammons, 1978, p. 6)

Despite the problems facing the community college, Cohen and Brown (1982) assert that these institutions must continue to respond with the "cooling out effort", to assist people in finding jobs, to provide connections, to award credentials, and to provide short term, ad hoc learning experiences for everyone, even those who do not go on to higher formalized learning. As educational institutions, community colleges assist individuals to become more effective, responsible members of society and help to provide a means of upward social and economic mobility for individuals of any age. In order to meet those broad objectives in today's environment, the implementation of effective change in community colleges has become a major priority.

Modular learning represents a change in the instructional system

of allied health programs in the community college. The implementation of an alternative to group-based instruction impacts on the role of the teacher. This study was designed to learn how effectively a different teaching mode was implemented in allied health programs in a community college. From this evolved a need to understand the experience and comfort level of the teachers in the new role with an emphasis on the strategies that they use in the classroom. At the same time I want to use this study to reflect upon how well colleges can manage a change.

The Objectives of the Study

The objectives of the study were to:

1. Review the literature in organizational change and modular learning.

2. To determine how modular learning has been implemented in the college.

3. Interview teachers to gain their perception of how they used modular learning and determine their attitude toward it.

4. To determine if a change in the teachers teaching had occurred, and if so, what the nature of that change was.

My preliminary inquiries revealed that modules had relieved the instructors of the task of disseminating information in the classroom.

Therefore, it seemed logical to me that since the teacher's role was altered from giving group-based instruction to arranging self-instruction, the role of the teacher in the classroom would be significantly different.

Since students were now given the opportunity to learn the material presented in the modules anywhere, including the classroom, it was my expectation that very few students would in fact go to the classrooms to work on the learning materials. As students can come to class during regular class hours to receive individual help, I expected that a minimal number would require assistance with content or some form of verbal verification of the written word from the teacher.

I anticipated that the teacher's role would be changed from giver of information to a counsellor. The two types of counselling in the new role would be "engagement" counseling, which would help the student interact with the material, and "academic counseling", which would help the student understand the material. The first would help the student understand the procedures and practices associated with going through the course and the second would be content related. Since much of the faculty were scheduled to present courses in a modular format, whether they wanted to or not, I expected serious resistance to this new delivery system from some members of the faculty.

In addition, I expected that a combination of self-instruction and group-based instruction would be established throughout the program. The terminal skills that allied health programs want students to acquire are application skills, such as evaluating, analyzing and synthesizing concepts. To develop these skills it seemed to me that a considerable amount of interaction between the student and the instructor and between the student and other students, would be necessary. Further, this interaction would seem to be best accomplished in a small group whose members have individually achieved a common understanding of the subject matter. I expected that modular learning would be an excellent vehicle for helping a large number of students attain this understanding in preparation for the group-based activity. These two expectations led me to believe that teachers would identify an improvement in their programs as a result of introducing modular learning into the system. In particular, I was concerned with the teaching strategies employed to facilitate learning in the classroom and the affect the change process had on the teachers' attitude toward the new role.

The question of whether colleges could implement a new instructional mode in allied health programs was a practical problem addressed by this study. I expected to obtain information whereby administrators could improve implementation of the change process in introducing a new delivery system in allied health programs.

What Follows

This study focuses on the teachers' reaction to the change in the delivery system introduced. Chapter Two addresses objective number one in a description of related literature on the implementation of change and modular learning as a delivery system. Chapter Three consists of a presentation of the method used to collect and analyze the data. In Chapter Four themes related to the phenomenon of implementation of change and its effect on the teacher are identified. Chapter Five offers a summary and conclusions to provide an insight into the impact of change in the delivery system on the role of the teachers in allied health education.

Chapter 2

Background Literature

The review of literature that follows summarizes my examination of work in two areas: the implementation of change within educational institutions, and the literature describing modular learning. These two sections follow.

Effective Implementation of Change

This area is reviewed because it casts light on colleges as institutions. I intend to analyze the implementation of a new delivery system in allied health programs in the community college from that perspective.

Most who write about educational institutions agree on the need for change and improvement. Where they begin to differ is the way that change can best come about, and in some cases what the end results of such change ought to be.

In planning a change David Kolb (1974) offers four steps:

1. a systematic diagnosis of the system or people or structure to be changed;

2. an analysis of the possibilities and limitations for change;

3. a development of an action plan for initiating and maintaining the change;

4. continuous evaluation and replanning as the change

    effort progresses.

There are many tools designed to aid the manager in devising a
strategy that may be useful in diagnosing and planing for change. One
such diagnostic tool is called force field analysis (Cartwright,
1981). In 1940 Kurt Lewin formalized field theory which is a method
of analyzing causal relations and for building scientific constructs
(p. 45). The most fundamental construct for Lewin was that of
"field". According to Lewin, "all behavior is conceived of as a
change of some state of a field in a given unit of time" (p. 10)

Force field analysis is based on the premise that the status of
an organization is a temporary balance of opposing forces. Some of
the forces are providing resources and support to the organization;
some are serving as barriers or constraints to the organization. The
analysis is done by comparing the relative importance of the
supporting forces, those driving the organization toward successful
implementation, with the relative importance of the resisting forces,
those repelling the organization from a successful implementation of
change. If the supporting forces outweigh the resisting ones, the
change has a chance for being successfully implemented. On the other
hand, if the resisting forces dominate, the implementation is on shaky
ground.

This study focuses on the implementation of a new instructional
mode in allied health programs in community colleges. A force field

analysis was conducted to diagnose the forces that support the change and those forces that resist the implementation process in the college.

Implementation consists of the process of putting into practice an idea, program, or set of activities new to the people attempting or expected to change. The change may be imposed or voluntarily sought, explicitly defined in advance or developed and adapted through use. Fullan in his landmark treatment of educational change in 1982 outlines several factors that affect the implementation process in school districts. Fullan's classification of factors that affect implementation are relevant to my research on implementation of a new delivery system in allied health in community colleges. While the model lists fifteen characteristics, I have isolated seven that are pertinent to this study. These seven characteristics were separated on the basis that they can effectively be applied to colleges whereas the other eight characteristics are more applicable to school districts.

The characteristics described by Fullan are outlined below:

1. Need and Relevance of the Change

Many innovations are attempted without careful examination of whether or not they address what are perceived to be priority needs. Teachers, for example, frequently do not see the need for advocated change. Several studies in the United States confirm the importance

of relating need to decision about change. For example, the Rand Change Agent study identified identification of a need linked to selection of a program as strongly related to successful implementation (Fullan, 1982, p. 57).

2. Clarity

Lack of clarity or diffuse goals and unspecified means of implementation represents a major problem at the implementation change. Even when there is agreement that some kind of change is needed, as when teachers want to improve some area of the curriculum, the adopted change may be not at all clear about what teachers should do differently. Problems related to clarity have been found in many studies of significant change. For example, Gross, Giacquinta and Bernstein (1971) found that the majority of teachers were unable to identify the essential features of the innovation they were using. Unclear and unspecified changes can cause great anxiety and frustration to those sincerely trying to implement them (Fullan, 1981, p. 58).

3. Complexity

Complexity refers to the difficulty and extent of change required of the individuals responsible for implementation. The actual amount depends on the starting point for any given individual or group, but the main idea is that any change can be examined in terms of

difficulty, skill required, and extent of alterations in belief, teaching strategies, and use of materials (Fullan, 1982, p. 58).

4. The Adoption Process

The quality of the adoption process sets the stage for subsequent success or failure of the implemented change. If the planning process results in a specific, high-quality, needed innovation it will have a sufficient start. More important for implementation of change in practice, however, is participation in which decisions are made about what does work and what does not (Fullan, 1982, p. 65).

5. Staff Development (In-service) and Participation

Since the essence of educational change consists in learning new ways of thinking and doing, new skills, knowledge or attitudes, it follows that staff development is one of the most important factors related to change. Teacher participation in decisions about implementation is also essential for program acceptance.

Berman and McLaughlin (1978) indicate why teacher participation is essential:

> Teacher participation in decisions concerning project operations and modifications was strongly correlated with effective implementation and continuation. The reasons for this powerful effect were easy to uncover. Teachers who are closest to the problems and progress of project activities, are in the best position to suggest remedies for perceived deficiencies. (p. 29)

Limited teacher participation in decisions and non-involvement in staff development would be a good indication that the change is not taking place (Fullan, 1982, p. 68).

6. Time-line and Information Systems (Evaluation)

The complexities of the implementation process and the slow development of the meaning of change at the individual level makes it obvious that change is a time-consuming affair. A time-line is needed which is neither unrealistically short, nor casually long. The timing of events must be guided by an understanding of the process of implementation. Whatever time-line is used, a major dilemma of what kind of information to collect, when, and how best to use it must be faced. The information or evaluation component can range from a highly elaborate accountable scheme to no formal information system at all (Fullan, 1982, p. 69).

7. Teacher Characteristics and Orientation

Ideal conditions for teachers and administrators to effectively implement new programs is described by Judith Little (1981) in her study of work practices in six urban schools. School improvement is more surely and thoroughly achieved when:

> Teachers engage in frequent, continuous and increasingly concrete and precise talk about teaching practices. By such talk, the teachers build up a shared language, capable of distinguishing one practice and its virtue from another.

> Teachers and administrators frequently observe each
> other teaching and provide each other with useful
> evaluation of their teaching.
>
> Teachers and administrators plan, design, research,
> evaluate and prepare teaching materials together.
> (pp. 12-13)

Only two of the six schools in Little's study evidenced a very high

percentage of these practices but her words describing school level

factors present ideal conditions for teachers and administrators to

develop meaning in implementing new programs (Fullan, 1982, p. 72).

Fullan (1982) suggests that the fifteen factors influence the

extent to which teachers and students change their beliefs, behavior

and use of new resources in the direction of some sought-after change.

According to Fullan if we are interested in a particular change it is

appropriate to make necessary adjustments in the characteristics.

Fullan suggests that if one or more of the factors are working

against implementation the process will be less effective. The more

factors supporting implementation the more change in practice will be

accomplished. Fullan concludes:

> The solution to the management of educational change is
> straightforward. All we need to do in any situation is
> to take the fifteen factors described (and all of their
> subvariables and interactions), and then orchestrate
> them so that they work smoothly together. The mind may
> be excused for boggling. (p. 80)

Fullan does offer some advice on how the factors can be used as a checklist for analyzing existing change efforts or for planning new ones. Based on Fullan's suggestion the seven characteristics from his model will be used in a force field analysis to analyze the extent to which teachers have been influenced to adopt new teaching strategies which are appropriate to the new delivery system.

Wideen and Holborn (1986) identified six factors which must be operative if a change of any magnitude is to be implemented in a Faculty of Education. The six factors are: the presence of external influence; the exercising of power within the institution; the provision of shelter conditions; a formal or informal structure to act as a capacity for change; the presence of key players; receptive groups within and outside the institution (p. 41). Further they argued that all six factors must be in effect to implement change. External pressures, even when supported by government legislation are ineffective unless accompanied by the other factors. Single individuals or groups within a faculty, however energetic they may be or however worthwhile their particular innovation, can have little long-term effect without other factors working in conjunction with their effort (p. 44).

Their study made use of Chinn and Benne's (1976) classification of three general strategies for effecting change in human systems: rational empirical, normative-reeducative, and power-coercive. Each contains a set of specific methods used in conscious, deliberate

efforts at change. Their study concluded that for change to occur a combination of the strategies described by Chinn and Benne must be used. Where only one change strategy was used, change rarely occurred and never persisted over time.

> What appeared necessary was a combination of change strategies that included power-coercive, rational-empirical and normative-re-educative efforts. If government research, and if normative-re-educative strategies are used within the institution, then prospects are high that change will become institution-alized. (p. 45)

Although the character of the community college is distinctive from Faculties of Education, a combination of forces that brought about the implementation of a new delivery system in allied health programs can be compared to those factors influencing change as described by Wideen and Holborn (1986). A comparison of the forces from the perspective of the community college with those identified by Wideen and Holborn will be used to analyze the operative forces that have affected the implementation process in the college. The review of literature describing educational change has provided a framework for the analyses of the quality of implementation of a new delivery system in allied health programs in community colleges.

The combined characteristics that Fullan, Wideen and Holborn describe as influencing change efforts will be used to analyze the increasing and restraining forces in the change process and will be compared using force field analysis. These combined characteristics are described in Table 1.

TABLE 1

Increasing Forces

Fullan	Wideen and Holborn
The teachers perceive a need for the change and believe in the relevance of the change.	The administration of the college exercises power within the college to implement the change in the instructional mode.
The teachers have a clear understanding of what needs to be changed.	The teachers are receptive to the new instructional mode.
The change is simple for the teachers to adopt.	The presence of external influence is revealed.
Staff development is provided to help teachers develop the appropriate pedagogical skills.	The provision of shelter conditions is revealed.
The timeline for implementation is reasonable.	The formal and informal structure has the capacity for change.
The teachers view themselves as facilitators of learning, rather than dispensers of information.	Key players are identified.

Restraining Factors

Fullan	Wideen and Holborn
Teachers do not perceive a need to change and do not believe in the relevance of the change.	The administration of the college does not exercise power to implement the change.
Teachers do not understand what needs to be changed.	The teachers are not receptive to the new instructional mode.
The change is complex in nature.	The presence of external influence is not evident.

TABLE 1 (Continued)

Fullan	Wideen and Holborn
The adoption process threatens the teachers.	The formal and informal structure does not have the capacity for change.
Staff development is not provided.	
The timeline for implementation is not reasonable.	Key players are not identified.
The teachers perceive themselves as controllers of content rather than facilitators of learning.	

In the analyses the estimated forces will be plotted on the force field analysis (Figure 1).

FIGURE 1: **FORCE FIELD ANALYSIS**
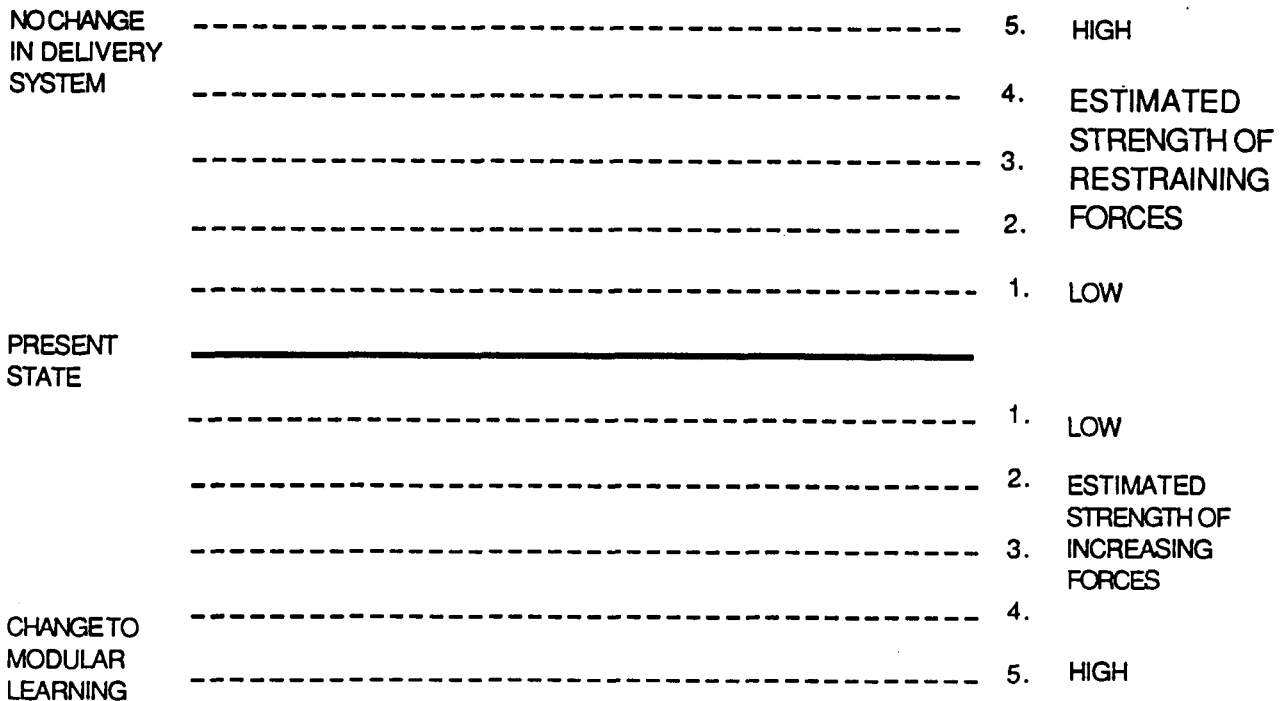
If the estimated restraining forces exceed that of the increasing forces, problem areas in the implementation of the change effort will be revealed. If, however, the estimated supporting forces outweigh the resisting ones, the change in instructional mode has a chance for being successfully implemented. This analysis will be presented in a later section.

Facilitating Learning by Means of Learning Modules

This portion reviews the history and development of modular learning in education. The role of the teacher in this delivery system is also described. In a later section I intend to analyze the changes in the teacher's role and the comfort level of teachers in allied health education when modular learning is implemented as an alternative to the lecture mode.

Keller, a behavioral psychologist, became the first to introduce the concept in 1963 when he developed the personalized system of instruction or the Keller plan. In 1963 four psychologists, Keller, Sherman, Bori, and Azzi, developed the Personalized System of Instruction, an individualized method for college-level teaching. They designed their teaching system along lines suggested by a psychological theory of reinforcement and first used it in teaching psychology courses at the University of Brazilia. The system's acronym, PSI, was chosen to suggest its psychological ancestry. The Personalized System of Instruction (PSI) is summarized in Keller's (1968) publication Good-Bye Teacher as a model that:

> This model divides material into small clearly defined
> objectives, permits each student to proceed at his own
> pace, requires mastery of one unit before proceeding to
> the text, furnishes immediate positive reinforcement,
> and provides for the personal-social interactions that
> are important in motivation. (p. 60)

In Keller's plan students could come to class during regular
class hours to receive individual help or to take unit quizzes.
Students would take unit quizzes, however, only when they feel
adequately prepared. After taking a quiz, the student would have it
evaluated immediately by a proctor, usually an undergraduate student
who had studied course material in the previous semester. There was
to be no penalty for failure to pass a first, second, or later quiz on
a unit in a PSI course. But the student had to demonstrate mastery
before going on to the next unit. Students thus moved through PSI
courses at their own pace. Some students would meet all course
requirements before the term was half through, but others would
require a full term or even longer to complete a course.

Almost from the first, teachers who used PSI in their classes
collected data on its effectiveness and appeal to students. In 1974
Kulik and Kulik reviewed these evaluations. They found that students
usually preferred this method over the lecture format by a wide margin
and final examinations showed that students generally learned more in
the individualized mode (pp. 379-383). Three ingredients were cited
as being important. PSI seemed to work well because it involved:
(1) small units of work; (2) immediate and specific feedback about

performance and (3) requirements of mastery at every step (Kulik &
Kulik, 1975, p. 230). The experimental studies show little difference
in results from mastery-oriented courses which are teacher-paced
versus self-paced. Experimental studies show that PSI procedures can
be used successfully with and without a lecture schedule. And
finally, self-grading procedures seemed as effective as
proctor-mediated feedback (p. 231). These results established PSI as
a promising teaching method developed for higher education.

In 1967, Postlethwait introduced a method of learning that placed
great emphasis upon independent study sessions, in which students
carried out an individual work assignment in the course at their own
pace, by means of the extensive use of tapes and films. Teaching
assistants provided for oral quizzing on major concepts and helped the
students with difficult assignments. Weekly small assembly sessions
were used primarily for discussion of problems or small research
projects; and general assembly sessions which dealt with motivational
materials. Postlethwait and Novak (1967) reported high student
interest and greatly improved performance with the use of this
technique. "Grades have risen from 6% A's under the conventional
system to as high as 25% A's in some semesters. Failures have
decreased from 20% in the conventional system to as few as 4%"
(p. 464). The increase in grades and decrease of failures suggested
that self-paced, independent study coupled with weekly small group
sessions to diagnose problems might be an effective learning activity
for students.

Building on the work of Keller and Postlethwait, Gis, Rogers, Notor and Pascal (1977) published a series of modules called "Teaching and Learning an Individualized Course for Instructors in Higher Education". The series was a self-paced self-instructional package that included nine individual modules that made use of already existing materials, such as books and articles. The modules were field-tested at McGill University on a campus-wide basis with professors and graduate students, as well as college instructors wishing to explore topics related to college and university teaching.

In a 1986 paper presented at the International Conference "Quest for Quality in Education" in Toronto, Cross stated: "administrators and faculty of community colleges are urged to adopt delivery systems based on the Personalized System of Instruction described by Keller and positively reviewed by Kulik and Kulik" (p. 2). In an interview with Pascal at Sutton Place in Toronto on January 5, 1987 he discussed the importance of three factors that in his opinion must be in place to ensure successful implementation of instructional modules as a delivery system in an educational institution. The first is that organizational development must be carefully planned and facilitated. Both the faculty and the administration must agree upon the philosophy of instructional modules and realistic time lines must be established to design the modules and develop a learning center. Second, staff development must be readily available to the faculty to help them develop new pedagogical skills as their role shifts from dispensers of

information to coaches or tutors dealing with students individually.

Pascal maintains that the third factor is critical to successful implementation. The institution must provide an instructional technologist to assist faculty in designing modules that will stand alone and allow the student to work through at his or her own pace. He argues that well designed modules test the students' learning at all levels, not just recall, but analysis synthesis and evaluation as well. He also maintains that instructional modules must also be tested and validated on an ongoing basis. He stresses that unless all three of these factors are in place, effective implementation of a learner centered approach in an educational institution will not likely take place. The three factors identified by Pascal are useful to my study as they reveal a need for teachers who are implementing modular learning to agree with the philosophy behind modular learning and to develop new pedagogical skills as their role shifts from group-based instruction to individual instruction.

Ainsworth (1976) draws together much of the literature previously written about modular learning in a model where he identifies the major obstacles preventing the wider use of self-instruction. What follows is a description of that model.

Self-Instruction Defined

According to Ainsworth, to be a workable instructional alternative, self-instruction must be more than a mere learning

activity. It must lead the student to a prespecified and testable level of competence, and it must be reproducible. Therefore, self-instruction must be self-contained and reproducible independent of any particular individual or situation. This means that a self-instructional course can be continuously available, and although a faculty member needs to take ultimate responsibility for the course, he or she need not be the same individual who developed the course as long as he or she has the necessary subject-matter expertise (p. 277).

The Needs of the Self-Instructional Student

Self-instruction is distinguished by the student's interaction with instructional materials rather than the teacher. Ainsworth (1976) argues that since these materials are prime learning sources, they must be readily available to the student and students must be given the freedom to complete the units off campus. However, students need to have their activities managed by the teacher. For example giving out assignments -- preferably one or two week's worth of work and ascertaining that the students have mastered each assignment before going on to the next one.

According to Ainsworth, if learning is to be self-paced, then test taking must also be self-paced, so that students can take tests when he or she is ready for them. The tests should be scored or graded with a minimal time between taking the test and learning the results. When a course is self-paced, the student may need help in

solving problems arising from the material and this help has to be given individually to the student at his or her own pace, rather than in a group-based class where one explanation can serve several students. For some students, some form of verbal clarification of what is written in the self-instruction unit may also be necessary (p. 279).

The Needs of the Instructor

Ainsworth (1976) argues that although self-instruction relieves the instructor of disseminating information, this is more than offset by the demands of increased individual counseling and the increased testing, scoring, and diagnosis which commonly accompanies self-instruction. The progress of students should be tracked throughout the course. This is especially important in courses designed in incremental units, with progress to the next unit being contingent upon acceptable performance of the preceding one.

Through self-instruction, the student can assimilate data and build concepts, however, Ainsworth argues that the terminal application skills, such as evaluating, analyzing and synthesizing concepts, or generating and testing hypothesis demand interaction between the student and the instructor and between the student and other students. Therefore, the instructor must facilitate these levels of learning in group-based activities after the students have successfully completed the self-instruction component of the curriculum (pp. 278-283).

The Self-Instruction Support Facility

Since many courses will make extensive use of media that are generally available only on campus, Ainsworth (1976) recommends that a center located on campus should store all the materials necessary for a course and make sure that the materials are kept secure. According to Ainsworth, the center staff should be tutors or counsellors who are para-professionals. Their role is to understand the procedures and practices associated with going through the course. Students interact with the instructor only by way of the center since too easy access to the instructor preempts the student from puzzling through a situation and finding the correct answer or interpretation. Ainsworth recommends that the tutors at the center run interference for the instructor to ensure that the student has appropriately interacted with the material. The tutor will also maintain a record of the types of materials and test items which cause problems for the students. Such materials and tests can be revised to forestall future problems. Unless this is done on a systematic basis, instructors and tutors will encounter the same problems over and over again (pp. 277-280).

Development Support for the Self-Instructional Instructor

According to Ainsworth (1976), an institution which seriously wants to promote the development of self-instruction must anticipate and reduce faculty resistance, devise new ways of releasing faculty for course development, and provide staff support for instructional

production and student interface at the learning center. Ainsworth argues that it is essential that an administration grasp the technological potential of self-instruction so that it is regarded as a partner of group-based instruction rather than as an alternative to it. He further argues that telling faculty members how they are to teach may, at first sight, seem radical and potentially troublesome in terms of professional politics and academic freedom. However, according to Ainsworth, this is not so very different from the current state of affairs. He argues that one's teaching style is commonly compromised by factors beyond one's control and describes the following example: "although one may favor seminars and discussion as the most satisfactory teaching-learning situation, if one is assigned two hundred students to teach, one is forced to use large group instructional techniques" (p. 285). Ainsworth describes the problem as one of coercion into an unfamiliar role and it will take effort on the part of the administration to help the faculty understand this new role. Ainsworth argues that the best way to accomplish this is through workshops and professional development aimed not just at those who have been assigned to develop self-instructional courses, but also at faculty who will be teaching self-instructional courses. According to Ainsworth, if faculty members accept the fact that the outcome of the self-instructional approach is valid and that the result will have a positive impact through the program, then faculty resistance can be significantly reduced, provided also that there is adequate time and

support available to the faculty.

Ainsworth's model includes a combination of individual and group-based instruction and a centre where all of the materials and tests are available to students. Ainsworth supports Pascal's (1987) view that the faculty must be given assistance and reasonable time limits to develop learning modules and a learning center. Both agree that professional development for the faculty is an important component in implementing modular learning. In a later section I intend to use Ainsworth's (1976) model and two of Pascal's three important factors (1987) in implementing instructional modules as a delivery system in an educational institution as a framework to analyze the effect that the implementation of modular learning has had on the role of the teacher in allied health programs in community colleges.

Summary

This section has presented a description of related literature on the implementation of change and a model of modular learning to provide a background to the investigation of the introduction of modular learning within colleges and how the teachers have adapted to the new delivery system. Pascal (1987) reveals a need for the teachers who are implementing modular learning to agree with the philosophy behind it. Ainsworth (1976) and Pascal (1987) both identify a need for the college to provide an opportunity for the

teachers to develop new pedagogical skills through staff development as their role shifts from dispensor of information to facilitator of learning. Ainsworth's (1976) model provided one approach to implementing modular learning to ensure that it is a suitable alternative to group-based instruction in an educational institution.

Chapter 3

The Method

In the beginning of my study, I conducted a literature review of modular learning. I interviewed one President and one Dean in colleges who had been responsible for implementing modular learning in a variety of programs. In addition two directors and a number of teachers in community colleges who had adopted modular learning as an alternative to the lecture mode were interviewed (see Appendix A). As a result of the literature review, the interviews and my own experience, I then decided to focus the study on the implementation of modular learning in allied health programs in community colleges.

Miles and Huberman (1984) urge qualitative researchers to make their thought processes and their procedure explicit. "We need to be confident that another researcher facing the same data would reach a conclusion that falls in the same 'truth space'" (p. 17). In choosing an approach I wanted to ensure that the results of my study would make sense to the community to whom it is addressed and that another researcher facing the same data would reach the same conclusions that I did.

Selection of Participants

Four colleges that deliver allied health programs in modular format were approached and all agreed to be part of the study. The

allied health programs represented were: General and Psychiatric Nursing, Diagnostic Radiography, and Long Term Care Aide.

The program chairman of each of the programs requested volunteers from the faculty to be interviewed as part of the study. This request was made in all cases at a staff meeting. Fourteen faculty members, three men and eleven women, volunteered to participate.

All of the participants:

- were willing and available to participate;

- were qualified in their respective health discipline;

- were familiar with and using modular learning as a teaching mode;

- had been teaching for longer than three years;

- have lived and worked most of their lives in Canada: ten presently live and work in Vancouver and four live and work in Toronto.

Of the group, one has a Master's in Nursing and one has a Master's Degree in Education. Two others earned a Bachelor of Science degree and two a Bachelor of Arts degree. Of the fourteen, eleven have advanced degrees related to their health technology.

Since I was dependent upon volunteers for the study, all were chosen using the principal criterion that as an instructor in a college they were familiar with and currently using modules as the primary instructional mode in an allied health program.

<u>Data Gathering</u>

The procedure presented by Bussis, Chittenden and Amarel (1976) in terms of the in-depth interview was adopted as a model in gathering the data for my study. The in-depth interview was used by them in their study of teachers' understanding. They assumed that teachers' underlying beliefs and perceptions about teaching and learning have persuasive effects on their behavior and they constructed an interview to elicit these beliefs. The teachers' responses were then coded by listening to tapes and writing summaries, retaining much of the original phrasing which formed the basis for the codes. Patterns of thinking emerged and later classroom observation confirmed that the understanding as presented in the interview was evident in the classroom. This study made clear the contribution both the in-depth interview and the coding schedules could make in describing teacher behavior.

<u>The Interviews</u>

After a brief phone conversation to introduce myself, a meeting was held with each of the 14 participants in which an in-depth interview based on a semi-structured interview guide was used to gather data (see Appendix B). Each interview lasted approximately 90 minutes. Care was taken during the interview to ask questions in an open-ended and non-directive way. An effort was made to make the participants feel as comfortable as possible during the interview and

to allow some time at the beginning for informal conversation. The

interview process was modeled after the procedure described by Bussis,

Chittenden, and Amarel (1976):

> The inquiry may take the form of questioning, or it may
> take the form of reflective observation in which no
> direct interchange occurs. The purpose of the inquiry
> is to gain a better understanding of the person's
> meanings, interpretation, and ways of construing a
> situation. (p. 114)

I explained that the general format of the interview would be

questions presented by me and responses provided by them. I gave each

participant a few minutes to read my thesis proposal (see Appendix C)

to provide them with an understanding of the framework of my study.

Care was also taken to facilitate the participants' comfort in

the selection of the setting. The setting was always chosen by the

participant and interviews took place in an unoccupied space within

the college. Therefore, it was considered to be impartial territory

and free from interruptions.

During the interview, I provided warmth and support by use of

humour and phrases such as "good" and "uh hum". At times, I reflected

or repeated the participants' responses to understand clearly their

perspective. However, I did not use a discussion approach in order to

keep myself as unbiased as possible. The interviews were tape

recorded. Following each interview, I wrote field notes, outlining

descriptions of the setting and the teacher, as well as personal

perceptions and questions.

Each tape was transcribed verbatim from an audiotape. Affect, laughter and long silences were noted. The transcription process provided me with new questions and ideas that were recorded for future reference. The interviews were summarized and each of the programs were described with a brief description of the teachers' professional background. Care was taken to retain the original phrasing of the participants. This became the basic unit for data analysis (see Appendix D for a copy of the program description and interview).

Memo-taking

Glaser's (1978) guidelines for memo-taking were especially helpful at this early stage. I kept three categories of memos representing different kinds of ideas. These were: (1) substantive memos: words, phrases and quotes from the participants which seemed to contain significant ideas or insights; (2) methodology memos to keep a running account for operations completed or planned, reminders and instructions to myself, and (3) theoretical ideas and abstractions based on the data. The memos provided a means to monitor my progress and they were useful in identifying themes as they emerged.

Themes

Reflection upon the data resulted in the identification of themes related to the phenomenon of implementation of change and its effect on the teacher. The concept of cultural themes was first introduced

into anthropology by Morris Opler (1945) who used it to describe general features of Apache culture. Opler proposed that we could better understand the general pattern of a culture by identifying recurrent themes. He defined a theme as "a postulate or position, declared or implied, and usually controlling behavior or stimulating activity, which is tacitly approved or openly promoted in society" (p. 198).

Spradley (1979) presented some strategies for discovering cultural themes. He describes immersion in a particular culture as one of the most proven methods of finding themes. Spradley also advocates writing a description of that culture as another way to gain a greater immersion into the ideas and meanings of a culture. Over the past decade, ethnographic techniques derived from anthropological and sociological tradition have increasingly been applied to the study of the classroom. To identify themes in the implementation process in the community college I summarized the interviews and described each of the programs represented in the study. The summarized interviews helped me to identify and clarify themes.

Ethical Considerations

Written consent for participation was given following a detailed explanation of the purpose and methodology of the study. Each participant was assured that they could answer the questions as they saw fit, turn off the tape recorder or discontinue participation at any time. Confidentiality has been maintained by eliminating

identifying characteristics in the report and restricting direct access to the raw data.

Data Analysis

A process of ongoing data analysis was used. Following the interview, a list of possible coding categories was identified and referenced by transcript page number. The data were divided into eight categories of which two were later discarded. The eight categories include teacher's comfort level, description of excellent teaching, philosophy behind modular learning, program improvement, attendance, teaching strategies, teacher's attitude, and insights. Each of the categories related to one of the questions asked in the interview. The two categories later discarded included insights and teacher's attitude. At the same time, the content of the interview was summarized into a more manageable format.

Following the development of the program description and interview summaries, the coding categories were modified on the basis of the data. Data from each participant were differentiated by color code and labelling.

A greater depth of analysis was accomplished by using a simple modification of Bliss' network approach (1983) in the early stages of the study; Miles and Huberman's matrices (1984) were used to develop charts displayed in a later chapter. The network was helpful in analyzing the broader picture whereas the matrices clarified relationships between the data.

Chapter 4

The Results

The changes that have resulted in the teachers' role as a result
of the community college's implementation of a new delivery system in
allied health education were analyzed using the conceptual framework
presented previously. What follows is a discussion on student
attendance at class time and and the strategies the teachers employed
in the classroom. The teachers' comfort level in the new
instructional mode, program improvement from the teacher's perspective
and how modular learning has been implemented in the college will also
be discussed. I first discuss the themes that emerged from the data.

Themes

A recurrent concern in the interviews was student attendance at
class. All programs in the study give students the option of coming
to classes. However, laboratory and clinical activities, and all
tests and examinations are mandatory.

Seaview Institute of Technology and West Side Institute of
Technology provide time in the student timetable between 0900 and 1600
hours for students to use the modules. At Valleyside College and
North Side College there is no scheduled time for students to use
modules. Students are expected to complete them outside of the
student timetable. At the time of the study none of the programs had

established learning centers, although Seaview Institute expected to
have an Anatomy learning center in place within a year. All of the
students in the programs studied did, however, have access to a
library located on the college campus. Although students were given
the option of coming to class, many chose to attend.

> Students are given modules at the beginning of each
> course and are expected to learn the material
> independent of the teacher. This includes reading the
> module, various textbooks and answering questions.
> They do not have to attend class and the sequence of
> the material presented in the module tells them what
> will be discussed in each class. Most students do
> attend classes. I have never had a class where no one
> turned up. (Valerie Stout)[2]

> Students in the Long Term Care Aide Program are a
> highly motivated group and attendance at class is
> almost always 100%, even though they have a choice as
> to whether or not they will attend class. (Barbara
> Whyte)

> The students are highly motivated and they are always
> there. (Janine McCormic)

However, in the Diagnostic Radiography program at Seaview
Institute of Technology, attendance at class was very low.

> Out of a group of 40, 10 at most will attend. I would
> perhaps like to reduce the number of resource hours in
> the classroom and increase their load. That might have
> more impact on students and encourage them to come to
> class. (Thomas Bell)

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[2]All names used in the study are acronyms.

Many times no one came to the classroom -- 30 to 40% of
the time in fact. I was disappointed many times when
students didn't come. Sometimes students would come to
the classroom but four students might come and three
might be doing another subject. (Rolf Franklin)

I did everything I could to encourage them to come. I
had a little dish of mints and balloons and I honestly
found they didn't come for help, other than the
classroom time. Not many came, it was the same 4 or 5,
of 48 students. (Joyce Pratt)

It became evident why students attended class even though it was

optional.

At first, I was disappointed that not a great number of
students came for help. After a while I got used to
them not coming and the students who came, came not so
much for help, but to make contact with me. (Georgia
Phillips)

Students are told they do not have to attend classes
and they are given the modules prior to when classes
are scheduled. However, there is a policy which states
students must attend a certain number of classes.
(Lucille Simon)

I don't tell the students they have to come to class,
however I let them know that it will show up either
clinically or somewhere if they haven't received the
needed information presented in my class. (Jo-Anne
Spragg)

About 95% of the students enrolled attend the class.
This is due to the fact that they are a highly
motivated group and also if they have any questions,
the classroom is the place to deal with them. (Loretta
James)

They are highly motivated. They always show up even
though they don't have to. It is our expectation that
they come to class; even if they don't have to. I
think we give them the message that they should come.
(Gwen Stormes)

At one point, only 13 out of 25 showed up at class.
However, it was never so bad that no one came. On the
occasion, when only 13 students attended class, I
expressed displeasure to the group in attendance. The
students were supportive and said: "Well its their
loss and our gain." As the year progressed, more and
more students did attend class. However, only 15% of
the students came to class prepared, but this was due
to the demands of a heavy workload in a limited time
frame. (Roger French)

They all came to the class. I have very strong
feelings about students not coming to class, I make it
very clear to them in the beginning. I am paid to
teach and you will come to class. (Janis Crik)

It is fairly and clearly stated that the expectation is
that students will attend classes. For example, if a
failing student does not attend classes and is not
there to review assignments, the student will be
counselled. A strategy that some teachers use to get
students to come to class is that all students are
required to hand in assignments at class time. (Kendra
Hunter)

Faculty develop a "mind set and negative attitude"
towards students who do not attend class. I guess it
is a threat to the individual teacher of seeing
students not there. Maybe it says something about
their teaching that they don't want to hear. (Kendra
Hunter)

All of the literature reviewed distinguished modular learning by

the student's interaction with instructional materials rather than the

teacher. The materials are the prime learning sources and students

are given the freedom to complete the modules off campus. It was

evident from the interviews that many of the teachers had an

expectation that students would come to class and, indeed, in three

out of four of the programs, a high percentage of students did attend

the optional classes.

Students are expected to interact with the material rather than the teacher in modular learning and the teacher's role is to encourage and facilitate self-study and counsel the student who has come to an impasse in understanding the material. The teaching strategies employed in the classroom by the teachers appeared to have a direct relationship to student attendance. Teaching strategies emerged as a theme.

Georgia Phillips describes what happens in terms of this time being time for students to interact with the material, yet she is there to answer any questions.

> Since there are as many classroom hours as there used to be lecture hours, a student who is working through one, or several modules, can come and ask for help at any point, so I could get 40 students at various levels. So, I must be well prepared before the first resource hour is scheduled. I go through all of the modules and look for problem areas. It is different from a lecture, where the teacher goes in with two or three items to teach in one hour, now I may have to be ready to talk about 20 or 30 different items. On the other hand, I may sit there and talk to no one. (Georgia Phillips)

At Seaview Institute class time is seen as time for students to interact with the material.

> Class time is a time set aside for the student to work through the modules. That time should not be interfered with. I feel competent to answer any questions. Also I feel confident that I have information to help students who want to go beyond the modules or to direct them to other resources. (Georgia Phillips)

If they are in the classroom at resource time, they are
working through the modules. Unless they question
something, I try to leave that time for them to do
their own learning. If they ask a question, I might
take them into an X-ray room and show them a position
or look at a skeleton. I am careful to only respond to
a request. I do not intrude on their time. (Joyce
Pratt)

It is basically a quiet time for them to work. (Rolf
Franklin)

Some teachers expect the students to come to class with
questions.

Based on the fact that anywhere from one to forty
students may show up, I first ask if there are any
problems with the module. Again, that is an assumption
that all of the students spent prior to coming to class
to read the module. That is not always the case,
because, sometimes they use the class time to work
through the module. I ask if they have any questions
and, if they don't, I make up questions for them. This
is to make me comfortable that they are getting the
information. Together we go over the objectives and
the self quiz and the assessment at the end of the
module. I find that once I start, there are more
questions generated. (Thomas Bell)

In this type of delivery system, it is important to
encourage students to assess their own learning and
develop questions themselves. (Thomas Bell)

The students are expected to come to class prepared
with questions. However, sometimes the students do not
prepare well or they don't know which questions to ask.
When this happens, a rich learning experience is lost
if the teacher does nothing. Therefore, I review
content in the module that is both relevant and
important. This is necessary in order to diagnose if
there are any individual learning problems. If there
are no questions and no learning problems identified, I
use the class for enrichment. I might show a film and
lead a discussion related to issues presented in the
film. (Lucille Simon)

The students are expected to come to class prepared. I begin by asking if there are any questions about the objectives or the material in the module. If they don't have any questions, I usually go on with the demonstrations. If there is an area in the material that I think the students might have had difficulty with, I will ask a few questions to diagnose their understanding of the concept or I might find them a situation where they would be required to apply the content. (Jo-Anne Spragg)

In Jo-Anne's classes she has demonstrations and describes application of content. This is new material and the students would not be able to get this information anywhere else.

Some teachers teach the material that is written in the module to the students in another way.

I take the information in the module and present it in such a way that the students are able to get the information in a fresh way. I use a variety of strategies and resources in the classroom to help students understand the information presented in the module. One strategy is discussion related to specific objectives outlined in the module. (Gwen Stormes)

Sometimes students do not prepare for class. In fact, as high as 80% may not. But, they are human. With 50 students, careful planning of learning activities is necessary. You just have to really move around in terms of being the resource person to keep those activities moving. I say: Today I'm going to talk about objectives one to eight -- these deal with concepts. In the initial discussion I am going to be talking about objectives one to two. When I change to this concept, I will deal with objectives three to eight. I like as much active involvement as possible. The modules based on objectives give the student a clear expectation of what they have to know. This helps them to know, what to listen for in class. (Valerie Stout)

Others see class time as a time to ensure that the students really have learned the material as presented in the module.

> I ask questions to challenge their minds. I want them to learn, to challenge and to think for themselves. From time to time I use group work exercises to help them think about content in terms of what they already know. (Barbara Whyte)

> At the beginning of each class, students are required to write a post test or challenge test in order to determine where they are as far as the knowledge component of the modules is concerned. After the students write the test I ask if there are any specific questions or problems related to the module. I usually have some problems that I know from past experience, students have difficulty with. The usual strategies during class time, involve discussion, small group work and working on a project. (Janine McCormic)

> I teach the knowledge that is in the module to the students. I bring in a lot of clinical reference because I have the experience to do that. The lecture format is my preferred mode. My role is the same although my preparation time is cut. (Janis Crick)

> The students are expected to review the module prior to class. It is a guide, the students know what is going to happen in class that day. They can follow along. It keeps them from having to do reams and reams of notes while the lecture is going on. When they come to class they are in a reinforcing mode. The method of presentation most often still ends up in the lecture format but I often break the class into small groups for discussion and I use a lot of A.V. material and I sometimes will bring in an outside speaker. (Kendra Hunter)

Revealing what will be on the exam is also seen as a classroom strategy.

> I use small groups to work on projects. The point of
> using this type of small group work is that as the
> teacher I know what is going to be on the exam.
> Through the exercises performed by the small group, I
> make sure that important points are reinforced, which
> in turn translates into the tested material at a later
> date. This is very helpful to the student. (Roger
> French)

Loretta James describes what happens in her class time in terms

of levels of learning.

> I teach two types of material in the program -- one is
> professional behavior, which is an effective valuing
> kind of content. In this course I primarily use group
> discussion, paraphrasing and getting students to
> reflect on what they say and what is important to them.
>
> The other material is essentially cognitive and
> requires recognition recall application and analysis.
> In this class I would begin with admission of problems
> encountered by the group with the material presented in
> the module. If problems were identified, I would
> encourage the group to resolve the problem in order to
> help students understand the process of coming to
> conclusions not a right way or a wrong way, but a
> process. The next teaching strategy would involve
> application of the content in either a case analysis, a
> case study or an assessment. I break the class into
> groups of about four to five, to discuss the case and
> then have them come back together as a large group to
> share. (Loretta James)

Clearly there is a direct relationship between what happens in

the classroom and attendance. Rolf Franklin, Georgia Phillips, Jayne

Pratt and Thomas Bell describe low attendance when the class activity

is described as a quiet time for students to work through the modules.

These teachers give students the freedom to complete the units off

campus. This is line with the recommendations as described in the literature. However, modular learning at Seaview Institute is clearly seen as an alternative to group-based instruction rather than a partner to it (Ainsworth, 1976). Although the students assimilate the data by means of the module, time is not set aside for the students to interact with the instructor or other students in evaluating, analyzing or synthesizing the concepts.

The teachers who present the material in a new way or as presented in the module describe high class attendance. These same teachers comment that the students are often not prepared. It would also appear that a reward system such as reinforcing what will be on the exam ensures a higher number of students attending class.

Loretta James' account of what classroom activities are undertaken is more in line with modular learning as described in the literature. In her courses, through modules, the students assimilate the data. Later the terminal application skills, such as evaluating, analyzing and synthesizing concepts is done between the student and instructor and between the student and other students (Ainsworth, 1976). Loretta James uses modular learning as a partner to group-based instruction rather than an alternative to the lecture mode.

Comfort Level

In the section that follows, the implementation of modular learning as a new delivery system will be explored from the perspective of the individual teachers. Their philosophical approach or values and beliefs that direct their teaching style will be compared and contrasted with the philosophy behind modular learning from their perspective.

In the teacher's description of excellent teaching they often said that it involved a relationship between students and teachers.

> The most important thing is the teacher's attitude and relationship to students. Excellent teaching takes place in a classroom in the lecture format. (Janis Crik)

> When students are excited and involved both teacher and students want to be there, and the teacher, has to provide the environment to make it fun and exciting. I believe that honesty and respect are extremely important. I think students are extremely tolerant of whether you are a good teacher or a bad teacher as long as they know that the teacher is honest with them and doing their best. (Rolf Franklin)

> Effective learning happens when there is a relationship between the student and teacher. (Valerie Stout)

> When the teacher works closely with a small number of students, I think the teacher has to demonstrate to start with, then there is an enlargement, or a telling aspect, then the student has to perform under supervision initially, but taking on more and more responsibility as they progress through the course. Initially there has to be a greater amount of interaction between the teacher and the student. The teacher must be honest with the student and the teacher must set an example. (Joyce Pratt)

Others describe excellent teaching in terms of relationships to students by providing a safe learning environment.

> Excellent teaching is very participative in terms of the student being very involved. For excellent teaching to happen, there has to be a lot of ground work done by the teacher in terms of preparing the atmosphere. (Gwen Stormes)

> An excellent teacher encourages students to ask questions, and stimulates students to think for themselves. The excellent teacher is aware of what content the student needs and provides a safe environment for learning to take place. (Lucille Simon)

> Excellent teaching is a teacher who is enthusiastic and excited about the subject. The teacher must care about the students being guided through the learning experience. It is important that the teacher act as a role model as emotions are catchy. The enthusiastic teacher will create enthusiastic students. The excellent teacher also has a good comprehension of the content. (Jo-Anne Spragg)

> The excellent teacher has a sensitivity to students' needs. All students must be given the opportunity to express their thoughts to ensure that they have a clear understanding of the material before they leave the room. (Roger French)

> An excellent teacher is, one who has knowledge of the content, is relaxed, natural encouraging, open to students and aware of students' needs, and views students as equals as people. It is important to treat students as individuals and understand what their individual needs are, but also ensure that students understand that there are standards and that students cannot go below those standards. (Barbara Whyte)

Janine McCormic and Thomas Bell describe excellent teaching in terms of teaching strategies.

Excellent teaching is a lesson that is well planned and well thought out and strategies used that are really appropriate for the group and the content. The importance of appropriate physical resources is an important component to excellent teaching. Inter- dependent learning and problem solving, are important components of an excellent teacher. The teacher cannot learn for the student but in her role as facilitator or resource person, the teacher can motivate them to learn. (Janine McCormic)

Excellent teaching takes place in the classroom environment. I think that this is where the teacher acts and that is where excellent teaching will be seen. It is important for me to learn and I like to convey that to people who want to learn from me. (Thomas Bell)

Students learn by having a teacher, up there. When it comes out of someone's mouth, I think, students are a little more receptive, more than they are if it is presented on a paper. (Thomas Bell)

Kendra Hunter expressed a need for the teacher to be given freedom in order for excellent teaching to take place.

I think excellent teaching allows for some creativity and flexibility on the part of the teacher where the teacher's soul is allowed to emerge in the classroom. Although by necessity the teacher must maintain a core of information that she is able to use, she is able to use a wide variety of resources and is permitted to being these to the setting. (Kendra Hunter)

Georgia Phillips describes excellent teaching in terms of environment.

> Excellent teaching is giving students an optional environment in which they can learn. It can happen anywhere; usually it occurs in a less formal atmosphere. Excellent teaching takes place with the teacher acting as a resource. Students tend to retain the material longer and have better comprehension when they are actively involved in learning. Any delivery system should contain a variety of formats. It should be varied to keep the student and teacher interacting. (Georgia Phillips)

Loretta James views excellent teaching in terms of outcome rather than input.

> An excellent teacher is one who would achieve or help her students achieve the goals that they have set out for themselves, taking into consideration individual learning styles, different needs and interests of the students. As a teacher I am not responsible for what a student learns. I am responsible for using a number of strategies and presenting in a variety of ways so that the student has the most chance of learning. However, it is up to the student to learn in the end, and if they choose not to learn then that is their choice. This is not necessarily a reflection on the teacher or the student's intelligence. As a teacher, I am working with people, not numbers or bodies or a classroom. Students are people and must be given respect. (Loretta James)

To compare and contrast the teachers' value of excellent teaching with their belief of the philosophy of modular learning, each teacher was asked to describe their philosophy behind modular learning. Many describe modular learning in terms of independent learning.

Students learn independently. We provide them with all
the material. They could conceivably do, all of the
course without coming to any class. (Gwen Stormes)

Modular learning is where the students learn by him or
herself. The student is given a mass of papers (a
book) and is expected to read it and learn it. There
may or may not be interaction with the teacher.
(Lucille Simon)

It gears toward individual pacing. It allows the
student to be prepared when they come to class. They
can bring specific problems or questions that they may
be having. It also lets them know the expectations
ahead. (Janine McCormic)

Modular learning, is where students take responsibility
for their own learning. (Georgia Phillips)

The philosophy of modular learning is to provide
independent learning for students. It is adult
learning where the student can learn at his or
her own rate. (Janis Crick)

Students have a choice about coming to class and as an
adult learner they are supposed to be able to learn on
their own. (Roger French)

The philosophy behind modular learning is a mode for
students to learn independently. (Thomas Bell)

Students are individuals and can learn at their own
pace. Students who take a longer period of time can,
and others can work through it quickly. Ideally it is
self-directed. The student is responsible for their
own learning. The teacher is there as a facilitator.
(Barbara Whyte)

It mandates that the learner must interact with the
content. They must take responsibility for their own
learning. It allows students to progress at their own
rate and they must develop research skills. (Valerie
Stout)

There are two aspects behind the philosophy of modular
learning. The first is to provide student with a
vehicle and opportunity to develop emotionally and
intellectually. The second part is to provide a
conducive environment for learning. (Rolf Franklin)

Loretta James described it in terms of efficiency, economy and
student responsibility.

> Modules were introduced as a way of reducing the
> receptive presentation of knowledge so that the teacher
> would be able to spend more time on the higher level of
> cognitive skills, such as application analysis and
> synthesis. Recognition and recall kinds of things are
> learning tasks which can be achieved more efficiently
> by the module. Economic constraint also dictated that
> it was not cost effective to have small groups taught
> repeatedly. It was not only the administration that
> recognized that this was inefficient and costly, but,
> also the faculty questioned that there must be a better
> way to teach than to stand up at the front of a
> classroom and "spout from a textbook".

> Another philosophy behind modular learning is a belief
> that reading is a more efficient way of collecting
> information than hearing. Further students can be held
> accountable more concretely since the knowledge is
> actually on paper as opposed to what was supposed to be
> presented in a lecture. (Loretta James)

Others describe modular learning as a cost effective measure
introduced by Administration to ensure consistency in delivery
content.

> Modular learning erupted from a need to ensure some
> kind of consistency and a need to control what was
> happening in the classroom. (Kendra Hunter)

> A cost effective measure introduced by Administration.
> It was intended to allow the teachers to deal with more
> students at a single time. (Jo-Anne Spragg)

> Modular learning is putting more onus on the student.
> We given them a package of information, we give them
> time between nine and four to learn it. The onus is on
> them to learn it to the best of their ability. At the

same time, they know I am here if they are running into
difficulties or if they don't understand that block of
information. I guess the powers to be felt, that this
was the way education was going and perhaps the onus
should be on the student. Perhaps they felt students
learned better this way. I'm sure they feel that they
can cut down on the number of staff in the program
because, we don't need all of those hours for lecture
preparation. (Joyce Pratt)

A need for staff development emerges and is clearly described in

Roger French's scenario. After a year, Roger is still struggling with

understanding the philosophy of modular learning. At his orientation

to North Side College he has misgivings because the message that he

feels may not have been intended, but still came through, was that the

students can learn the information on their own. He was often

questioned by students as to why they were expected to come to class.

Students said: "I have the information in the module,
why should I come to class? Everything I need to know
to pass the course is in the module." I feel that only
some students can learn that way. I feel that the
majority need the embellishment or examples related to
the information provided in the module. It is my job
to be up there in front of a group of people sharing
something with them. (Roger French)

Other teachers revealed a need for staff development.

My role as information giver was easier than my current
role. Now the students have been given the information
prior to class and I feel that there is no sense in
repeating that same information in the classroom. I
wonder what to do with the class time. (Lucille Simon)

> The bright students will come to class ready to do,
> where as the middle students, or those that don't
> participate, are not prepared. Students at different
> levels present me with a dilemma; who do I teach to?
> (Gwen Stormes)

> In my background, material was always spoonfed.
> Someone just stood up there and gave it to me. It is
> much easier just to feed the information. Also some of
> our students have been out of school for twenty years
> and come into the program expecting to be spoonfed.
> (Janine McCormic)

> Now students are expected to come to class with an
> understanding of the content. Now my role is to help
> students become motivated to help them find the
> information they need and to help them with application
> of the theory. I am disappointed that I haven't had
> any guidance in how to follow up a module, conduct a
> seminar or help the students apply the knowledge.
> (Jo-Anne Spragg)

The teachers whose philosophy of education is compatible with the philosophy of modular learning, express a higher degree of comfort in their new role than do those whose personal ideology is at variance with the philosophy of modular learning.

Table 2, on page 65, provides a summary of the different comfort levels of the teachers in the new instructional mode.

Loretta James and Valerie Stout are comfortable working in the modular format:

> With the lecture method the pressure of having all of
> that information at my fingertips was something I
> disliked. I felt that it was a waste of time to
> prepare so much material when the outcome didn't seem
> to warrant that type of preparation. In this delivery
> system I feel that I don't have to sweat the content as
> much and am able to easily focus on the process in the
> classroom. Now I write the information rather than
> speak it. (Loretta James)

The students no longer see me as the spewer of knowledge, rather they see me as only one of many resources and that the knowledge is shared between teachers and is not the property of one person. In the lecture format the case studies and the homework assignments would be done at home with the answers posted. Now since the students have the content prior to the class, the class time can be effectively used to apply content using case studies. (Loretta James)

I clarify the main concepts using different examples and applications of that concept. I enjoy the challenge of working with application of knowledge. The lecture mode is my unfavourite mode. (Valerie Stout)

Others are not comfortable in the new role and their discomfort is related to relationship between the teacher and student.

I think the modules lack the personal side of the material that would have made them more interesting. Some of the information is very dry. This may sound strange, but it takes away from the interaction between the teacher and student. Sure I am working on a one to one relationship with ten of the forty students. But there is a question in my mind, am I getting it across to all of the students? I'm not sure whether or not I'm comfortable in this role. It creates a lot of doubt as to whether or not I'm a good educator. (Thomas Bell)

I don't think everything should be in modules. I feel that I lose the exchange between the instructor and the student related to clinical experience. When I used to lecture, I gave them my practical experience from the clinical setting and I was also able to draw on their knowledge and enlarge upon it. I don't have an opportunity to do that in modular learning. (Joyce Pratt)

I now realize that they didn't come to class because there was no reason to come. Basically, they could do what they needed to do at home. I didn't provide a stimulating environment. I learned that I had to do

more to get them to come. I find a little bit of
conflict in my new role because sometimes students want
me to lecture. (Rolf Franklin)

I find the new role much less rewarding due to the fact
no one would come to the classroom. I suppose it's
like a parent being able to say they don't need me as
much as I thought they did. It's a new role, I'm still
working on it. (Rolf Franklin)

I have little contact with the student. That has to be
built in but there is that nagging doubt that they are
just playing hookey and will come to me at a later
date. I wonder have they actually done the work on
their own and do they have a full comprehension of what
they are supposed to have learned? (Georgia Phillips)

If students do not attend classes the teacher will lose
personal contact with the student and as a result
students will not receive individual attention.
(Lucille Simon)

The teachers who describe relationship as an integral component

of teaching excellence also appear to be uncomfortable when they lose

control of the knowledge.

You're just handed a module and you teach it. It is
very difficult to make it different and fun. I often
change the sequence around to put the emphasis where I
think it should be. (Janis Crik)

In the classroom, students want me to go through the
module word for word. I have done that sometimes, but
do not find it effective. Unfortunately what happens
is that students come to expect it all of the time and
then students who are really good, are already there
and I end up with a mix. (Barbara Whyte)

Teachers should be allowed to maximize their own
potential. I believe in the responsibility of the
teachers to give the best to students. I am only an
embellisher. Now in my current role I am given a
sequence and am told when and how to teach it. I feel
that I have very little opportunity to care. Students

> sit with their modules open and as a teacher I must not
> vary from the objectives. If I move from one to three
> having left out two for the time being because I can
> see a different organizational pattern from the person
> who wrote the module, students get very upset. The
> students are so programmed that they want to hear the
> teacher talk about objective one and what little blurb
> is written about it and objective two and that little
> blurb, etc. (Kendra Hunter)

> If students are not prepared I have to review the
> module and emphasize the important points. (Roger
> French)

Some teachers are more comfortable than others in this new instructional mode. Some are comfortable because they never liked preparing lectures and are now very happy using class time for activities that reinforce the material that the student has already interacted with in the instructional module.

The teachers whose belief in excellent teaching is to develop close contacts with students are often uncomfortable in the new role, particularly when students do not come to class. It is not surprising that these teachers are uncomfortable, as the new role does not easily facilitate an environment for relationships to develop between teachers and students. Often these same teachers are uncomfortable due to the fact that they no longer control the content. Some are uncomfortable because they lack pedagogical skills and simply do not know what to do in the classroom when the student has already learned the content.

In Table 2 the data is displayed in rows in the form of a matrix. It reflects the values and beliefs of the teachers in terms of excellent teaching as well as their belief behind the philosophy of modular learning. Classroom attendance and strategies employed in the classroom by the teachers is also displayed. The table provides a summary of the different comfort levels of the teachers in the new instructional mode.

The teachers are listed according to their comfort level in the new role in the classroom. The first five teachers describe feelings of comfort and the next nine describe feelings of discomfort. Six of the teachers who believe that excellent teaching is to develop a caring relationship with students, are uncomfortable in the new role and two who share the same belief are comfortable. Of the nine teachers who are uncomfortable, two imply lack of trust in the student as an independent learner as the reason for their discomfort. Three teachers describe loss of interaction between the teacher and the student, two teachers describe loss of content and two teachers describe lack of pedagogical skills as the reason for their discomfort. Of the five teachers who describe high comfort levels, two disliked preparing content in the lecture mode, two teachers prefer to work in small groups rather than presenting a lecture, and one teacher feels that this is an appropriate instructional mode for the level of students she teachers. Of the five teachers who describe high feelings of comfort, all have 95 - 100% class attendance and, of

TABLE 2

Comfort Levels

Teacher	Values & Beliefs Related to Excellent Teaching	Belief of Modular Learning Philosophy	Class Attendance
Kendra Hunter	Freedom to teach content in any manner that the teacher chooses.	Ensure consistency and an administrative need to control what happens in the classroom.	100%
Lucille Simon	Positive caring relationship between teacher and student, a safe learning environment.	Independent learning.	100%
Jo-Anne Spragg	Positive caring relationship between teacher and student.	A cost effective measure introduced by Administration to allow teachers to deal with more students at one time.	100%
Joyce Pratt	Positive caring relationship between teacher and student.	Student responsible for learning to cut down on the number of staff because preparation time is less than for lecture delivery system.	5%-10%
Rolf Franklin	Positive caring relationship between teacher and student.	Provides a vehicle for students to develop emotionally & intellectually in a conducisve environment for learning.	5%-10%
Janis Crick	Relationship between teacher and student.	Independent adult learning, self-paced.	100%

TABLE 2 (Continued)

Classroom Organization	Level of Interaction with Students in Classroom	Control of Content	Comfort Level with Role in Classroom
Lectures on material in the module and embellishes with personal experience.	High	Low	Very uncomfortable. Feels confined and restricted by lack of control of classroom activities and content.
Not sure what to do in class time. Asks questions related to material in modules. May show a film.	High	Low	Very uncomfortable. Is not sure what she is supposed to be doing in the classroom.
Demonstrates new skills that would not be available to the student in the module.	High	Medium	Very uncomfortable. Is not sure what she is supposed to be doing in the classroom.
Is there only to answer questions.	Low	Low	Very uncomfortable. Misses the interaction between the teacher and students in a lecture format.
Is there only to answer questions.	Low	Low	Very uncomfortable. Feels the role is unrewarding because no one comes to the class. Feels not needed.
Presents a lecture on the material in the module.	High	Low	Very Uncomfortable. Feels restricted in delivering content, dislikes having no control of content.

65c.

TABLE 2 (Continued)

Teacher	Values & Beliefs Related to Excellent Teaching	Belief of Modular Learning Philosophy	Class Attendance
Loretta James	Excellent teacher would help students achieve goals.	Efficiency, economy, & student responsible for learning.	95%
Valerie Stout	Relationship between teacher and student.	Student interacts with content.	100%
Janine McCormic	Interdependent learning and effective use of a lesson plan and good teaching strategies.	Independent learning.	100%
Gwen Stormes	Must be participative & a safe learning environment.	Independent learning.	100%
Barbara Whyte	Aware of individual student needs and a safe learning environment.	Self-directed, students work at own pace, individual instruction.	100%
Georgia Phillips	Optional learning environment, student actively involved in learning.	Student takes responsibility for their own learning.	5%-10%
Roger French	Positive caring relationship between student and teacher.	Not sure.	50%-75%
Thomas Bell	Teaching in a lecture format in a classroom.	Independent learning.	5%-10%

TABLE 2 (Continued)

Classroom Organization	Level of Inter-action with Students in Classroom	Control of Content	Comfort Level with Role in Classroom
Discussion, recall, application and analysis of material in module using small group activities.	High	Low	Very comfortable. Disliked the lecture format and likes teaching to higher level of learning.
Reviews material in module using a lecture presentation &/or group activities.	High	Low	Very comfortable. Likes teaching activities that allow her to be a bit of a ham without having to prepare content.
At beginning of class challenge examination given to determine learning level. Discussion, small group work of material presented in module.	High	High	Likes working with small groups in reinforcing material presented in the module.
Presents information in module in a new way often through small group work.	High	High	Very comfortable. Likes working with small groups in reinforcing the material presented in the module.
Asks questions related to module.	High	High	Comfortable. Feels that this is a good instructional mode for students at this level.
Answers questions only.	Low	Low	Moderately uncomfortable. Worries that students may be playing hookey rather than interacting with the material.
Reviews material and reveals what will be on exam through small group work.	High	Low	Uncomfortable. He does not believe that all students are able to learn independent of the teacher.
Asks questions related to the module.	Low	Low	Uncomfortable. Misses the interaction between the teacher and the student in giving a lecture.

the nine who describe feelings of discomfort, five have between 5 -

75% class attendance. The other four teachers have between 50 - 100%

attendance.

This summary indicates that the majority of the teachers

interviewed in this study experienced difficulty in adapting to the

new instructional mode introduced in the community college.

The teachers were asked if the introduction of the new delivery

system had improved the program from their perspective. Two felt that

modules helped them as teachers to better facilitate learning.

> In this format I can help students focus on thinking
> skills and encourage them to develop a sense that they
> have the ability to solve problems themselves.
> (Loretta James)
>
> Students now come to class prepared, which allows the
> teacher a better time frame to use exercises. (Barbara
> Whyte)

Two felt that it was a benefit to the students in terms of

learning and pace.

> We wanted students to act like adults, but we never
> gave them an opportunity to prove it while they were
> here. This delivery system ensures that teachers
> concentrate on material that is needed by streamlining
> the program. I was quite impressed with the students.
> They did better than I expected. I sort of tested them
> really hard because I thought they would fail and I
> could say it didn't work. But that is not what
> happened. They did really well. (Rolf Franklin)
>
> The modular delivery system has improved the program
> because it allows learners to progress at their own
> rate. (Valerie Stout)

Standards consistency and improved quality of notes were cited as examples of program improvement.

> A positive result of modular learning is more consistency of presentation of material between the teachers in the program. The modules act as an excellent set of notes for the students. (Lucille Simon)
>
> As a facilitator, it made us more consistent in terms of what we were teaching because we have specific learning objectives that we have to teach to. (Janine McCormic)
>
> The description of what the student must learn is now clearly described in the form of specific objectives, required reading and supplementary activities. This has been a big improvement in the program. Consistency among the teachers presenting the material in the modules has also been a positive result of moving to modules. (Jo-Anne Spragg)
>
> The students are not note takers. I feel that they would fail their exams, because they wouldn't know what they supposed to learn. (Gwen Stormes)
>
> The student has good notes and can look ahead. (Janis Crik)
>
> There is a lot of information in this program that is basic, basic in the sense that it is material that students should have prior to getting into the program. So what modules do is to ensure that there is a standard. Also, the teacher can get a lot of information covered in a shorter period of time. (Thomas Bell)

One person saw modules as improving the program in terms of administration.

> Modular learning has helped the program to improve scheduling and timetabling. Also, the modules are a

tremendous life-line for a new teacher. There is a
framework. You don't have to go out and search, and
find a multiple of resources to come up with the
content. Someone has already done that for you. You
are handed the teacher's manual and the module. You go
home. You use your own resources to embellish this,
and you come to class with your notes and experience to
back you up. (Kendra Hunter)

Other teachers identified problems related to modular learning

and program improvement.

Students who do not relate well to this particular type
of learning style have difficulty completing the
program. Students need to be visual learners and have
a high level of motivation in order to succeed in the
program. (Lucille Simon)

The learner who learns at a slower pace is at a
disadvantage because the marching band keeps on going.
(Valerie Stout)

It has damaged the program because we spend so much
time trying to decide what content the semester should
contain, that we don't necessarily get to plan for the
future. (Janis Crik)

This embellishment is a problem. Very few of us are
teaching at the same level, because most instructors do
not stick to the module when teaching. Consistency is
not there. (Janis Crik)

The consistent comment is that students prefer more
teacher contact rather than an independent study
approach. (Roger French)

I sometimes think it makes students very narrow in
their thinking. They are comfortable having all of the
information presented to them in modules. I have
experienced that they sometimes do not want to go
beyond that. By setting up objectives, it has limited
students. They do not want to go beyond the objective.
(Thomas Bell)

> I suppose I have to move along with what is happening
> in educational theory, but I can't honestly say it is
> an improvement. (Joyce Pratt)

There is not a clear relationship between program improvement and the comfort level of the teachers. But the reports of teachers who are least comfortable in the new role are also the teachers who identified problems related to the new delivery system.

Implementation

Added to the personal factors of the teachers responsible for implementing the change in instructional mode is the effect that the external support provided by the college's administration has had on the teacher's role. The information included in this section was collated using the recommendation of Pascal (1987) in implementing modules in an educational institution, and Fullan (1982), Wideen and Holborn's (1986) classification of factors that affect implementation, as well as the factors identified in Ainsworth's (1976) model.

None of the programs in this study are self paced, none of the programs had established learning centers at the time that the study was conducted. Also, it was not revealed in the interviews whether or not an instructional technologist was available to assist faculty to design modules. What follows is a summary of differences from what the literature defines as modular learning and what the allied health programs are calling modular learning.

Seaview Institute provides time in the schedule for students to

interact with the modules, but time is not scheduled for interaction of the student and instructor to develop the higher levels of learning such as application synthesis and analyses. The teachers do act as tutors, rather than givers of information. It also appears that the teachers at Seaview Institute are unclear about the philosophy of modular learning as described in the literature.

Valley Side College provides no scheduled time in the timetable for students to interact with the modules. Class time is spent in helping the students understand the application of the content in the modules or problem solve. The teachers in this program feel comfortable in their role and two of the three are unclear about the philosophy of modular learning as described in the literature.

West Side Institute of Technology provides time in the timetable for students to interact with the material. Class time is spent with the teacher interacting with the students, providing enrichment, new material or application of the material presented in the module. One of three teachers has a clear understanding of what modular learning can accomplish. The other two are confused and not sure at all of what their new role should be. These same two teachers are not clear about the philosophy of modular learning as described in the literature. One teacher sees modular learning as a means of administration to reduce faculty.

North Side College does not schedule any time in the timetable for students to interact with the modules. The teachers reteach the

material in class time. One instructor is comfortable in the new role but three are uncomfortable in the role. None of the teachers are clear about the philosophy of modular learning as described in the literature.

In general, all of the allied health programs in the colleges implemented a change. The teachers see their role as changed and these changes or shifts were accompanied by different degrees of discomfort and understanding on the part of the teacher. At all but Seaview Institute it appears that very few changes occurred.

The essential components of modular learning as described by Ainsworth (1976) and the critical factors to ensure effective implementation of learning modules as described by Pascal (1987) have been listed in Tables 3, 4, 5 and 6, as have the teachers and programs who have implemented the change in delivery system in the colleges. The matrix rows are made up of respondent answers to questions in the interview. The tables provide a summary of the implementation of modular learning in the college from the teachers' perspective. The data was extracted from the teachers' quotes and displays each program separately.

The tables indicate that the majority of the teachers interviewed do not have a clear understanding of modular learning as described in the literature. Most of the teachers do not have a mutual understanding with the administration of the college of the philosophy of modular learning. This has caused confusion in the minds of the

TABLE 3

Differences in Implementation of Modular Learning

Seaview Institute of Technology – Diagnostic Radiography Program

	Georgia Phillips	Thomas Bell	Rolf Franklin	Joyce Pratt
The Needs of Self-Instructional Student:				
Individual remediation provided.	Yes, at class.	Yes, at class.	Yes, at class.	Yes, at class.
Freedom to complete modules off campus in scheduled timetable.	Yes.	Yes.	Yes.	Yes.
The Needs of the Instructor:				
Acts as a counsellor rather than a giver of information.	Acts as a person to answer questions when asked.	Asks questions to determine level of understanding.	Waits to be asked questions.	Waits to be asked questions.
Ensures that module is used by the student to assimilate data.	Yes, at class time.	Yes, at class time.	Yes, at class time.	Yes, at class time. Students are tested prior to labs.
In small group facilitates, analyses, evaluation and synthesis.	Answers questions only.	Answers questions only.	Answers questions only.	Answers questions only.
Modular learning is a partner to group based instruction.	Alternative.	Alternative.	Alternative.	Alternative.
Resistance to new role.	Moderately uncomfortable	Uncomfortable	Very uncomfortable	Very Uncomfortable

TABLE 3 (Continued)

To Implement Change:				
Teachers and Administration understand and agree with the philosophy of modular learning as described in the literature.	Does not have a clear understanding.	Does not have a clear understanding.	Does not have a clear understanding, feels not needed.	Does not have a clear understanding. Feels threatened by Administration.
The Needs of Self-Instructional Student:				
Teachers have developed the appropriate pedagogical skills to facilitate modular learning through staff development.	Feels she can handle any question and has good skills in individualized instruction.	Would prefer to give a lecture.	Feels that no special skills are required.	Would prefer to give a lecture.

TABLE 4

Differences in Implementation of Modular Learning

Valleyside College - Long Term Care Aide Program

	Gwen Stormes	Barbara Whyte	Janine Mccormic
The Needs of Self-Instructional Student:			
Individual remediation provided.	No, provided in group.	No, provided in group.	No, provided in group.
Freedom to complete modules off campus in scheduled timetable.	No time provided in timetable.	No time provied in timetable.	No time provided in timetable.
The Needs of the Instructor:			
Acts as a counsellor rather than a giver of information.	Reviews module.	Asks questions. to determine level of understanding and encourages problem solving.	Reviews module.
Ensures that module is used by the student to assimilate data.	Sometimes students do not interact with material.	Sometimes students do not read the module.	Sometimes students do not read the the module.
In small group facilitates, analyses, evaluation and synthesis.	Facilitates application in group.	Challenges students to think and problem solve. in group.	Understood application in group.
Modular learning is a partner to group based instruction.	A partner.	A partner.	A partner.
Resistance to new role.	Comfortable.	Comfortable.	Comfortable.

TABLE 4 (Continued)

To Implement Change:			
Teachers and Administration understand and agree with the philosophy of modular learning as described in the literature.	Does not have a clear understanding.	Understands the philosophy but is not sure that it is applied in its true sense.	Does not have a clear understanding.
The Needs of Self-Instructional Unit Student:			
Teachers have developed the appropriate pedagogical skills to facilitate modular learning through staff development.	Feels competent in reinforcing information but does not know how to deal with different levels of learners.	Feels competent in pedagogical techniques.	Feels competent.

74a.

TABLE 5

Differences in Implementation of Modular Learning

Westside Institute of Technology - General Nursing Program

	Lucille Simon	Jo-Anne Spragg	Loretta James
The Needs of Self-Instructional Student:			
Individual remediation provided.	No, provided in group.	No, provided in group.	No. Provided in group.
Freedom to complete modules off campus in scheduled timetable.	Yes, one afternoon per week.	Yes, one afternoon per week.	Yes, one afternoon per week.
The Needs of the Instructor:			
Acts as a counsellor rather than a giver of information.	Provides enrichment.	Gives new information in class.	Acts as a facilitator.
Ensures that module is used by the student to assimilate data.	Sometimes students do not read the module.	Sometimes students do not read the module.	Builds on information provided in the module.
In small group facilitates, analyses, evaluation and synthesis.	Class used to diagnose problems or enrichment.	Provides demonstrations.	In group facilitates, analyzes, evaluation and synthesis.
Modular learning is a partner to group based instruction.	A partner.	A partner.	A partner.
Resistance to new role.	Very uncomfortable.	Very uncomfortable.	Very comfortable.

TABLE 5 (Continued)

To Implement Change: Teachers and Administration understand and agree with the philosophy of modular learning as described in the literature.	Is confused about the way modular learning has been implemented.	Is confused about the way modular learning has been implemented.	Is clear about philosophy of modular learning and administration support of that philosophy.
The Needs of Self-Instructional Student: Teachers have developed the appropriate pedagogical skills to facilitate modular learning through staff development.	Is not sure of what strategies to use in the classroom.	Is disappointed that she has not had help in developing new teaching strategies to facilitate modular learning.	Feels competent.

TABLE 6

Differences in Implementation of Modular Learning

North Side College - General & Psychiatric Nursing Program

	Valerie Stout	Kendra Hunter	Roger French	Janet Crick
The Needs of Self-Instructional Student:				
Individual remediation provided.	No, provided in group.	No, provided in group.	No, provided in group.	No, provided in group.
Freedom to complete modules off campus in scheduled timetable.	No time provided.	No time scheduled.	No time provided.	No time scheduled.
The Needs of the Instructor:				
Acts as a counsellor rather than a giver of information.	Reviews module.	Reviews module.	Reviews module.	Gives lectures based on module.
Ensures that module is used by the student to assimilate data.	80% of students do not read modules.	Students seldom have reviewed modules.	Students seldom have reviewed modules.	Students seldom have reviewed modules.
In small group facilitates, analyses, evaluation and synthesis.	Facilitates application.	Embellishes in group.	Facilitates application in group.	Facilitates application in group.
Modular learning is a partner to group based instruction.	Partner.	Alternative.	Is not sure.	Is not sure.
Resistance to new role.	Very comfortable.	Very unfomfortable.	Uncomfortable	Very unfomfortable.

TABLE 6 (Continued)

To Implement Change:				
Teachers and Administration understand and agree with the philosophy of modular learning as described in the literature.	Does not have a clear understanding.	Is confused.	Is confused.	Is confused.
The Needs of Self-Instructional Student:				
Teachers have developed the appropriate pedagogical skills to facilitate modular learning through staff development.	Feels confident. any question and has good skills in individualized instruction.	Feels stifled and at variance with the process.	Feels unsure.	Prefers to control content in the lecture.

teachers in terms of what change is intended to be implemented. The teachers employ a variety of teaching strategies in the classroom. They describe various levels of development in terms of the appropriate pedagogical skills to facilitate modular learning. The teachers' confusion and variance in teaching strategies and levels of pedagogical skills, coupled with their unclear understanding of the philosophy behind modular learning, suggests that appropriate organizational development and staff development did not occur during the implementation of the new delivery system. This has caused many of the teachers to experience difficulty in adapting to the new instructional mode introduced by the college.

Multiple factors have impacted on the implementation of a new delivery system in allied health programs in community colleges. During the interviews, the teachers commented upon several major influences. These can be summarized as follows:

1. belief that excellent teaching involves a relationship between students and teachers

2. degree of comfort as the role shifted to facilitator of learning from dispenser of information

3. feelings related to job security

4. conflict related to the understanding of and agreement with the philosophy of modular learning as described in the literature

5. administration support of staff development to assist

teachers in developing pedagogical skills to facilitate

a new instructional mode.

Some of the forces provide support to the implementation of modular learning. Some are serving as barriers or constraints to the implementation process. Using the influences provided by Fullan (1982) and Wideen and Holborn (1986) as starting points, an attempt was made to fit the data into those influences in the form of Force Field Analysis illustrating the Implemented Change (Figure 2). The influences suggested by Fullan (1982) are represented in this figure by numbers 1 through 14. Numbers 15-20 represent those suggested by Wideen and Holborn (1986).

The teachers revealed supporting influences on the implementation of a new delivery system in allied health programs in the community college. These influences are represented on bars 1, 2, 3, 4, 5, 6, 7, 15 and 16. The teachers also identified restraining influences on the implementation of a new instructional mode in the college. The restraining influences from the teachers' perspective are represented on bars 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20. The estimated length of the bars on the force field analysis are a reflection of the teachers' quotes in the in-depth interview.

FIGURE 2:   FORCE FIELD ANALYSIS OF
                              IMPLEMENTED CHANGE
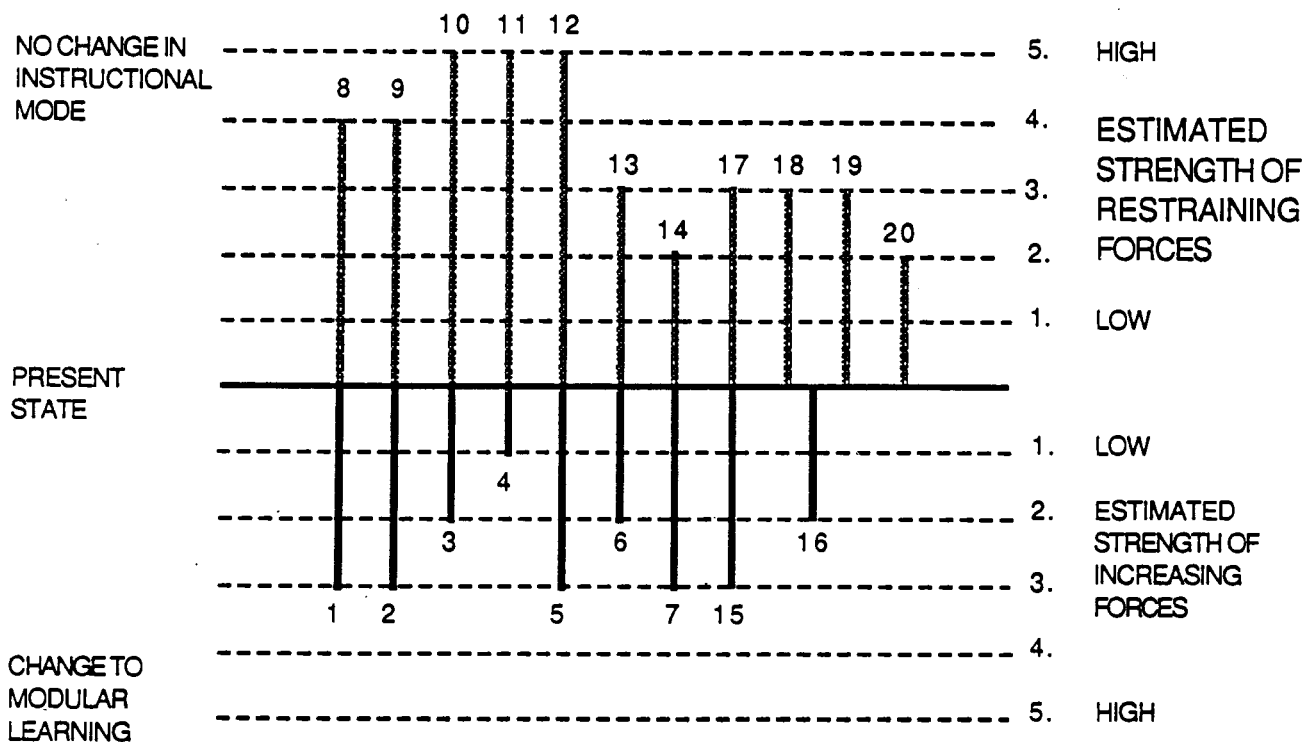
Supporting Influences

1   identified the need for change by both faculty and

     administration

2   improvement of instructional consistency

3   teacher's comfort level as a facilitator

4   teachers understanding the philosophy of modular learning

5   teachers feel competent in new instructional role

6   teachers feel comptent in new role

7   teachers are receptive to change

15   power is exercised by the administration to implement the change

16   teachers claim they are receptive to the new instructional mode

Restraining Influences

8   teachers claim to be receptive but do not change

9   teacher's informal structure does not support the change

10   teachers sense a loss of relationship with students and control of content

11   lack of understanding of the philosophy of modular learning between faculty and administration

12   inadequate staff development

13   teachers feel threatened

14   teachers sense a loss of academic freedom

17   absence of external influences

18   absence of shelter conditions

19   structure does not appear to have the capacity for change

20   no key players have been identified

The factors that have been identified as providing support to the implementation of modular learning bars 1, 2, 3, 4, 5, 6, 7, 15 and 16 appear to be dominated by the restraining forces bars 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, and 20. The dominance of restraining forces suggests that the implementation of modular learning in community colleges is on shaky ground.

The force field analysis reveals a number of implementation problems. Generally the restraining forces appear to outweigh the increasing forces that would support the change to modular learning. More specifically, the restraining forces of the teachers who sense a loss in terms of relationship with students and control of content outweigh the strength of the forces of those few teachers who feel comfortable as a facilitator of learning.

The restraining forces caused by disagreement or lack of understanding of the philosophy behind modular learning by the teachers, outweigh the forces of those few teachers who understand the philosophy behind modular learning. The restraining forces caused by inadequate staff development to help teachers develop pedagogical skills to facilitate modular learning outweigh the increasing forces of the teachers who feel competent in the new role.

The force field analysis reveals that the change to modular learning as an alternative to the lecture has created a high level of restraining forces that translate into implementation problems. Significant is the restraining force created by those teachers who continue to lecture, despite the fact that many of them claim that they are receptive to the new instructional mode.

The examination of the introduction of modular learning within colleges has disclosed that the majority of the teachers interviewed experienced high levels of discomfort in adapting to the new instructional mode. The colleges have experienced implementation problems in introducing the new delivery system and these problems have inhibited effective change from taking place.

Chapter 5

Summary and Conclusions

This study was designed to examine the impact of a change in the delivery system on the role of teachers in allied health education and to examine its implementation in an allied health program in a community college. The study revealed that all of the teachers see their role as changed, and these changes or shifts were accompanied by different degrees of discomfort and understanding of the philosophy behind the new instructional mode. The teacher who was most comfortable with the new role is the teacher who has the best understanding of the philosophy of modular learning. She uses the learning modules effectively and describes program improvement as developing thinking skills in the learner.

Most of the teachers revealed that personal contact with students describes excellent teaching. When they discussed teaching strategies carried out in the classroom some teachers felt more comfortable than others in knowing what they were supposed to do or could do when the students already had the content.

In the minds of some of the teachers the new instructional mode has improved the program, consistency, good notes, and better scheduling are cited as being improvements. However, nowhere in the literature were better notes and consistency of teaching content described as benefits of modular learning. Other teachers identified

concerns related to the new instructional mode. Accommodating only one learning style, the student who learns at a slower rate is at a disadvantage because the modules are not self-paced, and limiting students with defined objectives are described as being problematic.

Two conclusions emerged from the study. The first is that while colleges made claims to having made changes in the delivery system, when in fact studied, it was revealed that very few changes occurred.

In Valleyside College, West Side Institute of Technology and North Side College the students continue to be given information provided in the learning module in the classroom by the teacher. No where in the literature did I find a recommendation that the teacher's role in modular learning should include presenting the material in the learning packages in the form of group-based instruction.

Ainsworth (1976) describes the instructional materials as the prime learning source for students in modular learning. Postlethwait and Novak (1967) emphasized independent study sessions, in which students carried out individual work assignments, combined with weekly small group sessions with tutors to diagnose problems in their description of modular learning.

At Seaview Institute, students are expected to interact with a learning module during class time and students have the freedom to complete the modules off campus. This has possibly encouraged independent learning, judging from the low number of students who attend class, and is more in keeping with the description of modular

learning as described by Ainsworth (1976).

The organizational environment in the four colleges was not part of this study. However, the differences in the organizational environment may have caused the teachers to behave in different ways in delivering the new instructional mode. This may also be a contributing factor to the low class attendance at Seaview Institute of Technology.

The data indicates that organizational development and staff development did not occur simultaneously in the implementation process. The teachers describe various levels of development and comfort in terms of the appropriate pedagogical skills to facilitate modular learning. The teachers' confusion and variance in teaching strategies and levels of pedagogical skills, coupled with their unclear understanding of the philosophy behind modular learning suggests that there was not a match between the change framework described by Fullan (1982), and Wideen and Holborn (1986) and the change process employed by the colleges in implementing a new instructional mode.

The study does not reveal how the colleges attempted to implement the new delivery system; rather it examines how the teachers adapted to the change. This study revealed an issue that identifies problems with the process adopted by the community college in implementing the instructional mode called modular learning. The issue is that the teacher's personal cherished beliefs related to teaching is in

conflict with the philosophy behind modular learning.

The data indicates that for the teachers there are many teaching experiences and relationships with students which have helped to shape their philosophy, values and beliefs in terms of teaching excellence and their philosophy of teaching excellence. This is in conflict with the philosophy of modular learning as they understand it.

The issue of professionalism in the training of allied health workers should be considered by colleges when implementing modular learning. Barbara Melosh's history of the nursing profession in the progressive era, The Physician's Hand (1982) offers an interesting view. In the standard histories, it had been assumed that nursing took giant forward steps when it institutionalized Florence Nightingale's reforms and opened hospital schools for nurses, required degrees as entering cards to practice, concentrated patient care in central plants, formed national associations, and set up a system of legal licensure when it became professionalized. In the name of professional reform Melosh argues:

> An elitist practice in the field destroyed the valuable
> work culture that had grown in the bedrooms of the sick
> and in the ward infirmaries, turning nursing into an
> occupation beyond the reach of capable persons too poor
> to acquire the right credentials, created hospital
> bureaucracies headed by male physicians who lorded over
> the predominantly feminine nursing staff, and in the
> end, worsened the quality of patient care. (p. 83)

Ensuring professionalism in the delivery system of modular learning

will perhaps be determined by how it is implemented in the colleges. If modular learning is used as a partner to group based instruction, and allows for interaction between the students and the teacher, it is probable that this type of delivery system would enhance professionalism in the student through interaction with a knowledged professional. If, however, modular learning is implemented as an alternative to group-based instruction, and the student is not encouraged or allowed to interact with the teacher, modular learning may be viewed as an anti-professional approach to professionalism.

The process of implementing change in community colleges appears to be a complex activity. The data suggests that implementation of a paradigm shift such as a new instructional mode may be better facilitated if the faculty and administration agree on what problem the change is intended to solve before the change is implemented. Further, if a mutual understanding of the philosophy behind the change is also established the implementation process may be simplified with the benefits of improved relationships between the faculty and the administration.

This thesis has attempted to provide an insight into the impact of change in the delivery system on the role of teachers in allied health education. It is intended that in the future, administrators will benefit from the results of the study in the implementation of the change process in introducing a new delivery system in allied health programs in the community college.

APPENDIX A

Summary of Interview Schedule to Explore the Historical

Background Related to Modular Learning in Community Colleges

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Date	Position
Tuesday, Oct. 1, 1985	Dept. Head Health Sciences, B.C.I.T.
Wednesday, Oct. 2, 1985	Faculty of Continuing Education Electrical Line, B.C.I.T.
Thursday, Oct. 3, 1985	President Kwantlen College
Wednesday, Oct. 9, 1985	Director of Nursing B.C.I.T.
Friday, Oct. 11, 1985	Dean of Health Sciences, B.C.I.T.
Monday Oct. 13, 1985	Faculty of Nursing B.C.I.T.

APPENDIX B

<u>Thesis Proposal</u>

M.A. (Educ.)

Education 898-10

Prepared for:

Dr. Marv Wideen

Dr. Kelleen Toohey

Prepared by:

Sharon Saberton

Date:

December 11, 1985

This project will focus on the effect that learning modules are having on the role of the teacher in allied health programs.

It would appear that a number of allied health programs in Canada are rapidly moving to "modular learning" in delivering health care education. It would also appear that "modular learning" has many definitions and many formats. However, two things are common to all modular learning delivery systems in health care. First, the curriculum is presented in some form of a learning package and,

second, the student is expected to learn the material in the package independent of the teacher. As a result, it would appear that the teacher's role in the classroom has changed.

My current position is Chairman of the Diagnostic Radiography program conducted by the Toronto Institute of Medical Technology. Over the past two years I have planned and implemented a new program that is based on modular learning. Therefore, I have a personal interest in the impact that this delivery system will have on my faculty. In addition to my role as Program Chairman I have been given a special mandate by the Toronto Institute of Medical Technology Administration to take a leadership role in enhancing professional development in the teaching faculty. Therefore, through researching the effect that modular learning is having on the role of the teacher in allied health education I expect to develop a conceptual framework which will lead to the formation of standards and criteria, which in turn will enhance my effectiveness as both a chairman and staff development officer.

This is only one of many areas that need to be explored as a result of this movement. Such issues as the effect of technological change, cost effectiveness, student life long learning, learning style, teacher job security, contract teachers and professionalism need to be addressed.

A review of the literature describing the development and implementation of modular learning in Canada and United States will be

undertaken. The influence of F. Keller, S. N. Postlethwait, J. Roueche and C. Pascal will be studied in an attempt to determine the background and subsequent reasons for introducing this type of delivery system in allied health programs in Canada.

In order to discover the effects of this delivery system on the role of the teacher, information will be gathered from college programs in both British Columbia and Ontario. Interviews with teachers, administrators, content specialists, writers and consultants will be carried out. Students and graduates will also be interviewed. Data from course and program evaluations will also be collected and collated. Finally, observation of the interaction between teachers and students in the classroom will be done.

It is expected that the literature search, interviews, observations and data collection will be completed by October 1986. It is intended that the thesis will be completed by January 1987.

It is intended that the results of this investigation will lead to the formation of standards and criteria which will enhance the teaching effectiveness of instructors in allied health programs. It is further intended that other programs which plan to implement a modular learning delivery system will benefit from this research.

APPENDIX C

Interview Questions

1. To begin would you give me a brief description of your professional background?

2. Would you call this program educational or training? Please explain.

3. Give me examples on your opinion of excellent teaching in the best of all possible worlds.

4. What would that excellent teaching look like?

5. Do you have a set of beliefs that underpin your view of excellent teaching? What are they?

6. What do you see as the philosophy behind modular learning?

7. What makes this role different from previous teaching roles you may have participated in?

8. How do you see yourself in relationship to the:

   (a) students

   (b) content

   (c) authors of the modules?

9. What were some of the expectations and assumptions that you began the process with?

10. What different teaching activities and strategies do you engage in now?

11. What have you learned about yourself (if anything) as a result of teaching in this format?

12. Why did the program change to a modular delivery system?

13. Do you feel that modules have improved the program?

14. Would you describe any areas in your role that you feel particularly competent?

15. Could you describe any areas in your role in which you feel particularly incompetent or that you would like to develop?

16. What strategies in a teacher training program would be beneficial to you or someone beginning to teach with modules?

17. Are there any other things you could add that would help me to understand your role?

APPENDIX D

DESCRIPTION_OF_THE_DIAGNOSTIC_RADIOGRAPHY
PROGRAM_AT_SEAVIEW_INSTITUTE_OF_
TECHNOLOGY_(S.I.T.)

Diagnostic Radiography is an allied health discipline which
provides a diagnostic service through the controlled use of
radiation. The radiological technologist, (also known as a
radiographer) is a skilled professional who produce x-ray
pictures or radiographs of the various body regions which can
then be interpreted by a physician.

Graduates of the program are eligible to write the Canadian
Association of Medical Radiation Technologist's Certification
Examination.

The Seaview Institute of Technology program consists of two
years of training. There are six semesters organized jointly
by S.I.T. and the affiliated teaching hospitals. The first,
second and fifth semesters are usually theoretical and are
spent at the Institute. The third, fourth and sixth semesters
are clinical and are carried out in the hospital.

The theoretical portion of the program is designed to provide
students with an opportunity to learn the content by means of
modules independent of the teacher.

Resource time is scheduled in the timetable and allows students
to choose where they would like to carry out their learning.
An instructor is always available during resource time, in a
specific room, to answer questions related to the subject
described on the timetable.

The Seaview Institute of Diagnostic Radiography moved to the
modular delivery system from a lecture format in 1985.

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Attendance at laboratory sessions is mandatory. Student
performance is assessed continously throughout the program and
all tests and exams are compulsory.

There is only one intake of students each year and the first
semester begins in September. There are 48 students enrolled
in each class and the subjects studied are: Anatomy &
Physiology, Imaging, Patient Care, Physics, Radiobiology and
Raidography.

All of the faculty who teach in the Diagnostic Radiography
program are qualified in one or more of the allied health
occupations. The primary teacher of each subject is a
qualified radiographer.

A DESCRIPTION OF THE IMPLEMENTATION OF
MODULAR LEARNING AT
SEAVIEW INSTITUTE OF TECHNOLOGY (S.I.T.)

JOYCE PRATT - Radiography Instructor

Joyce has been employed as a faculty member at Seaview
Institute of Technolgy for ten years, primarily as a part time
employee. She has been full-time for the past two years and
has always taught in the Radiography program. Prior to coming
to S.I.T., she worked at several clinics and she spent a number
of years in a large department of radiology that delt with
cancer patients. She graduated from a hospital-based program
in the early sixties and over the years has successfully
completed a number of courses towards her Advanced
Certification in Radiography.

Joyce describes excellent teaching as, happening when the
"teacher works closely with a small number of students". She
describes it this way; "I think the teacher has to demonstrate
to start with, then there is an enlargement, or a telling
aspect, then the student has to perform under supervision
initially, but taking on more and more responsibility as they
progress through the course. Initially there has to be a
greater amount of interaction between the teacher and the
student." Joyce believes that the teacher must be "honest with
the student" at all times and she believes that the teacher
"must set an example."

Joyce sees modular learning as putting more onus on the
student. She describes it as follows, "I mean, we give them a
package of information, we give them time between nine and four
to learn it. The onus is on them to learn it to the best of

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their ability. At the same time, they know I am here if they
are running into difficulties or if they don't understand that
block of information."

Joyce laughs a little when she talks about the philosophy of
modular learning. She says; "I guess the powers at be felt
that this was the way education was going and perhaps the onus
should be on the student. Perhaps they felt students learned
better this way. Also, I'm sure they feel that they can cut
down on the number of staff in the program because, we don't
need all of those hours for lecture preparation."

She describes the program as being a combination of education
and training. She says; "Certainly they are being educated. I
like to think that we are training them at the same time. We
are trying to train them to be good technologists, but we have
to educate them first."

Although students are allowed to learn the modules at any
location during class time, some choose to do their learning of
the modules in Joyce's classroom. She wanted students to feel
comfortable about coming into her classroom, in fact, she
describes it this way: "We did everything we could to
encourage them to come, we had a little dish of mints and
balloons, and I honestly found they didn't come to me for help,
other than the classroom time. Not many came, it was the some
four or five, of 48 students." Joyce goes on to express her
feelings about attendance, "I was worried, and, I was uptight.

When we taught skull units and they found they had to pass a
test before they could do the lab, I was amazed at the amount
of knowledge they came to the lab with. So whether they were
with me or not, they were obviously resourcing. I was

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concerned though if I thought they were having difficulty and
they didn't come. You have to have faith in the student, that
they are actually going to accomplish what they set out to do."

Joyce describes her role in the classroom as "simply a resource
person". She describes it this way; "If they are in the
classroom at resource time, they are working through the
modules. Unless they question something, I try to leave that
time for them to do their own learning. If they ask a
question, I might take them into an x-ray room and show them a
position or look at a skeleton. I am careful to only respond
to a request. I do not intrude on their time."

At one point, the students were having difficulty with
understanding the modules and all forty-eight students showed
up. However, Joyce did not revert to giving a lecture because,
she did not have a room large enough to accommodate all of the
students. She describes how she resolved this dillema. "At
the start of labs, I would go over material that I felt they
were having trouble with. For example, I would go over an area
such as shoulder joint with slides and I would talk about
different center points." Joyce felt this was "both good and
bad". She explains; "It meant that they got the information
but it took away from lab time." This provided another problem
for Joyce, because when the entire class ran into a content
problem with the modules, she was now required to teach it four
times because, there are four separate lab groups. Joyce found
the solution very exhausting.

Joyce describes her current role this way: "My setting has
moved from the lecture to the lab setting. I think we will do
more demonstrating in the lab situation because, we don't have
the lecture format anymore."

She has no problem with teaching modules written by someone
else, providing they are well written and the content is
accurate. In fact, when describing the modules of the skull,
she says, "I couldn't have done better." Although the process
at S.I.T. to revise modules is complex, Joyce feels comfortable
with it. But she has a worry about modular learning; "I don't
think everything should be in modules. I feel that I lose the
exchange between the instructor and the student related to
clinical experience. When I used to lecture, I gave them my
practical experience from the clinical setting and I was also
able to draw on their knowledge and enlarge upon it. I don't
have an opportunity to do that in modular learning."

Joyce doesn't feel that modules have "necessarily improved the
program" but she wouldn't say that it has been a "backward
step", but she concludes, "I suppose I have to move along with
what is happening in educational theory, but I can't honestly
say it is an improvement." She is saddened by the loss of
student teacher closeness that she experiences in the modular
system.

THOMAS BELL - Radiography Instructor

Thomas graduated from a college program in Radiography in 1975
and completed his undergraduate degree at the local University
in 1978. He worked both part-time and full-time in radiography
from 1975 to 1978 and was a full-time clinical instructor for
one year prior to joining the Seaview Institute of Technology
faculty in 1981. In 1981, he also received an Advanced
Certification in Radiography.

Thomas describes an excellent teacher as one who is
"knowledgeable and up to date" and one who is "receptive to
student needs and their own needs as to where they see
themselves as an educator" and one who is "enthusiatic about
what they are trying to do". Thomas sees excellent teaching
taking place in the "classroom environment." In his words, "I
think that is where the teacher acts and that is where
excellent teaching will be seen." Thomas explains his basic
belief about teaching, "it is important for me to learn and I
like to convey that to people who want to learn from me. I
quess that is what drives me to do the good job I do."

Thomas believes students "learn by having a teacher, up
there". He explains, "When it comes out of someone's mouth, I
think, students are a little more receptive, more than they are
if it is presented on paper."

Thomas describes the philosophy behind modular learning as "a
mode for students to learn independently".

Thomas describes the Radiography program present at Seaview
Institute as educational because, the portion of the program
that Thomas teaches in is purely "didactic". Thomas puts it
this way, "later the students put skills to the knowledge given
here."

A very small percentage of the class attend the resource time
in the classroom. Thomas explains, "out of a group of forty,
ten at most will attend." For him, the check in the system is
that, when students attend a compulsory tutorial, he questions
them to assess whether they understand the material in the
modules. He feels that, "the ultimate test is the
examination". He feels that he would like more students to
come to the classroom. He suggests a change, "I would perhaps
like to reduce the number of resource hours in the classroom
and increase their load. That might have more impact on
students and encourage them to come to class."

Thomas sees his role as a resource person. However, he feels
that in his new role there is a loss of interaction between the
teacher and student. He explains; "This may sound strange, but
it takes away from the interaction between the teacher and
student. Sure I am working on a one-to-one relationship with
ten of the forty students. But there is a question in my mind,
am I getting it across to all of the students?" He talks about
his comfort level in his role in the classroom using a modular
delivery system; "I'm not sure whether or not I'm comfortable
in this role. It creates a lot of doubt as to whether or not
I'm a good educator."

He expressed another concern in his new role; "My subject area
is difficult for students to grasp and when it is presented in
a module, students somehow lose confidence that they can learn
it, because, they had the same sort of problem in high school
where they had a textbook in front of them, but, they were
lost. You just can't give confidence in a module."

The students do read the modules prior to class. In fact, they found them "readable and easy to understand". However, Thomas has a worry, "I think the modules lacked the personal side of the material that would have made them more interesting. Some of the information is very dry."

Thomas describes what he does in the classroom: "Based on the fact that anywhere from one to forty students may show up, I first ask if there are any problems with the unit. Again, that is an assumption that all of the students spent time prior to coming to class to read the module. That is not always the case, because, sometimes they use the class time to work through the unit. I ask if they have any questions and if they don't, I make up questions for them. This is to make me comfortable that they are getting the information. Together we go over the objectives and the self quiz and the assessment at the end of the module. I find that once I start, there are more questions generated." In this type of delivery system, Thomas stresses the importance of encouraging students to, "assess their own learning and develop questions themselves."

Thomas works very hard at not giving students any more information in class time than what is in the module, but, it sometimes happens. He explains; "With such a large number of students in the class, I may repeat the same information two or three times. Sometimes a question that comes up with the first group is very good so I want to pass it along to the next group. So there can be occasions when the second and third group get more information because of what I have learned and feel is important to pass on."

On occasion, when all of the students were having difficulty
with a particular module, Thomas goes to the lecture format in
the classroom. He explains why; "I quess because in my mind I
see no other way of doing it. For information that was easy
(based on past experience in teaching it) I could get students
more involved, get them to answer questions and think about
concepts."

He feels "much more comfortable" teaching with modules that he
has written himself. He has written many of the modules used
in his course and is pleased that the modules "really look
good". He describes them as, "neat, clear packages of
information." He finds the system to make revisions "a little
bit of a problem" in that there are "specific guidelines" that
must be followed.

Thomas describes some benefits for the program, "There is a lot
of information in this program that is basic, basic in the
sense that it is material that students should have prior to
getting into the program. So what modules do is, ensure that
there is a standard." He states further; "Also, the teacher
can get a lot of information covered in a shorter period of
time."

He does have a concern though, "I sometimes think it makes
students very narrow in their thinking. They are comfortable
having all of the information presented to them in modules. I
have experienced that they sometimes do not want to go beyond
that."

He concludes; "I think we are still struggling with the system. I think the modules is a grass roots movement and by setting up objectives, it has limited students. They do not want to go beyond the objective."

About his course he says; "They (the modules) haven't hurt it, but, they haven't done anything tremendous for it."

ROLF_FRANKLIN_-_Radiography_Instructor

Rolf graduated from a hospital based program in the early
sixties and worked as the chief technologist of a small x-ray
department for six years. He successfully completed a B.Sc. in
1970 and joined the faculty of Seaview Institute in 1974. He
has extensive teaching responsibilities throughout the
Institute, but a major portion of his teaching responsibility
continues to be the Radiography students.

Rolf describes excellent teaching happening, "when students are
excited and involved". He continues, "both teacher and
students want to be there," and the teacher, "has to provide
the environment to make it fun and exciting. He believes that,
"honesty and respect are extremely important". He says, "I
think students are extremely tolerant of whether you are a good
teacher or a bad teacher as long as they know that the teacher
is honest with them and doing their best."

He believes there are two aspects behind the philosophy of
modular learning. He describes them; "The first is to provide
the student with a vehicle and opportunity to develop
emotionally and intellectually. The second part is to provide
a conducive environment for learning."

Rolf describes the program as a training program. He says, "I
think training because, students are being trained to perform a
specific skill." He further believes that the educational
aspect is an important issue. He explains; "There is concern
for some that students are given material in too much depth.
More than perhaps they need to perform the skills."

At first, Rolf expected students to come to class. Later in
the program he didn't. Many times no one came to the
classroom, "30 - 40% of the time in fact. Rolf says, "I was
disappointed many times when students didn't come." Sometimes

students would come to the classroom but Rolf explains; "Four students might come and three might be doing another subject."

He shared an insight, "I now realize that they didn't come because there was no reason to come. Basically, they could do what they needed to at home. I didn't provide a stimulating environment." He continues, "I learned that I had to do more to get them to come. I find a little bit of conflict in my new role because, sometimes students want me to lecture."

Rolf sees a tremendous difference in his new role compared to his previous teaching role. "I found the new role much less rewarding due to the fact no one would come to the classroom."

When asked what activities he engaged in the classroom, he replied. "With only one or two people, it is hard to do anything. I guess basically, I just stand there and wait for someone to come along. If someone comes, I beg them to ask me something." He laughs after this statement and quietly states, "It is basically a quiet time for them to work."

Rolf thought in the beginning that the students wouldn't like the modules and as time progressed, he observed that in fact they worked very hard and seemed to like him. "I was quite impressed with the students. They did better than I expected. I sort of tested them really hard because I thought they would fail and I could say it didn't work. But, that is not what happened, they did really well."

Rolf did all of the writing for his course. He says, "In thinking about it, I don't think it would bother me if I taught with someone else's modules, as long as the material was accurate." Rolf expressed frustration with the process of

revising and correcting the modules. It worries him that there are still errors in some of the modules.

He feels that this delivery system will hopefully turn out a product that is self reliant. He explains; "We wanted them to act like adults, but we never gave them an opportunity to prove it while they were here." He feels that this delivery system ensures that teachers concentrate on "material that is needed". He describes it as, "streamlining the program". He feels that the modular system has improved the program as far as, "student knowledge" is concerned. He feels confident that these students know the material better than any other group he has ever taught.

Next year, Rolf feels confident that many more students will come to the class. He intends to change the sterile environment to one where, "there will be more things that the student can use". He says, I hope to make it more exciting for them.

Rolf describes this year as, "a hell of a transition". It was very frustrating for him. He explains, "I suppose it's like a parent being able to say; "They don't need me as much as I thought they did." He concludes; "Its a new role, I'm still working on it."

GEORGIA PHILLIPS - Radiography Instructor

Georgia graduated from a Radiography program in England in the
early sixties and worked in Britain prior to coming to Canada
in the late sixties. She worked in Canada for ten years as a
radiographer and a clinical instructor before joining the
faculty of Seaview Institute of Technology in 1976. She has
taught in a variety of programs in the Institute and one of her
current roles involves being an instructor in the Radiography
Program.

Georgia describes excellent teaching as "giving students an
optional environment in which they can learn." She says; "it
can happen anywhere, usually it occurs in a less formal
atmosphere." She see's excellent teaching taking place with
the teacher acting as a resource. She believes that students
"tend to retain the material longer and have better
comprehension when they are actively involved in learning."
She believes that any delivery system should contain a "variety
of formats." Georgia says; "it should be varied to keep the
student and teacher interacting."

Georgia describes her belief behind modular learning, "as where
students take responsibility for their own learning." She
smiles when she explains further, "I think that originally
modular learning was a edict from above, but I think this
particular program felt that they could utilize this learning
format quite well in certain areas."

She describes the program, "It is more of a training program
than an educational one, in terms of purely academic
education. However, in terms of total education, then it is
educational."

When Georgia started teaching with modules, she expected that
students would "need more help than they actually do." She
describes her feelings; "At first, I was disappointed that not
a great number of students came for help. After a while I got
used to them not coming and the students who came, came not so
much for help, but to make contact with me."

Georgia worries that in modular learning, she has little
contact with the student and she feels, "that has to be built
in." She is very happy, that next year instead of using a
sterile classroom for class time, she will be a room where
there will be models and specimens to help students with
learning problems. In other words, she says, "the instructor
needs to have the tools of the trade right there. I think this
is really going to improve the system."

She sees herself as a "resource person, more on an equal to
students, someone who is there to help them." She describes
her new role in comparison to her former role; "I think in this
mode of teaching, I am not the center of a particular session,
I play a secondary role. In the lecture format, I was the king
pin, if you like, and the students were just sitting. In some
ways, the role has reversed. It can be less satisfying; if for
instance no students came to class." Georgia expresses a
concern related to her role, "there is that nagging doubt that
they are just playing hookey and will they come to me at a
later date, have they actually done the work on their own and
do they have a full comprehension of what they are supposed to
have learned?"

However, Georgia is happy in her new role, she explains; "I
have reinforced that I'm creative, adaptable and flexible. I
can deal with students on a one to one or in a large group. We

seem to quickly establish a rapport. I find that I enjoy this
type of learning format more than the lecture. She feels good,
because this type of format gives her "flexibility and an
outlet for creativity to enhance or reinforce the material"
presented in the modules "during lab time". She identifies
another change related to testing, "I think that I'm perhaps a
little tougher on the students now, because I really want to
make sure that the students have the information."

She talks about what she does in the classroom. "Since there
are as many classroom hours as there used to be lecture hours,
a student who is working through one, or several modules, can
come and ask for help at any point, so I could get forty
students at various levels. So, I must be well prepared before
the first resource hour is scheduled. I go through all of the
modules and look for problem areas. It is different from a
lecture, where the teacher goes in with two or three items to
teach in one hour, now I may have to be ready to talk about
twenty or thirty different items. On the other hand, I may sit
there and talk to no one."

Georgia feels strongly that class time is a time set aside for
the student to work through the modules and feels that time
should not be interfered with. In class time she "feels
competent to answer any questions" and also says, "I feel
confident that I have information to help students who want to
go beyond the modules or to direct them to other resources."

She feels that there is enough freedom in the timetable to
organize a compulsory lecture. She explains, "If I discovered
that as I use a set of modules for the first time some,
important information was missing, I would call a compulsory
lecture and I would use one of the resource times."

Georgia feels comfortable with working with modules that other
people have written. She describes it this way, "It doesn't
bother me that I haven't written all of the ones that I use. I
trust my colleagues and the team who were involved in producing
the modules." She also feels comfortable with the process to
revise modules at Seaview Institute. She feels that in some
courses such as anatomy, which she describes as a "static
subject", the modules do not need to be revised every year.
But she indicates that, "those written for the technologies may
have to be revised, updated or an appendix added more often to
keep current with the changes in the technologies".

Georgia is not sure whether modular learning has improved the
program but she thinks that it has benefitted the students as
individuals. She explains; "It may have helped the students to
mature quicker and become more responsible for their
learning." She feels that, although not all students may have
developed this way, her sense is, that those that did seem
"much more self assured, self-initiating and responsible than
those who learned via lecture".

She also feels that although the modular delivery system used
at Seaview Institute is not "entirely self-directed", the
system does, "help the student who is a fast learner because,
it allows them to give extra time to areas that they are having
difficulty with".

She points out that a mechanism must be put in place for
instructors to, "track questions asked in resource time and use
those questions in a tutorial because students do not benefit
from peer learning in class time or resource time "using
modules".

Georgia concludes; "When instructors say they don't have enough
time to teach their part in this program now that we use
modules, its not that the students don't have enough time but,
rather it is the instructor who doesn't have enough contact
time with all of the students. It is an instructor problem,
rather than a student problem, when you make this shift."

A DESCRIPTION OF THE GENERAL
NURSING PROGRAM AND PSYCHIATRIC NURSING
PROGRAM AT NORTH SIDE COLLEGE (N.S.C.)

The graduate of the General Nursing Program at North Side
College is able to provide safe, comprehensive nursing care to
individuals of all ages in Medical, Surgical, Pediatric,
Obstetric, Geriatric and Psychiatric health care settings.
He/she is able to utilize leadership skills in delegating,
organizing and co-ordinating nursing care at the nursing team
level.

The graduate is able to function in speciality areas such as
Intensive Care, Coronary Care, Emergency, Operating Room,
Labour and Delivery and Home Nursing following a period of
additional preparation and/or clinical experience.

Graduates of the program are eligible to write the registration
examinations of the Registered Nurses' Association.

The North Side College General Nursing program consists of six
semesters. Each semester is four months in length. The length
of the total program is 24 months. In 1967 North Side College
Nursing Program moved to a modular delivery system.

Throughout the program, learning modules are used for the study
of eight selected common human needs. All eight needs are
studied in each semester. Each set of learning modules follows
a pre-determined format consistent with the major focus of
theory presented in a specific course.

There are two intakes of 41 students in September and January
each year. Scheduled class time is approximately 28 hours per

week. Most classroom and lab activities begin at 8:00 a.m.
Attendence for classes is optional, but labs are compulsory.

The Psychiatric Nursing program consists of six consecutive
semesters (two full years). The first year courses form a
foundation for those taken in second year psychiatric nursing.
This first year is taken in common with students in the general
nursing program.

The first year courses develop basic general nursing knowledge
and skills and also provide a foundation of concepts and skills
for second year courses. The second year then focuses upon the
development of specific knowledge and skills in providing
psychiatric nursing care to individuals in emotional distress
or who are mentally retarded. The content of the nursing
courses is organised into learning modules with emphasis on
independent study. Practical experiences are provided in local
hospitals, mental health facilities, and in community
facilities for the mentally retarded.

Students receive a Diploma of Associate in Psychiatric Nursing
upon completion of all program requirements and are to be
eligible to apply for registration with the Registered
Psychiatric Nurses Association of B.C.

The graduate of the program is able to provide safe
comprehensive psychiatric nursing care to individuals in Acute
and Long term Psychiatric, Psychogeriatric, Mental Retardation,
Extended and Intermediate Care settings. He/she is able to
utilize leadership skills in delegating, organizing and
co-ordinating nursing care at the nursing team level.

The graduate will be able to function in specialty areas such as child and adolescent, forensic and community psychiatry following a period of additional preparation and/or clinical experience.

Scheduled class and clinical time is approximately 28 - 30 hours per week and most classroom/lab activities begin at 8:00 a.m. Classes are optional but lab activities are mandatory. There are two intakes per year in September and January of 54 students each.

The faculty in both the General Nursing program and the Psychiatric Nursing programs are qualified registered nurses.

A Description of the Implementation
of Modular Learning in the
Nursing Program at North Side College

Valerie Stout - Nursing Instructor

Valerie graduated from a three year hospital-based nursing
program, and subsequent to that completed a B.Sc. in nursing
and a Masters in Education In addition she worked in Community
Health before coming to North Side College in 1976. She was
involved with the design, development and implementation of
modular learning as a delivery system in the Nursing Program.
She currently teaches nursing essentials in the General Nursing
Program.

Valerie describes excellent teaching in terms of, "effective
learning happening when there is a relationship between the
student and teacher". For her, excellent teaching also
involves presentation of content in such a way that students
can relate to it. She says, "I use metaphors a lot when I
teach to try and relate it to something that is familiar." She
also views excellent teaching as getting active involvement
between the student and content. She describes an excellent
teacher as an "entertainer, one who uses humour". Another
component of excellent teaching for Valerie is that the teacher
has a thorough grasp of the content. "To take a complex
concept and present it in such a way that it is very simple is
beautiful." explains Valerie.

As a teacher, she believes that everyone is worthy of being
treated with dignity and respect and when that happens, that
potentiates learning. She strongly believes that the power
issues between student and teacher be dealt with. She also
believes that adult learners have the potential to grow and in

the right kind of environment. Valerie says; "It is my
challenge to set the right kind of environment to allow them to
grow." She also believes that adult learners have the
capability of evaluating their own learning, therefore she
believes in involving adults in collaborative evaluation
between the teacher and student.

Valerie describes the philosophy behind modular learning; "It
mandates that the learner must interact with the content. They
must take responsibility for their own learning. It allows
students to progress at their own rate and they must develop
research skills." She thinks that in terms of lifelong
learning, modular learning establishes a pattern which says, "I
can learn things by myself."

Valerie describes the nursing program at North Side College as
educational. She explains; "A large portion of the program
involves learning cognitive processes and decision-making."

Students enrolled in the NSC Nursing program are given modules
at the beginning of each course and are expected to learn the
material independent of the teacher. In Valerie's course this
includes reading the module, various textbooks and answering
questions. They do not have to attend class and the sequence
of the material presented in the module tells them what will be
discussed in each class. Most students do attend classes.

Valerie describes what she does in the classroom; "I clarify
the main concepts using different examples and applications of
that concept." She enjoys the challenge of working with
application of knowledge. She says; "The lecture mode is my
unfavourite mode." However, she finds it takes a lot of energy
to provide clarification and application of the material

presented in the modules as she often has fifty students for four hours. She has never had a class where no one turned up.

Valerie sees her role as helping students with application of knowledge. She describes it; "The teaching done in my classroom is higher level in terms of Bloom's taxonomy." She describes knowledge giving as, "boring" as compared to teaching application which is for her much more "exciting".

At North Side College, instructors are given a teacher's manual for the classroom. Valerie sees this as a "guide, as street signs are a guide". However, she explains further; "Teachers cannot really break from it too much because the courses have to be sequential so the guide does provide rough parameters in order to provide consistency among teachers."

In the classroom, Valerie uses a lot of group work. She uses pairs and dyads for discussion. Her goal is to have them work through the theory in her course as well as integrating theory from other courses in the discussion. She also uses role play. "I like as much active involvement as possible", she explains.

If Valerie is dealing with complex learning issues at the beginning of class, she does an outline of the concepts and how they connect to the the objectives and references in the module She explained, "In the beginning it used to rankle me when I was talking about content and a student would put up his hand and ask which objective does this information refer to." As a result Valerie changed her style and developed Agendas. Valerie describes her agenda, I say, "Today I'm going to talk about objectives 1-8, these deal with these concepts. In the initial discussion I am going to be talking about objectives

1-2. When I change to this concept I will deal with objectives
3-8. That sort of thing." She says, "I give them a mental
picture of what the class is going to be like." Both she and
the students are happier with this format.

Valerie sometimes finds that students do not prepare for
class. In fact, as high as 80% may not. But as she says;
"They are human." Valerie does not prepare any differently in
terms of content review for a class with a module than she
would for a lecture. But, she spend much more time preparing
for learning activities that will get the students to interact
and apply the content. She feels that with fifty students,
careful planning of learning activities is necessary. She
explains; "You just have to really move around in terms of
being the resource person to keep those activities moving."

Valerie describes herself as being at ease working with
groups. She says, "I'm a bit of a ham." She has been involved
in amateur theatre to get over stage fright. She explains;
"Now I'm confident enough to do outrageous things if it will
help students learn or remember." She is not afraid to try
different strategies such as, role play, throwing jelly beans,
giving out snoopy stickers or gold stars for excellence. As
she says, "whatever works".

The course that Valerie teaches is sequenced so that the
classroom activities really determine the rate at which the
student can go through the modules and be evaluated. The
student can learn the material ahead of the classroom
activities, in fact, can complete the material to the end of
the semester. However, the student cannot finish the course in
less than four months because the final exams are at the end of
four months.

The biggest challenge for Valerie is individualizing her
teaching in order to to meet the needs of the individual
learner. She doesn't feel that modules have accomplished that
because the primary way of learning is reading. Valerie
explains that if a student doesn't have good reading skills the
whole concept of modules is pretty difficult. She feels that
presently her way of reaching individuals is to draw a picture
or use a metaphor but it is still visual and this worries her.

Valerie doen't have any trouble teaching with modules written
by other people. As she explains; "Nursing is based on
concepts that have a lot of common agreement among nurses."
Also the curriculum at NSC is developed by a curriculum
committee. She feels comfortable about the process whereby a
change can be made in a module. A need for change may involve
a discrepency between a module that describes an outdated
thereapy when a new different therapy is used in the field.
Sometimes, when she reads a module, she sees a different way of
saying something that would make sense to students. She
doesn't alter content in this case, but in class she "explains
it in a different way."

Valerie thinks that the modular delivery system has improved
the program because it allows learners to progress at their own
rate. She does feel, however, that the learner who learns at a
slower pace is at a disadvantage because in Valerie's words,
"the marching band keeps on going".

She also feels that with modules the learner has very clear
expectations of exactly what is expected of them at the end of
class. Valerie explains; "Often in a lecture format students
will listen to the teacher talk and will wonder which of the
facts presented are most important. The modules based on

objectives give the student a readily clear expectation of what
they have to know." Valerie believes that this helps them to
know, what to listen for in class.

ROGER FRENCH - Nursing Instructor

Roger graduated from a hospital-based program in 1967 and
worked in the field for nine years. He has been teaching in
the College System for eight years . For seven years he taught
at West Side College in the Psychiatric Nursing Program. He
has been in his current position as an instructor in the second
year Psychiatric Nurses program at North side College for one
year. He has successfully completed an advanced study program
over the past eight years at the local university. He
presently teaches core theory courses in the Psychiatric
Nursing Program.

Roger describes excellent teaching in terms of both large and
small group work. In his words, "where the teacher can dispose
a lot of information to a large group, a lecture, combined with
small groups of students say 8 - 10 where the students would
have an opportunity to apply the theory." In small group work,
Roger feels that the teacher would encourage discussion about
difficulties in understanding or applying the information
presented in the lecture.

Roger believes that "sensitivity to students' needs" underpins
his view of excellent teaching. He says; "All students must be
given the opportunity to express their thoughts and be
encouraged to ask questions to ensure that they have a clear
understanding of the material before they leave the room."

After a year, Roger is still struggling to understand the
philosophy of modular learning. At his orientation to North
Side College he had misgivings because the message that may not
have been intended, but still came through, was that the
students can learn the information on her own. What he often
hears from students is the comment, "I have the information in

the module, why should I come to class? Everything I need to
know to pass the course is in the module." Roger feels that
only some students can learn that way. He feels that the
majority need the added embellishment of examples related to
the information provided in the module. As Roger understands
modular learning, students have a choice about coming to class
and as adult learners they are supposed to able to learn on
their own.

Roger describes the program as being both an educational and
training program. He explains; "The theory is the educational
part and the practice position where the theory applied is the
training part."

He prepares hard for his classes and it upsets him when people
do not come. As he explains, "I like to have a full group
sitting there."

Roger expected students to come to class even though attendance
is optional. He was frustrated when they didn't arrive and in
fact at one point, only 13 out of 25 showed up. However, it
was never so bad that no one came. As a result, he was
stimulated by this lack of attendance to be more creative in
the classroom in the way he presented information. In his
words; "It is my jog to be up there in front of a group of
people sharing something with them." He now finds it
challenging to be creative in the classroom. He says, "in this
past year I have worked harder and longer hours and
concentrated longer in preparing for classes than I ever had to
before."

On the occasion, when only thirteen students attended class, he
expressed his displeasure to the goup in attendance. The
students were supportive and said, "well it's their loss and
our gain".

Roger was rewarded in that as the year progressed, more and
more students did attend his classes. However, he noted that
only 15% of the students came to class prepared. He felt that
this was due to the demands of a heavy workload in a limited
time frame. He said; "Most students are tired and do not take
time to prepare prior to class." He also says, "I imagine it
would be different given a different configuration but these
kids are beat because of the enormous amount of content imposed
on them. It doesn't make educational sense."

Roger sees himself in his own words as "a facilitator of
understanding". He sees his sole purpose as "reinforcing
things that they will able to use practically later in the
clinical field".

In the classroom Roger uses more audio visual materials than he
did when he was doing lectures. He also uses small groups to
work on projects. Using this type of small working group
emphasizes, in his opinion that as the teacher he knows what is
going to be on the exam. Throughout the excercises performed
by the small group he makes sure that important points are
reinforced, which in turn "translates into the tested material
at a later date". He feels that this is very helpful to the
student.

If students have reviewed the modules, then he simply clarifies
points and uses the class time for something other than
presenting theory. He sees this as an advantage because it

allows him to be more creative in ways of getting the
information across.

If, however, students are not prepared, Roger finds that he has
to review the module and emphasize the important points. He
feels when this happens he is getting back to the lecture
format.

Roger feels that he handles student discussion in the classroom
really well. In fact it is something he prides himself on. In
his words, "I treasure those students that come with a broad
background of experience. The examples that they come up with
are the ones that have the most personal meaning." He believes
that the peer learning is longer lasting than information given
by the teacher. He feels that in discussion he helps to make
"the bridges of connection" that tie content and application.

He doesn't feel that there are any particular areas in his
teaching that need to be be developed at this time but he will
conduct a personal evaluation over the summer.

Roger has no problems in teaching someone else's content in the
module. However, he spent "an enormous amount of time" trying
to figure out what the author was trying to get across so he
could pass it on to the students. He describes the outcome;
"Once I overcome that hurdle I felt the content was mine."
Roger feels the content presented in the module is just a
framework. Roger explains; "Sometimes if it is an important
area I will design an assignment on that material based on
references that I have dug up."

It is difficult for Roger to evaluate whether or not modules
have improved the program because of his brief involvement.

However he thinks about comments that he has received from
graduates from programs that primarily use lectures and those
from programs who use modules. In his words; "The consistent
comment is that students prefer more teacher contact rather
than an independent study approach." At the moment Roger feels
good about modular learning because he feels that he is getting
a better handle on it. He says, "I can use my imagination to
get material across. It is however, more stressful because I
have to concentrate on theory, people involved in role play and
ensure that the whole class is involved." Although Roger finds
it stressful he finds it much more "satisfying than the lecture
format.

KENDRA_HUNTER_-_Nursing_Instructor

Kendra graduated from a hospital-based nursing program in the early sixties and worked in the field for one year. For the next six years she taught nursing in a variety of hospital settings and then was away from nursing for a number of years.

In 1980 before Kendra re-entered the work force she took a one year refresher nursing course. She then joined the North Side College teaching faculty in the General Nursing Program. She is a part-time employee and in the last five year years has successfully completed a BA and is currently enrolled in a MA Education program.

Kendra describes excellent teaching as follows: "I think excellent teaching allows for some creativity and flexibility on the part of the teacher where the teacher's soul is allowed to emerge in the classroom. Although by necessity the teacher must maintain a core of information that she is able to use, she is able to use a wide variety of resources and is permitted to bring these to the setting."

Kendra feels strongly that teachers should be allowed to "maximize their own potential". She explains, "I believe in the responsibility of the teachers to give the best to students. They should maintain a high level of credibility in their field and they also have a responsibility to be fine educators." She further describes an excellent teacher as a "good resource person". One who is able to gain from those experts in the field what she needs to teach. She describes this resource person, "as not having every skill at her fingertips but she knows where to find them".

Kendra believes "that modular learning erupted from a need to
ensure some kind of consistency and a need to control what was
happening in the classroom." She also feels that health
programs "with very definitive time lines" needed an efficient
delivery system thus modular learning was introduced.

Kendra feels that as one of "those who have removed nursing
from the hospital" she would like to say that the nursing
program at North Side College is educational. However, she
honestly feels that it continues to remain closer to a training
program. She explains; "The time constraint of a two year
program dictates that it remain a training program."

It is not a requirement that students come to class but Kendra
says; "It is fairly and clearly stated that the expectation is
that students will attend clases." She describes the classes
as another piece of data used by the teacher. For example; "If
a failing student does not attend classes and is not there to
review assignments, the student will be counselled." Kendra
describes a strategy that some teachers use to get students to
come to class; "All students are required to hand in
assignments at class time".

However, she further describes reasons why students may not
attend classes. "I have been in classes where if the teacher
is mediocre the students feel no compulsion to come to class.
So by times if that teacher is not a fine teacher the students'
attendance in class will fall off."

Kendra worries that the faculty develop a "mind set and
negative attitude" towards students who do not attend class.
She says, "I guess it is a threat to the individual teacher of

seeing students not there. Maybe it says something about their teaching that they don't want to hear."

Kendra describes her classes as large, "up to fifty students." The students are expected to review the module prior to class. She explains, "It is a guide. The students know what is going to happen in class that day. They can follow along. It keeps them from having to do reams and reams of notes while the lecture is going on. When they come to class they are in a reinforcing mode.

Through feedback from students and other instructors, in her estimation, "The fine student will have prepared for class by reading the modules. However, the core or the average student will likely not prepare." Since there is no testing procedure of whether or not students have done the required preparation, Kendra can only guess about student preparation.

Kendra sees her role in the classroom as an "embellisher". In her current role she is given a sequence and she is told when and how to teach it. She feels that she has very little opportunity to vary. She describes what happens in the classroom as follows; "Students sit with their modules open and as a teacher I must not vary from the objectives. If I move from one to three having left out two, for the timebeing, because I can see a different organizational pattern from the person who wrote the module, students get very upset. The students are so programmed that they want to hear the teacher talk about objective one and what little blurb is written about it and objective two and that little blurb etc."

Kendra further describes her talent as an embellisher; "As I go over what is written in the module I embellish with examples

from the clinical setting or my own personal experience, or I plug in little extra things that may be in the teacher's manual but not in the student's module."

Kendra further describes her roles, "I embellish well, I really do. I take the module and teacher's manual and come around with all sorts of other materials. I think I am able to make the modules come alive. I have had positive feedback."

She explains her embellishment to students this way, "the material that you will be tested on is the information as it appears in the module. However, when you get into practice or as you read more you will find other ideas presented and these are they." This presents a dilemma for Kendra because in her words, "Some students are delighted to get this information to grow while others say just give me the information that you are going to test me on."

Kendra doesn't see her role in the classroom in a delivery system using modules as much different from previous teaching roles she had. She explains, "The method of presentation most often still ends up in the lecture format but I often break the class into small groups for discussion and I use a lot of A.V. material and I sometimes will bring in an outside speaker."

In Kendra's words; "Theory content is almost exclusively lecture in the classroom." She also believes that small group work is very dependent upon "how good the teacher is in facilitating group process." She explains; "The teacher skill determines whether or not the student perceives that real learning has taken place or feels that this has just been a waste of time. Part of it depends on the socialization of the student. Most students have been geared to a lecture

presentation, therefore are resistant to group work. Therefore
to be successful in small group work depends on the teacher's
skill as a facilitator."

Kendra sometimes doesn't feel very good about teaching someone
else's content as written in the module. She personally finds
it very confining and says; "The content is not within my
control but I am employed by an agency and have agreed to teach
in a prescribed method so I do." If she disagrees with the
content she feels that the procedure to change it is very
complex and rigid. There is a procedure for change in place
but Kendra feels very frustrated by it. Kendra does however
feel that modular learning has helped the program to improve
scheduling and timetabling.

Although she personally finds modules limiting she sees them as
very useful for new teachers. She describes their use; "They
are a tremendous life-line for a new teacher, there is a
framework, you don't have to go out and search and find a
multiple of resources to come up with the content. Someone has
already done that for you. You are handed the teacher's manual
and the module. You go home you use your own resources to
embelish this and you come to class with your notes and
experience to back you up."

JANIS_CRIK_-_Nursing_Instructor

Janis graduated from a hospital-based nursing program and had a series of nursing and teaching positions prior to joining the faculty at North Side College in 1974. She has taught in both the Psychiatric and General Nursing program at North Side College. Her first experience with teaching with modules has been as a faculty member at N.S.C. She presently teaches in the General Nursing program.

Janis describes excellent teaching in terms of caring. She explains, "the most important thing is the teacher's attitude and relationship to students. The base line for teaching is developing an attitude of caring. Teaching is primarily mentoring and passing on the joy of learning." Janis loves teaching and sees excellent teaching primarily taking place in a classroom in the lecture format.

She believes that the philosophy of modular learning is to provide independent learning for students. She describes it as "adult learning where the student can learn at this or her own rate".

She describes the nursing program at North Side College as 50% educational and 50% training. She says; "The content is reflected as education." She thinks training would be a more appropriate word in reference to a nurse's aid program. She explains; "The philosophy of the general nursing program is educational but the skill developed in the clinical is training."

Although students in Janis' course have the opportunity to study the modules at home and have a choice as to whether or not they will attend class, Janis says; "They all come to the lecture." She explains; "I have very strong feelings about

students not coming to class, I make it very clear to them in the beginning. I am paid to teach and you will come to class, If they don't come to class I don't give extra help with problems, but I recognize this is not necessarily independent learning." She explains further; "The modules are very complex. I think the students come to class for security. They are not familiar with this kind of learning and it is very difficult for them. Our program is so heavy that there is just no time within 8:00 am to 5:00 pm for students to study here at the College." Janis' sympathy is with the students. In fact she emphatically states; "The expectations on our students are bizarre. There is too much material and too little time."

As far as Janis is concerned her role has not changed at all now that the program uses modules. In her words: "It hasn't changed at all because I still teach the knowledge that is in the module to the students. I bring in a lot of clinical reference because I have the experience to do that. The lecture format is my preferred mode. My role is the same although my preparation time is cut."

Janis describes her role as a "giver of information" but she also says, "I have so much to learn from students, they have a lot to give me." Although instructors at North Side College are given a teacher's guide, Janis states, "I rarely even read the teacher's guide. It is as big as the module. It is a textbook in fact."

Janis feels that it is not easy to teach a module. She explains; "You're just handed a module and you teach it. It is very difficult to make it different and fun. I often change the sequence around to put the emphasis where I think it should be."

Janis would like to make more time for small group activities but finds it difficult because she has such a tremendous amount of material to cover in a limited time frame. As a result she describes what happens to her in the classroom; "I fade back on the lecture method although I use a lot of visual things."

When Janis first started using modules she had high expectations. She explains; "I really thought we would have a system whereby students would do independent learning and the faculty would be resource people but it didn't work out that way." Janis wonders about the cost effectiveness of modular learning at North Side College. She explains, "We have had many restrictions put on here and yet, we teach exactly the same way we did before but with modules. I'm suprised no one has said that all of the instructors must change. I expect them to say something soon; that students should be allowed to study independently."

In addition to teaching, Janis is the author of many of the modules she uses. She also is responsible for reviewing modules and revising them. "There is a tremendous difference in the way modules, are written at N.S.C. They tend to reflect the teachers knowledge level and therefore often do not match with the students' level of learning." Janis feels OK about teaching a module in which she had absolutely no input "if the area is not my area of expertise".

Janis feels that modules have improved the program because now "the student has good notes and can look ahead". But she also describes a negative factor; "In terms of faculty relationships it has damaged the program because we spend so much time trying to decide what content the semesters should contain that we don't necessarily get to plan for the future."

Another problem is identified by Janis. "Students get very
upset if another teacher gives more information to another
group of students. This embellishment is a problem. Very few
of us are teaching at the same level because most instructors
do not stick to the module when teaching. Consistency is not
there. Teachers must be able to give application of the
material in class. Some teachers come well prepared others are
not prepared at all." Janis concluded that; "Consistency must
be achieved between teachers using modules." She is not sure
how this should be achieved but it is a grave concern to her.

A DESCRIPTION OF THE GENERAL NURSING
PROGRAM AT WEST SIDE
INSTITUTE OF TECHNOLOGY (W.S.I.T.)

The program is approved by the Registered Nurses' Association.
Graduates are eligible to write the registration examinations
of the Association. Graduates are prepared for employment in
general hospitals, or other health care agencies where
comparable levels of patient care and nursing judgement are
required. It provides 22 months of instruction during a 2.33
year period. Enrolment in the program is in January or August
of each year. The program provides instruction in Nursing,
Basic Health Sciences and English. Learning opportunities
include: independent study, lectures, laboratories, tutorials,
and experience with medical, surgical, obstetrical, pediatric
and psychiatric patients and families.

Students complete a program consisting of five terms. Each
term is 17 weeks in length. The program is made up of two
portions which include theoretical component clinical
practice. The theoretical component includes theory and
practice and is conducted at the college. The clinical
practice is carried out at a hospital site, following the
successful completion of the theory and practice.

In 1984, the West Side Institute of Technology moved to a
modular delivery system of the theory. The curriculum is
presented to the students in the form of a learning package and
the student is expected to learn the material in the package,
independent of the teacher.

Students in the W.S.I.T. Nursing program are given resource
time within the timetable to, read and understand the modules
prior to class time. Classes precede the practical
laboratories. There are approximately 55 students in the
class. It is a college policy that students have a choice as
to whether or not they attend classes, however, practical labs,
tests, examinations and clinical practice are mandatory.

The faculty of the General Nursing program at Westside
Institute of Technology are all qualified Registered Nurses.

A_DESCRIPTION_OF_IMPLEMENTATION_OF_MODULUAR
LEARNING_AT_WEST_SIDE_INSTITUTE_OF_TECHNOLOGY_(W.S.I.T.)

LUCILLE_SIMON_-_Nursing_Instructor:

Lucille graduated from a BSc Nursing program in 1962 and worked
in a variety of nursing and teaching roles prior to joining the
W.S.I.T. faculty in 1980. She is currently completing her M.ED
degree at the local University. Lucille worked with modules in
other nursing programs before coming to W.S.I.T. and therefore
was familiar with the format of this delivery system when it
was introduced as a change.

Lucille believes that excellent teaching is characterized by a
teacher "who encourages students to learn in a positive way."
She feels that the excellent teacher needs both experience as a
practitioner and an awareness of content. She describes the
excellent teacher; "One who encourages students to ask
questions, and stimulates students to think for themselves".
In her opinion the excellent teacher is aware of what content
the student needs and provides a safe environment for learning
to take place. Lucille describes excellent teaching; as
"taking place in either small groups or on a one to one
student teacher ratio".

Her description of the philosophy of modular learning is "where
the students learns by him or herself". The student is given a
mass of papers (a book) and is expected to read it and learn
it. There may or may not be interaction with the teacher.
Lucille rates the W.S.I.T. General Nursing program as a
technical training program because in her words, "nursing
students need to develop skills that they will be able to do at
the end of two years in the hospital". She describes those
behaviors as terminal and as a result she sees the program as a

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training one. In the West Side Institute of Technology,
Nursing Program, students are told that they do not have to
attend classes and they are given the modules prior to when
classes are scheduled. Lucille is aware of a policy in the
nursing program which states that students must attend a
certain number of classes. However, class attendance is not
taken. She is in a dilemma about this policy because she feels
that students can in fact get the necessary information from
the modules when the modules are written in such a way as to
provide the appropriate content and learning activities. She
wonders why students are expected to come to class.

Lucille feels that students should come to some classes. In
her opinion it depends on the topic being discussed. She
explains her point of view; "Communication is a subject that
students need to attend classes in order to function
appropriately in the clinical setting. However, a subject such
as basic pharmacology which primarily requires reading and
memorizing is one where students wouldn't really need to go to
class." Lucille worries that if students do not attend
classes, the teacher will lose personal contact with the
student and as a result, students will not receive individual
attention.

Lucille sees herself as a resource person, as the person who is
available in the classroom to explain concepts described in the
module that are not understood by students. She feels that her
role is a challenging one. She describes her previous role; "I
was an information giver and my role as information giver was
easier than my current role. Now the students have been given
the information prior to class and I feel that there is no
sense in repeating that same information in the classroom".

However, she wonders what to do with the class time. She feels
that her role in the classroom involves helping students to
apply the content. As well as being a resource person, she
describes her role; "as making the content relevant to the
student".

In the classroom Lucille prefers to get the students involved.
The students are expected to come to class prepared with
questions. However, sometimes the students do not prepare well
or they don't know which questions to ask. She feels that when
this happens, a rich learning experience is lost if the teacher
does nothing. Therefore, she reviews content in the module
that is both relevant and important. She says; "This is
necessary in order to diagnose if there are any individual
learning problems." If there are no questions and no learning
problems identified, she uses the class for enrichment. She
describes enrichment as; "I might show a film and lead a
discussion related to issues presented in the film."

Lucille uses a variety of teaching strategies in the
classroom. She feels particularly good about using case
studies to help students understand the application of the
content. She uses questioning techniques, discussions and
small group work in problem solving. She feels that she would
like to develop new strategies to effectively use classroom
time. She explains; "I would like to be able to help students
develop skills that would enable them to be independent
learners and to be able to use the modules more effectively."

Lucille was not involved in writing all of the modules that she
uses in the classroom. She feels that sometimes it is
difficult to teach from someone else's class material
especially when she does not agree with the way the material

is presented. She appreciates the flexibility of being allowed
to use her own presentation methods in the classroom, but she
says; "I think that a teaching manual would be helpful."
She is able to revise the module either before it is presented
to the class or at the end of the term. Whoever writes the
module has their name on the front and as various teachers
revise the module their name is added. Lucille presents a
worry; "When does the original author's work disappear? When
it does disappear, should the authors name be removed from the
module? Who should be given credit?"

Since there is no guarantee that she will teach the same course
twice, the module that she revises at the end of term may be
used by someone else in the next year. She feels OK about
using someone else's module as long as the content is current.
However, she feels strongly about maintaining independence in
her classroom organization. She explains; "It is important to
conduct classes in the classroom as I see fit."

Lucille describes a problem concerning revision of the modules.
"Modules are often out-of-date because it requires a great deal
of time and energy for the teacher to revise appropriately."
Lucille feels that a positive result of modular learning is
more consistency of presentation of material between the
teachers in the program. She also feels that the modules act
as an excellent set of notes for the students. She does have a
concern; "Students who do not relate well to this particular
type of learning style have difficulty completing the program."

She sympathizes with the students in their struggle to keep up
with the heavy reading of modules. She suggests that "students
in the W.S.I.T. general nursing program learn despite what the
teachers do." She explains; "For example, in term one there

are 1,079 pages of written material and term two there are
1,000 pages that each student is required to learn. All 2,079
pages is crucial to the student's training and does not cover
extra reading." Lucille feels that students need to be visual
learners and have a high level of motivation in order to
succeed in the program.

JO-ANNE SPRAGG - Nursing Instructor:

Jo-Anne graduated from a hospital based nursing program and subsequent to that did a BA nursing degree. She worked on and off in nursing and joined the faculty of W.S.I.T. in 1965. She had some experience in teaching with modules prior to 1984 as she was a leader in developing a number of them that were used in the nursing program prior to that time.

Jo-Anne describes excellent teaching; "a teacher who is enthusiastic and excited about the subject." She feels strongly that the teacher must care about the students being guided through the learning experience. She says; "It is important that the teacher act as a role model as emotions are catchy." She believes that an enthusiastic teacher will create enthusiastic students. She describes the excellent teacher; "One who uses a variety of teaching strategies and visual aids. One who is inventive, dynamic and ensures that students participate. Finally, the excellent teacher has a good comprehension of the content."

Jo-Anne describes the philosophy of modular learning; "A cost effective measure introduced by Administration." She thinks it was intended to allow the teachers to deal with more students at a single time. She often wonders if it was a cost effective measure because of the high cost of paper, typing, printing and time dedicated to revisions. Jo-Anne says; "Volumes of paper go out of the department."

Jo-Anne rates the W.S.I.T. Nursing Program as educational in that the students are not used for service. She describes the program, "Students do provide hospitals with a service in the clinical area but theoretically students could be removed from the clinical site at any time. In that way the program is educational."

Jo-Anne is concerned that the W.S.I.T. Nursing program has not
really dealt with making sure that everything the students
needs to know is in the module, so that students could learn on
their own and not come to class. Although attendance at class
is not compulsory. She feels the students had better be at her
class. Joanne explains, "I don't tell the students they have
to come to class, however I let them know that it will show up
either clinically or somewhere if they haven't received the
needed information presented in my class."

In her classes she has demonstrations and describes application
of content. This is new material and the students would not be
able to get this information anywhere else. Jo-Anne thinks
that if videos were made of some of her demonstrations and
those videos were made available to students in the library,
then students wouldn't have to come to class.

Jo-Anne is a little puzzled about her current role in teaching
with modules. She is clear about her previous role as a
lecturer when she stood up in front of the class and gave the
students information that they needed to know in order to be
successful. She describes her role as changed; "Now students
are expected to come to class with an understanding of the
content. Now my role is to help students become motivated to
help them find the information that they need and to help them
with application of the theory." No one has every told her
what her new role is or what she should be doing in the
classroom. She feels that her new role has "sort of evolved"
and expresses disappointment that she "hasn't had any guidance
in how to follow up a module, conduct a seminar or help the
students apply the knowledge". She evaluates what she did each

year and tries to improve but finds clarifying her new role a
struggle.

Jo-Anne expects the students to come to class prepared. She
begins by asking if there are any questions about the
objectives or the material in the module. If they don't have
any questions, she usually just goes on with the
demonstrations. If there is an area in the material that she
thinks the students might have had difficulty with, she will
ask a few questions to diagnose their understanding of the
concept or she might find them a situation where they would be
required to apply the content.

Jo-Anne is involved in a new teaching method. As a result of
the classroom not being large enough to accommodate all of the
students, she is required to teach in two classrooms,
simultaneously, via a video camera and TV monitors. Students
can observe her either on the monitor or live and can interact
with her either face-to-face or by means of a microphone. She
was surprised that students prefer to watch a monitor rather
than observe her live. She finds the communication system a
difficult challenge because students are reluctant to go to a
microphone. She regrets losing the personal contact with
students in the second room. She likes "to interact with
students" and she finds the physical layout of the two
classrooms "awkward" in promoting student/teacher interaction.
This is one area that she would like to better. She feels
badly that she is unable to transfer the strategies that she
used effectively before she used the video system, to this new
classroom.

She wants to develop skills which will create interaction with
the students in the classroom using the video system, and to be

able to follow up the module in such a way, that students can apply that knowledge effectively. Her biggest frustration in dealing with modules is helping the students apply the knowledge. She explains; "Trying to be relaxed, inventive and creative to get more participation with the students is really hard." She would also like to develop skills that would be used in training the students to use the modules effectively. She worries that some students do not understand how to work within the system.

Jo-Anne is the author of most of the modules she uses in class. Everyone in her teaching group has had input into the modules used in her course, so there is consistency among the teachers presentations. She is quite happy with this arrangement. At this point the group is working on developing a modular format for the individual modules "that will be consistent" and therefore less confusing to students.

Jo-Anne believes that a number of good things came out of modules being introduced as a delivery system in the W.S.I.T. nursing program. She explains; "The description of what the student must learn is now clearly described in the form of specific objectives, required reading and supplementary activities. This has been a big improvement in the program. Consistency among the teachers presenting the material in the modules has also been a positive result of moving to modules."

She thinks the system "weeds out students who are not motivated". She does however, express concern about the amount of reading students are required to do, and feels that they are not given enough time to complete it appropriately. She believes that those students who stick with the program and

graduate, are much more confident and assertive than graduates
of the former delivery system. She says; "I believe they are
more fulfilled in the sense, that they gained a skill in
finding out information for themselves."

She thinks some students would never be able to learn in the
modular format, because, some learning styles are not
compatible with such a visual mode. She explains; "It would be
beneficial if applicants to the program were tested to see if
they are able to learn in this manner. It is unfair that there
is the same expectation for all students to learn, with only
one delivery system."

She expresses frustration by the physical layout of the
classrooms in facilitating this type of learning. Many
classrooms are tiered and the seats are fixed to the floor.
Such classrooms are difficult, or impossible to facilitate
group work and problem solving activities.

LORETTA JAMES - Nursing Instructor:

Loretta graduated with a BA in nursing and worked for one year
in the field and then joined the faculty of the W.S.I.T.,
General Nursing program, in 1974. Over the years she has done
considerable professional development and at this point in
time, is working towards her MA(ED) at the local university.

Loretta views excellent teaching in terms of outcome rather
than input. She describes an excellent teacher; "One who would
achieve or help her students achieve the goals that they have
set out for themselves, taking into consideration individual
learning styles, different needs and interests of the students."

She believes that "people learn what they want to learn, not
necessarily what the teacher wants them to learn." She says;
"If teachers start off from that base, then students are more
likely to learn what they see as the frills, and what the
teacher sees as the more essential." As a teacher, she
believes that it is critical to start where the learner is and
look at his needs and what motivates her at this time. Another
philosophy of Loretta's is; "As a teacher I am not responsible
for what a student learns. I am responsible for using a number
of strategies and presenting in a variety of ways so that the
student has the most chance of learning. However, it is up to
the student to learn in the end, and if they choose not to
learn then that is their choice. This is not necessarily a
reflection on the teacher or the students intelligence." A
crucial belief of Loretta's is that as a teacher, she is
working with people not numbers or bodies or a classroom. She
explains; "Students are people and must be given respect."

She describes the philosophy of modular learning at W.S.I.T.;
"It involves three factors: efficiency, economy and student
responsibility. Modules were introduced as a way of reducing
the receptive presentation of knowledge so that the teacher

would be able to spend more time on the higher level of
cognitive skills, such as application analysis and synthesis.
In actual recognition and recall, kinds of things are, learning
tasks which can be achieved more efficiently by the module.
Economic constraint also dictated that it was not cost
effective to have small groups taught repeatedly." She thinks
that it was not only the administration that recognized that
this was inefficient and costly, but, also the faculty
questioned that there must be a better way to teach than to
stand up at the front of a classroom and "spout from a
textbook".

Loretta also thinks that another philosophy behind modular
learning "is a belief that reading is a more efficient way of
collecting information than hearing". She adds; "Further
students can be held accountable more concretely since the
knowledge is actually on paper, as opposed to what was supposed
to be presented in a lecture."

She rates the nursing program as both educational and
training. She explains; "There are skills in the program which
are learned by practice more than intellect. In essence that
is the memory practice skill component. There is also a large
component that is more cognitive and effective. In that sense,
the program is educational."

Loretta sensed that when she used the lecture method, students
felt that if they didn't come to class there would be a "pearl
of wisdom" given out, that if missed, it wouldn't be available
from any other place. With modules she thinks students have
more of a sense that there are resources other than the
classroom to get those "pearls". About 95% of the students
enrolled attend her lectures. She believes this is due to the

fact that they are a highly motivate group and also if they have any questions the class is where they are expected to deal with them. If students haven't been able to deal with their questions in class, then they go to the teacher independently. She says; "In another system where that expectation didn't exist, students may not attend class."

Loretta does not see much difference in her role in a delivery system using modules as opposed to lecturing. She feels because she prepares the module, she is still responsible for identifying what knowledge is to be learned and the presentation and the sequencing of the material.

She describes the only difference; "Now I write the information rather than speaking it."

She does however perceive a difference in her relationship to students. She explains; "They no longer see me as the spewer of knowledge, rather they see me as only one of many resources and that the knowledge is shared between teachers and is not the property of one person." Another difference she identifies in her role is now the time spent in the classroom is spent doing application of content. She explains; "In the lecture format the case studies and the homework assignments would be done at home with the answers posted. Now since the students have the content prior to the class, the class time can be effectively used to apply content using case studies."

Loretta teaches two types of material in the program, one is professional behavior which is an effective valuing kind of content. In this course she primarily uses group discussion, paraphrasing and getting students to reflect on what they say and what is important to them.

The other material that she teaches is essentially cognitive which requires recognition, recall, application and analysis. In this class she would begin with admission of problems encountered by the group with the material presented in the module. She says; "If problems were identified, I would encourage the group to resolve the problem in order to help students understand the process of coming to conclusions not a right way or a wrong way but a process." The next teaching strategy would involve application of the content in either a case analysis, a case study or an assessment. She breaks the class into groups of about four or five, to discuss the case and then has them come back together as a large group to share.

She feels good about the skills that she has developed in teaching for thinking. She wants to continue to develop in this area. When she is fatigued she feels herself slipping back into the "fount of knowledge role and to answer questions". She doesn't feel that she needs to know more about teaching for thinking rather she feels that she just "needs to do it so often it becomes the dominant way of doing things".

Loretta writes some of modules that she uses in class but some are written by other people. She revises, based on the kinds of questions students ask and the feedback that students feel about the module, or if she herself has difficulty in understanding the presentation. She feels that having the autonomy to revise modules is very important to her.

She thinks that if she were required to work in a situation where she were not able to revise modules and have autonomy in the classroom, she probably couldn't work there too long. Loretta explains; "That attitude would be a conflict with my philosophy of teaching, and implies a rigidity and a holiness

to material that really is not very holy." She believes that
there are a lot of ways of doing things and what might be right
for her teaching style, and the group of students this time may
not be right for someone else's teaching style, and their
students another time.

Loretta comfortable working in the modular format at W.S.I.T.
She says; "With the lecture method, the pressure of having all
of that information at my fingertips was something I disliked.
I felt that it was a waste of time to prepare so much material
when the outcome didn't seem to warrant that type of
preparation. In this delivery system I feel that I don't have
to sweat the content as much and am able to easily focus on the
process in the classroom."

She believes that diploma students are worked terribly hard,
and feels that it is important as a teacher, to make
acquisition of information which is minor, and low level task
as easy as possible. This would allow students to spend more
time proportionately on the higher level skills, which are more
difficult to achieve. Therefore Loretta tends to lean towards
"having all of the information that a student needs to know in
a module, without students having to do any research".

Loretta feels that a positive result of introducing modular
learning into the program relates to the forum she as a teacher
can now take in the classroom. She concludes; "In this format
I can help students focus on thinking skills and encourage them
to develop a sense that they have the ability to solve problems
themselves."

A_DESCRIPTION_OF_THE_LONG_TERM_CARE_AIDE
PROGRAM_AT_VALLEYSIDE_COLLEGE

Students who successfully complete the Long Term Care Aide
program will be prepared to care for residents in Extended
Care, Intermediate Care and Personal Care settings under the
direction of a registered nurse. The Long Term Care Aide
assists residents with activities of daily living. The program
leads to a Long Term Care Aide Citation, meeting the standards
required by the Ministry of Education.

The Long Term Care Aide Program begins in September and January
of each year and requires 15 weeks of full-time studies. 24
students are accepted into each class. Eight hours per week
are spent in a classroom setting. Six hours per week in a
nursing skills practice laboratory and Two days per week in an
Extended Care Hospital to practice skills.

The program provides instruction in Long Term Care Aide Theory
and Practice as well as Communication. The program has used
modules as part of its delivery system since the program opened
at Valleyside College in 1981. Classes are optional but
laboratory and clinical activities are mandatory.

All of the faculty are qualified registered nurses.

A_DESCRIPTION_OF_IMPLEMENTATION_OF
MODULAR_LEARNING_AT_VALLEYSIDE_COLLEGE

GWEN_STORMES_-_Nursing_Instructor

Gwen graduated with a B.Sc. Nursing degree in the late
seventies. She worked in both Public and Community health and
as a casual nurse prior to joining the faculty at Valleyside
College in 1983. Her current role involves teaching in the
Long Term Care Aide Program at Valleyside College.

Gwen describes excellent teaching as "very participative in
terms of the student being very involved". She says; "For
excellent teaching to happen, there has to be a lot of ground
work done by the teacher in terms of preparing the
atmosphere." Gwen feels good when students have been so
involved in what has been happening in the classroom, they walk
out the door, "still talking about what we were discussing in
class".

Gwen's basic belief is that everyone is "equal in the sense
that everyone has a right to an education and everyone has a
right to be respected as an individual". Gwen is very positive
when she talks about her personal belief that is reflected in
her classroom; "I have a personal belief that in every day
there is an opportunity. Every situation that I go into, there
is an opportunity, first to fulfill myself, but in so doing,
contribute to other people as well."

Gwen is very committed to the Long Term Care Aide Program, and
truly believes that what she is doing now as a teacher will
ultimately "make a difference in long term care".

Gwen sees the philosophy behind modular learning as, "students
learning independently". She describes as follows; "I make it

very clear to the students, you have to be independent in
this. In other words, you have to take charge of it. We
provide them with all of the material. They could conceivably
do all of the course without coming to any class where they
would sit and have a lecture." For Gwen it is important that
students be involved, not just sitting and receiving
information.

Gwen sees the Long Care Aide Program as primarily a training
program. She says; "This program focuses on students being
employable; that they will be able to function on the job."
She goes on to say that, perhaps the educational component of
the program is related to, "an increase in knowledge base and
personal growth for the student". Students are not required to
attend the theory classes that Gwen teaches. She feels that
students who are "bright enough to do it on their own and
choose not to attend class, that is their decision". She feels
comfortable that if they need extra help, they will in fact
come to class.

However, all students do attend class because in Gwen's words,
"they are highly motivated". They always show up even though
they don't have to". She suggests that the reason may be, "it
is our expectation that they come to class, even if they don't
have to. I think we give them the message that they should
come."

The fact that all students do come to class sometime presents a
problem for Gwen. She describes the problem; "The bright
students will come to class ready to do, where as the middle
students, or those that don't participate are not prepared."
She feels that having students at different "levels" presents

her with a dilema; "Who do I teach to?" This is an issue that
worries her.

Gwen has always taught with modules and sees her role as "a
consultant and evaluator". She finds that in the Long Term
Care Aide program, that she "pretty well has to walk the
students through the material".

She describes what she does in the classroom: "I take the
information in the module and present it in such a way that the
students are able to get the information in a fresh way." She
uses a variety of strategies and resources in the classroom to
help students understand the information presented in the
module. She describes one of her strategies as, "discussion
related to specific objectives" outlined in the module. She
doesn't have a "hard time bringing humour into the classroom",
and she also tries very hard to bring in her work experience.
She feels that she has the ability to start a class with a
focus and make it flow. One area that she continues to work on
is, "this business of levelling". She wonders; "How do I work
with a group at different levels of understanding and
preparation?" She feels, that right now she wins some and
loses some. In her words; "I'm in the middle."

Gwen feels really good about the content of the modules. She
explains; "We are constantly changing it. The content that I
am using now for modules I also taught five years ago at
another college and what has happened is, that we have been
really revising it. I don't want to blow my own horn, but
there is no comparison to what we have done, to what has been
done at the other college."

She feels like the author of the modules and is very happy that
she has ownership of the content. She explains, "I have a much
better understanding of what we are trying to achieve. I feel
we have really been involved."

Gwen thinks that the type of students in the Long Term Care
Aide program, could "not function" without modules. She says;
"They are not note takers." I feel that they would fail their
exams, because, they wouldn't know what they are supposed to
learn." Because of this view she feels modules are an asset to
the program.

JANINE_MC_CORMIC_-_Nursing_Instructor

Janine graduated from a hospital based nursing program in the
late sixties and worked as a relief nurse for three years. She
was out of the work force for three years, and then returned
and completed her B.Sc. in Nursing in 1981. She taught in the
Long Term Care Aide program at another college, prior to
joining the faculty at Valleyside College in 1981. She
continues to teach in Long Term Care Aide.

Janine describes excellent teaching as, "a lesson that is well
planned and well thought out and strategies used that are
really appropriate for the group and the content." She also
emphasized the importance of appropriate physical resources as
an important component to excellent teaching. She also feels
that the interdependent learning and problem solving, are
important components. She believes that she, "cannot learn for
the student but in her role as facilitator or resource person,
I can motivate them to learn".

She sees the philosphy behind modular learning this way; "It
gears towards individual pacing. It allows the student to be
prepared when they come to class. They can bring specific
problems or questions that they may be having. It also lets
them know the expectations ahead."

Janine feels the program at Valleyside College is heavy on
training rather than educational in her words, "because, it is
job oriented, with a heavy emphasis on skills".

Although the students do not have to attend the classes that
Janine teaches, she describes attendance this way; "The
students are highly motivated and they are all always there."

She very clearly sees her role "as a facilitator, as a
motivator, and a resource person". She also sees herself as a
"role model" for students. She encourages students to work in
support groups and she sometimes helps students to partner up.

In her role as resource person, Janine has to guard against
spoonfeeding. She describes why; "In my background, material
was always spoonfed. Someone just stood up there and gave it
to me. It is much easier just to feed the information. That's
the easy route. Also some of our students have been out of
school for twenty years and come into the program expecting to
be spoonfed."

At the beginning of each class, students in Janine's course are
required to write a post test or challenge test in order to
determine where they are as far as the knowledge component of
the modules is concerned. After the students write the test
Janine asks if there are any specific questions or problems
related to the module. She says; "I usually have some that I
know from past experience, that students have difficulty
with." The usual strategies during class time involve
"discussion, small group work and working on a project."

Because Janine feels that attitudes are very important, she has
attempted to ensure that attitudes are addressed in the
program. She explains; "We try to put attitudes in the
modules, but the attitude that students need to have towards a
process can only be developed in the classroom and clinical
area. A lot of it is done through role modeling."

She feels that she has had a lot of input into the modules.
She says; "We inherited them but we have done a lot of
revisions." She feels that it is helpful to be the author of

the modules. She says, "I wouldn't want to work in a setting where I didn't have that input."

She feels that modules have improved the program. She explains; "As a facilitator, it made us more consistent in terms of what we were teaching because, we have specific learning objectives that we have to teach to." She also felt that another benefit of the modules was helpful to new faculty because, the material was there and modules provide a structure to work with. On these two levels, Janine sees that this type of delivery system as been beneficial to the program.

She concludes with an important consideration related to scheduling when using modules as a delivery system. "It is important that time be set aside initially to help students really understand how to work with the modules and material, otherwise they will be lost in the masses of paper."

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BARBARA_WHYTE_-_Nursing_Instructor

Barbara has considerable experience in both nursing and
teaching. She has a Masters degree in nursing and began
teaching in 1969. She taught in a number of allied health
programs prior to co-ordinating the Long Term Care Aide program
at Valleyside College in 1981.

Barbara describes an excellent teacher as, "one who has
knowledge of the content, is relaxed, natural encouraging, open
to students and aware of students needs". She views students
as, "equals as people". She believes, "in the importance of
treating students as individuals and understanding what their
individual needs are, but in ensuring that students understand
that there are standards and that students cannot go below
those standards".

She describes the philosophy behind modular learning; "Students
are individuals and can learn at their own pace. Students who
take a longer period of time can, and others can work through
it quickly. Ideally it is self-directed. The student is
responsible for their own learning. The teacher is there as a
facilitator."

She describes the Long Term Care Aide program as being
"weighted more on training than education". She explains;
"there is a heavier weighting on skills because the content
level is not as detailed as the nursing program. Plus, the
depth of knowledge is minimal, as it is only a fifteen week
program."

Students in the Long Term Care Aide program are a highly
motivated group and attendance at class is almost always 100%,
even though they have a choice as to whether or not they will
attend class.

Barbara sees her role as, one where she "encourages students to learn, to get through the program, to succeed and be good at what they are doing." She is not sure that modular learning in the Long Term Care Aide program is used in it's "true sense".

She explains; "In the classroom, students want me to go through the module word for word. I have done that sometimes, but do not find it effective. Unfortunately what happens is, that students come to expect it all of the time and then students who are really good are already there and I end up with a mix."

One of Barbara's most effective teaching strategies is questioning. She feels good about her questioning technique. She describes why this is her preferred teaching strategy, "I ask questions to challenge their minds, I want them to learn, to challenge and to think for themselves." From time to time she has used group work exercises to help them think about content in terms of what they already know.

Barbara describes the content that she teaches at a much "lower level" than her knowledge base and she finds that this is sometimes a problem for her. The modules that she uses in the program were designed at another college and in her words; "We have done some revision and refinement, but the content has not been changed."

She is not unhappy with the modules because she feels it is easier to "refine" someone else's modular, rather than start to develop from the beginning.

Barbara can't say whether or not modules have improved the Long Term Care Aide program at Valleyside College. She feels

however, that they do improve programs generally. She
explains, "Students can work on their own and complete the work
on their own time and the student who wants to put more into
it, can. A student knows what she has to learn and she also
knows the time frame, when she is expected to know it and
therefore she can organize it."

Another improvement Barbara identifies is related to
scheduling. "Students now come to class prepared, which allows
the teacher a better time frame to use exercises."

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